



Northwest Propane Gas Co.

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: C₃H₈

Synonyms: Dimethylmethane, LP-Gas, Liquefied Petroleum Gas (LPG), Propane, Propyl Hydride

Name & Address: Northwest Propane Gas Co.
11551 Harry Hines Blvd.
Dallas, TX. 75229

Transportation Emergency Number: PERS 1-800-633-8253

General Information Number: 972-247-6121

2. Composition / Information on Ingredients

Ingredient Name / CAS Number	Percentage	OSHA PEL	ACCGIH 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 – 10.0		Simple asphyxiant
Butanes / 106-97-8	0 – 2.5	0.5 ppm	Simple asphyxiant
Ethyl Mercaptan / 75-08-1	0 – 50 ppm		0.5 ppm

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. Odor may not provide adequate warning of potentially hazardous concentrations. Vapor is heavier than air. Liquid can cause freeze burn similar to frostbite. Do not get liquid in eyes, on skin, or on clothing. Avoid breathing of vapor. Keep container valve closed when not in use.

Potential Health Effects Information

Routes of Exposure:

Inhalation: Asphyxiant. It should be noted that 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 8% - 10% or less oxygen will bring about unconsciousness without warning, and so quickly that the individuals cannot help or protect themselves. 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.

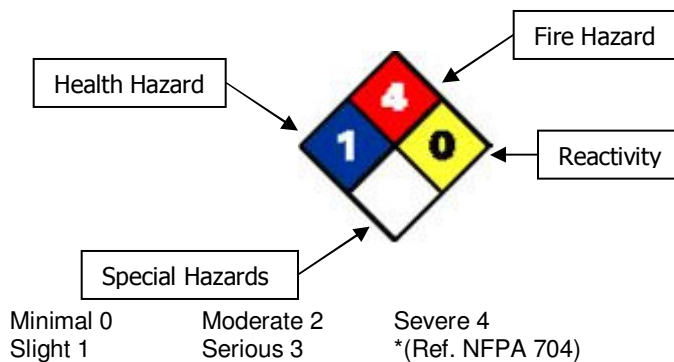
[Ingestion]: Liquid can cause freeze burn similar to frostbite. Ingestion not expected to occur in normal use.

CHRONIC EFFECTS: None.

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: None.

OTHER EFFECTS OF OVEREXPOSURE: None.

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



4. First Aid Measures

Inhalation: Persons 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 prompt medical attention.

EYE CONTACT: Contact with liquid can cause freezing of tissue. Gently flush eyes with lukewarm water. Obtain medical attention immediately.

SKIN CONTACT: Contact with liquid car cause frostbite. Remove saturated clothes, shoes, and jewelry. Immerse affected area in lukewarm water not exceeding 105 F. Keep immersed. Get prompt medical attention.

INGESTION: If swallowed, get immediate medical attention.

NOTES TO PHYSICIAN: None.

5. Fire-Fighting Measures

FLASH POINT: -156 F (-104 C)

AUTOIGNITION: 842 F (432 C)

IGNITION TEMPERATURE IN AIR: 920- 1120 F

FLAMMABLE LIMITS IN AIR BY VOLUME: Lower: 2.15% Upper: 9.6%

EXTINGUISHING MEDIA: Dry chemical, CO₂, water spray or fog for surrounding area. Do not extinguish fire until propane source is shut off.

SPECIAL FIRE-FIGHTING INSTRUCTIONS: Evacuate personnel from danger area. Immediately cool container with water spray from maximum distance, taking care not to extinguish flames. If flames are accidentally extinguished, explosive re-ignition may occur.

Where water is abundant and immediate, the fire should be allowed to burn while the container and area are cooled and the flow of propane is shut off. Where water is scarce, compare the risk of allowing the area to continue to heat from the fire and the alternative of extinguishing the fire without shutting off the propane flow, which may allow for the propane to accumulate and re-ignite explosively.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Propane is easily ignited. It is heavier than air; therefore, it can collect in low areas where an ignition source can be present. Pressure in a container can build up due to heat and container may rupture if pressure relief devices should fail to function. Propane released from a properly functioning relief valve on an overheated container can also become ignited.

HAZARDOUS COMBUSTION PRODUCTS: None.

6. Accidental Release Measures

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Evacuate the immediate area. Eliminate any possible sources of ignition and provide maximum ventilation. Shut off source of propane, if possible. If leaking from container, or valve, contact your supplier.

7. Handling and Storage

HANDLING PRECAUTIONS: Propane vapor is heavier than air and can collect in low areas that are without sufficient ventilation. Conduct system checks for leaks with a leak detector or solution, never with flame. Make certain the container service valve is shut off prior to connecting or disconnecting. If container valve does not operate properly, discontinue use and contact supplier. Never insert an object (e.g., wrench, screwdriver, pry bar, etc.) into pressure relief valve or cylinder valve cap openings. Do not drop or abuse cylinders. Never strike an arc on a gas container or make a container part of an electrical circuit. See Section 16, "OTHER INFORMATION", for additional precautions.

