MG Industries™

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MATERIAL SAFETY DATA SHEET

495

PRODUCT NAME Propane	CAS # 74-98-6
TRADE NAME AND SYNONYMS Propane; Liquefied Petroleum Gas (LPG); Dimethylmethane	DOT I.D. No.: UN 1075
CHEMICAL NAME AND SYNONYMS Propane	DOT Hazard Class: Flammable gas
ISSUE DATE AND REVISIONS 25 November 1985	Formula: C_3H_8
	Chemical Family: Aliphatic hydrocarbon

HEALTH HAZARD DATA

TIME WEIGHTED AVERAGE EXPOSURE LIMIT

Propane is defined as a simple asphyxiant. Oxygen levels should be maintained at greater than 18 molar percent at normal atmospheric pressure (Continued on last page)

SYMPTOMS OF EXPOSURE

Inhalation: Moderate concentrations so as to exclude an adequate supply of oxygen to the lungs causes dizziness, drowsiness and eventual unconsciousness. It is also a narcotic which acts as a depressant on the central nervous system.

Contact with rapidly evaporating liquid could cause frostbite or cryogenic "burns".

TOXICOLOGICAL PROPERTIES

Breathing high concentrations causes a narcotic effect; however, the major property is the exclusion of an adequate supply of oxygen to the lungs.

Frostbite effects are a change in color of the skin to gray or white possibly followed by blistering.

RECOMMENDED FIRST AID TREATMENT

PROMPT MEDICAL ATTENTION IS MANDATORY IN ALL CASES OF OVEREXPOSURE TO PROPANE. RESCUE PERSONNEL SHOULD BE EQUIPPED WITH SELF-CONTAINED BREATHING APPARATUS AND BE COGNIZANT OF EXTREME FIRE AND EXPLOSION HAZARD.

Inhalation: Conscious persons should be assisted to an uncontaminated area and inhale fresh air. Quick removal from the contaminated area is most important. Unconscious persons should be moved to an uncontaminated area, given mouth-to-mouth resuscitation and supplemental oxygen. Further treatment should be symptomatic and supportive.

Dermal Contact or Frostbite: Remove contaminated clothing and flush affected areas with lukewarm water. DO NOT USE HOT WATER. A physician should see the patient promptly if (Continued on last page)

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES

Propane is flammable in air.

PHYSICAL DATA

BOILING POINT -43.7°F (-42.1°C)	LIQUID DENSITY AT BOILING POINT 36.3 lb/ft^3 (582 kg/m^3)
VAPOR PRESSURE @ 70°F (21.1°C): 127 psia (875 kPa)	GAS DENSITY AT 70°F, 1 atm .117 lb/ft^3 (1.87 kg/m^3)
SOLUBILITY IN WATER Negligible	FREEZING POINT -305.8°F (-187.7°C)
EVAPORATION RATE Unknown; 99.9 + % volatile	SPECIFIC GRAVITY (AIR=1) @ 70°F (21.1°C) = 1.56
APPEARANCE AND ODOR Colorless, odorless gas	

FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)	AUTO IGNITION TEMPERATURE	FLAMMAGLE LIMITS % BY VOLUME
-156°F (-104°C) C. C.	896°F (480°C)	LEL 2.2 UEL 9.5

EXTINGUISHING MEDIA	ELECTRICAL CLASSIFICATION
Water, carbon dioxide, dry chemical	Class 1, Group D

SPECIAL FIRE FIGHTING PROCEDURES

If possible, stop the flow of propane. Use water spray to cool surrounding containers.

UNUSUAL FIRE AND EXPLOSION HAZARDS

Propane is heavier than air and may travel a considerable distance to a source of ignition. Should flame be extinguished and flow of gas continue, increase ventilation to prevent flammable mixture formation in low areas or pockets.

