MATERIAL SAFETY DATA SHEET FOR ODORIZED PROPANE

1. Chemical Product and Company Identification

Product Name: Odorized Commercial Propane
Chemical Name: Propane
Chemical Family: Paraffinic Hydrocarbon
Formula: C_3H_8
Synonyms: Dimethylmethane, LP-Gas, Liquefied Petroleum Gas (LPG), Propane, Propyl Hydride

Transportation Emergency Number:
CHEMTREC 1-800-424-9300

Name & Address:
AmeriGas Propane, L.P.
P. O. Box 965
Valley Forge, PA. 19482

For General Information, Call:
1-888-808-0396, Safety Dept.

2. Composition / Information on Ingredients

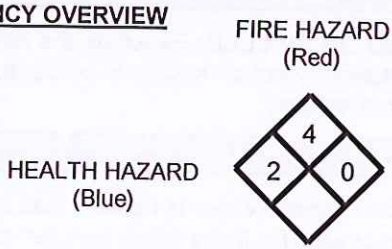
INGREDIENT NAME /CAS NUMBER	PERCENTAGE	OSHA PEL	ACGIH TLV
Propane / 74-98-6	87.5 -100	1,000 ppm	Simple asphyxiant
Ethane / 74-84-0	0 - 7.0		Simple asphyxiant
Propylene / 115-07-1	0 - 5.0		Simple asphyxiant
Butanes / 106-97-8	0 - 2.5		Simple asphyxiant
Ethyl Mercaptan / 75-08-1	0 - 50 ppm	0.5 ppm	0.5 ppm

WARNING: The intensity of the chemical odorant (e.g., ethyl mercaptan) may "fade" or diminish due to chemical oxidation, adsorption or absorption. Individuals with nasal perception problems may not be able to smell the odorant. Leaking propane from underground gas lines may lose its odor as it passes through certain soils. No odorant is effective 100% of the time. Therefore, circumstances can exist when individuals are in the presence of leaking propane and not be alerted by the smell. Contact AmeriGas for more information about odor, propane gas detectors and other safety considerations associated with the handling, storage and use of propane.

3. Hazards Identification

EMERGENCY OVERVIEW

DANGER! Flammable liquefied gas under pressure. Keep away from heat, sparks, flame, and all other ignition sources. Vapor replaces oxygen available for breathing and may cause suffocation in confined spaces. Use only with adequate ventilation. Reliance upon detection of odor may not provide adequate warning of potentially hazardous concentrations. Vapor is heavier than air; may collect at low levels. Liquid can cause freeze burn similar to frostbite. Do not get liquid in eyes, on skin, or on clothing. Avoid breathing vapor. Keep service valve closed when not in use.



SPECIAL HAZARDS*

Minimal 0 Slight 1 | Moderate 2 Serious 3 | Severe 4 *(Ref. NFPA 704)

POTENTIAL HEALTH EFFECTS INFORMATION

ROUTES OF EXPOSURE:

Inhalation: Asphyxiation. Before suffocation could occur, the lower flammability limit of propane in air would be exceeded, possibly causing both an oxygen-deficient and explosive atmosphere. Exposure to concentrations >10% may cause dizziness. Exposure to atmospheres containing 19% or less oxygen will bring about unconsciousness without warning. Lack of sufficient oxygen may cause serious injury or death.
Eye Contact: Contact with liquid can cause freezing of tissue.
Skin Contact: Contact with liquid can cause frostbite.
Skin Absorption: None.
Ingestion: Ingestion is not expected to occur in normal use. However, liquid can cause freeze burn similar to frostbite.

CHRONIC EFFECTS: None.

CARCINOGENICITY: Propane is not listed by NTP, OSHA or IARC.

4. First Aid Measures

INHALATION: Individuals suffering from lack of oxygen should be removed to fresh air. If victim is not breathing, administer artificial respiration. If breathing is difficult, administer oxygen. Obtain immediate medical assistance.

EYE CONTACT: Gently flush eyes with lukewarm water. Obtain immediate medical assistance.

SKIN CONTACT: Remove saturated clothes, shoes and jewelry. Immerse affected area in lukewarm water not exceeding 105° F. Keep immersed. Obtain immediate medical assistance.

9. Physical and Chemical Properties

BOILING POINT: @ 14.7 psia = -44° F (@1.00 atm.pressure = -42°C)
SPECIFIC GRAVITY OF VAPOR (Air = 1) at 60° F (15.56°C): 1.50
SPECIFIC GRAVITY OF LIQUID (Water = 1) at 60° F: 0.504
VAPOR PRESSURE: @ 70° F (20°C) = 127 psig; @ 105° F (45°C) = 210 psig; @ 130°F (55°C) = 287 psig
EXPANSION RATIO (From liquid to gas @ 14.7 psia): 1 to 270
SOLUBILITY IN WATER: Slight, 0.1 to 1.0%
APPEARANCE AND ODOR: A colorless and tasteless gas at normal temperature and pressure. An odorant (ethyl mercaptan) is added to provide a strong unpleasant odor. Should a propane-air mixture reach the lower limits of flammability, the ethyl mercaptan concentration will be approximately 0.5 ppm in air.

ODORANT WARNING: Odorant is added to aid in the detection of leaks. One common odorant is ethyl mercaptan, CAS No. 75-08-1. Odorant has a foul smell. The ability of people to detect odors varies widely. Also, the odor level can be reduced by certain chemical reactions with material in the propane system or when fugitive propane gas from underground leaks passes through certain soils. No odorant will be 100% effective in all circumstances. If the presence of the odorant is not obvious, notify AmeriGas immediately.

10. Stability and Reactivity

STABILITY: Stable.
Conditions to Avoid: Keep away from high heat, strong oxidizing agents and sources of ignition.
REACTIVITY:
Hazardous Decomposition Products: Under fire conditions, fumes, smoke, carbon monoxide, aldehydes and other decomposition products. In most applications where there is inadequate venting to the outside air, incomplete combustion will produce carbon monoxide (a toxic gas) and potentially develop concentrations that can create a serious health hazard.
Hazardous Polymerization: Will not occur.

11. Toxicological Information

Propane is non-toxic and is a simple asphyxiant. It has slight anesthetic properties. Higher concentrations may cause dizziness.

IRRITANCY OF MATERIAL: None.
SENSITIZATION TO MATERIAL: None
REPRODUCTIVE EFFECTS: None
MUTAGENICITY: None
TERATOGENICITY: None
SYNERGISTIC MATERIALS: None

12. Ecological Information

No adverse ecological effects are expected. Propane does not contain any Class I or Class II ozone-depleting chemicals (40 CFR Part 82). Propane is not listed as a marine pollutant by DOT (49 CFR Part 171).

13. Disposal Considerations

WASTE DISPOSAL METHOD: Do not attempt to dispose of residual or unused product in the container; return it to your supplier or contact AmeriGas for safe disposal. Residual product within a process system may be burned at a controlled rate if a suitable burning unit is available on site, and is done in accordance with federal, state and local regulations.

14. Transport Information

DOT SHIPPING NAME: Liquefied Petroleum Gas
IDENTIFICATION NUMBER: UN 1075
IMO SHIPPING NAME: Propane
IMO IDENTIFICATION NUMBER: UN 1978
HAZARD CLASS: 2.1 (Flammable Gas)
PRODUCT RQ: None
SHIPPING LABEL (S): Flammable Gas
PLACARD (WHEN REQUIRED): Flammable Gas
SPECIAL SHIPPING INFORMATION: Container must be transported in a well-ventilated vehicle, secured, and in a position such that the pressure relief device is in communication with the vapor space.

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