STORAGE PRECAUTIONS: Store in a safe, authorized location (outside, detached storage is preferred) with adequate ventilation. Specific requirements are listed in NFPA 58, LP-GAS CODE. Isolate from heat and ignition sources. Containers should never be allowed to reach temperature exceeding 125°F (52°C). Isolate from combustible materials. Provide separate storage locations for other compressed and flammable gases. Propane containers should be separated from oxygen cylinders or other oxidizers by a minimum distance of 20 feet, or by a barrier of non-combustible material at least 5 feet high having a fire rating of at least 1/2 hour. Full and empty cylinders should be segregated. Keep cylinders in an upright position at all times so that each pressure relief valve communicates with the vapor space. Keep container valve closed and plugged or capped when not in use. Install protective caps when cylinders are not connected for use. Empty containers retain some residue and should be treated as if they were full.

8. Exposure Controls / Personal Protection

ENGINEERING CONTROLS

Ventilation: Provide ventilation adequate to ensure propane does not reach a flammable mixture.

RESPIRATORY PROTECTION

General Use: None.

Emergency Use: If concentrations are high enough to warrant supplied-air or NIOSH self-contained breathing apparatus, then the atmosphere may be flammable (See Section 5). Appropriate precautions must be taken regarding flammability.

PROTECTIVE CLOTHING: Avoid skin contact with liquid propane because of possibility of freeze burn. Wear gloves and protective clothing that are impervious to the product for the duration of the anticipated exposure.

EYE PROTECTION: Safety glasses, goggles or face shields are recommended when handling cylinders.

OTHER PROTECTIVE EQUIPMENT: Safety shoes are recommended when handling cylinders.

9. Physical and Chemical Properties

BOILING POINT: @ 14.7 psia = -44° F

SPECIFIC GRAVITY OF VAPOR (Air = 1) at 60° F: 1.50

SPECIFIC GRAVITY OF LIQUID (Water = 1) at 60° F: 0.504
VAPOR PRESSURE: @ 70° F = 127 psig; @ 105° F = 210 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 propane supplier 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. Toxicology Information

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

IRRITANCY OF MATERIAL: None.

REPRODUCTIVE EFFECTS: None

TERATOGENICITY: None

SENSITIZATION TO MATERIAL: None

MUTAGENICITY: 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 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.

15. Regulatory Information

The following information concerns U.S. Federal regulatory requirements potentially applicable to this product. Not all such requirements are identified. Users of this product are responsible for their own regulatory compliance on a federal, state [provincial] and local level.

U.S. FEDERAL REGULATIONS

EPA Environmental Protection Agency

CERCLA Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) - 40 CFR Parts 117 and 302

Reportable Quantity (RQ): None

SARA Superfund Amendment and Reauthorization Act (SARA)

• Sections 302/304: Relates to emergency planning on threshold planning quantities (TPQ) and release reporting based on reportable quantities (RQ) of EPA's extremely hazardous substances (40 CFR Part 355).

Extremely Hazardous Substances: None

Threshold Planning Quantity (TPQ): None

• Sections 311/312: Relates to submission of material safety data sheets (MSDSs) and chemical inventory reporting with identification of EPA-defined hazard classes (40 CFR Part 370). The hazard classes for this product are:

IMMEDIATE: No

PRESSURE: Yes

DELAYED: No

REACTIVITY: No

FLAMMABLE: Yes

• Section 313: Relates to submission of annual reports of release of toxic chemicals that appear in 40 CFR Part 372. Propane does not require reporting under Section 313.

40 CFR PART 68 Risk Management for Chemical Accidental Release

TSCA Toxic Substance Control Act

Propane is listed on the TSCA inventory.

Occupational Safety and Health Administration (OSHA)

The following 29 CFR Parts may apply to propane:

29 CFR 1910.110: *Storage and Handling of Liquefied Petroleum Gases*

29 CFR 1910.119: *Process Safety Management of Highly Hazardous Chemicals*

29 CFR 1910.1200: *Hazardous Communications*

FDA Food and Drug Administration

21 CFR 184.1655: Generally recognized as safe (GRAS) as a direct human food ingredient when used as a propellant, aerating agent and gas.

16. Other Information

SPECIAL PRECAUTIONS: Use piping and equipment adequately designed to withstand pressure to be encountered.

NFPA 58 *Standard for the Storage and Handling of Liquefied Petroleum Gases* and OSHA 29 CFR 1910.10 require that all persons employed in handling LP-gases be trained in proper handling and operating procedures, which the employer shall document. Contact your propane supplier to arrange for the required training. Allow only trained and qualified persons to install and service propane containers and systems.

ISSUE INFORMATION

Issue Date: 12/96

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Information provided by

National Propane Gas Association

1600 Eisenhower Lane, Suite 100, Lisle, Illinois 60532

Phone 630/515-0600