REACTIVITY DATA

STABILITY		CONDITIONS TO AVOID
Unstable		
Stable	X	N/A

INCOMPATIBILITY (Materials to avoid)

Oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS

None

HAZARDOUS POLYMERIZATION		CONDITIONS TO AVOID
May Occur		
Will Not Occur	X	N/A

SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Evacuate all personnel from affected area. Use appropriate protective equipment. If leak is in user's equipment, be certain to purge piping with an inert gas prior to attempting repairs. If leak is in container or container valve, contact your closest supplier location or call the emergency telephone number listed herein.

WASTE DISPOSAL METHOD

Do not attempt to dispose of waste or unused quantities. Return in the shipping container properly labeled, with any valve outlet plugs or caps secured and valve protection cap in place to your supplier. For emergency disposal assistance, contact your closest supplier location or call the emergency telephone number listed herein.

SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type) Positive pressure air line with mask or self-contained breathing apparatus should be available for emergency use.		
VENTILATION Hood with forced ventilation	LOCAL EXHAUST To prevent accumulation above the LEL.	SPECIAL N/A
	MECHANICAL (Gen.) In accordance with electrical codes.	OTHER N/A
PROTECTIVE GLOVES Plastic or rubber		
EYE PROTECTION Safety goggles or glasses		
OTHER PROTECTIVE EQUIPMENT Safety shoes, safety shower		

SPECIAL PRECAUTIONS*

SPECIAL LABELING INFORMATION

DOT Shipping Name: Liquefied petroleum gas
DOT Hazard Class: Flammable gas
DOT Shipping Label: Flammable gas
I.D. No.: UN 1075

SPECIAL HANDLING RECOMMENDATIONS

Use only in well-ventilated areas. Valve protection caps must remain in place unless container is secured with valve outlet piped to use point. Do not drag, slide or roll cylinders. Use a suitable hand truck for cylinder movement. Use a pressure reducing regulator when connecting cylinder to lower pressure (<250 psig) piping or systems. Do not heat cylinder by any means to increase the discharge rate of product from the cylinder. Use a check valve or trap in the discharge line to prevent hazardous back flow in the cylinder.

For additional handling recommendations, consult Compressed Gas Association's Pamphlets P-1 and P-14 and Safety Bulletin SB-2.

SPECIAL STORAGE RECOMMENDATIONS

Protect cylinders from physical damage. Store in cool, dry, well-ventilated area of non-combustible construction away from heavily trafficked areas and emergency exits. Do not allow the temperature where cylinders are stored to exceed 130F (54C). Cylinders should be stored upright and firmly secured to prevent falling or being knocked over. Full and empty cylinders should be segregated. Use a "first in - first out" inventory system to prevent full cylinders being stored for excessive periods of time. Post "No Smoking or Open Flames" signs in the storage or use area. There should be no sources of ignition in the storage or use area.

For additional storage recommendations, consult Compressed Gas Association's Pamphlets P-1 and P-14 and Safety Bulletin SB-2.

SPECIAL PACKAGING RECOMMENDATIONS

Propane is noncorrosive and may be used with any common structural material.

OTHER RECOMMENDATIONS OR PRECAUTIONS

Earth-ground and bond all lines and equipment associated with the propane system. Electrical equipment should be non-sparking or explosion proof. Compressed gas cylinders should not be refilled except by qualified producers of compressed gases. Shipment of a compressed gas cylinder which has not been filled by the owner or with his (written) consent is a violation of Federal Law (49CFR).

*Various Government agencies (i.e., Department of Transportation, Occupational Safety and Health Administration, Food and Drug Administration and others) may have specific regulations concerning the transportation, handling, storage or use of this product which will not be reflected in this data sheet. The customer should review these regulations to ensure that he is in full compliance.

HEALTH HAZARD DATA (Continued)

TIME WEIGHTED AVERAGE EXPOSURE LIMIT: (Continued)

which is equivalent to a partial pressure of 135 mm Hg. (ACGIH, 1985-86).
OSHA (1985) TWA = 1,000 Molar PPM.

RECOMMENDED FIRST AID TREATMENT: (Continued)

the cryogenic "burn" has resulted in blistering of the dermal surface or deep tissue freezing.