Propane

Safety Data Sheet

According to the OSHA Hazard Communication Standard (CFR29 1910.1200)

SECTION 1: IDENTIFICATION

Product Identifier:	Propane
SDS Number:	169570
CAS Number:	74-98-6
Intended Use:	Fuel
Uses Advised Against:	All others
Emergency Health and Safety:	Chemtrec: 800-424-9300 (Available 24 hours)
Supplier:	Franger Gas Company, Inc. PO Box 2896 Elkhart, IN 46515

SECTION 2: HAZARDS IDENTIFICATION

Classified Hazards

H220 – Flammable gases – Category 1
H280 – Gases under pressure –liquefied gas

Other Hazards

May displace oxygen and cause rapid suffocation

Label Elements

DANGER

Extremely flammable gas
Contains gas under pressure. May explode if heated.

May displace oxygen and cause rapid suffocation.

Keep away from heat/sparks/open flames/hot surfaces. No smoking.

Take precautionary measures against static discharge.
Leaking gas fire: do not extinguish, unless leak can be stopped safely. Eliminate all ignition sources if safe to do so. Protect from sunlight.
Store in a well ventilated place.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Product Identifier	Concentration
Propane	74-98-6	100%

Odorized Propane contains very small quantities (<0.1%)of ethyl mercaptan as an odorant

SECTION 4: FIRST AID MEASURES

Eye Contact: For contact with the liquefied gas, remove contact lenses if present and easy to do, hold eyelids apart and gently flush the affected eye(s) with lukewarm water. Seek immediate medical attention.

Skin Contact: Liquefied gases may cause cryogenic burns or injury. Treat burned or frostbitten skin by flushing or immersing the affected area(s) in lukewarm water. Do not rub affected area. Do not remove clothing that adheres due to freezing. After sensation has returned to the frostbitten skin, keep skin warm, dry, and clean. If blistering occurs, apply a sterile dressing. Seek immediate medical attention.

Inhalation (Breathing): If respiratory symptoms develop, move victim away from source of exposure and into fresh air in a position comfortable for breathing. If breathing is difficult, oxygen or artificial respiration should be administered by qualified personnel. If symptoms persist, seek medical attention.

Ingestion (Swallowing): This material is a gas under normal atmospheric conditions and ingestion is unlikely.

Most important symptoms and effects, both acute and delayed: Light hydrocarbon gases are simple asphyxiants and can cause anesthetic effects at high concentrations. Symptoms of overexposure, which are reversible if exposure is stopped, can include shortness of breath, drowsiness, headaches, confusion, decreased coordination, visual disturbances and vomiting. Continued exposure can lead to hypoxia (inadequate oxygen), rapid breathing, cyanosis (bluish discoloration of skin), numbness of the extremities, unconsciousness, and death.

Notes to Physician: Epinephrine and other sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to high concentrations of hydrocarbon solvents (e.g. in enclosed spaces or with deliberate abuse). The use of other drugs with less arrhythmogenic potential should be considered. If sympathomimetic drugs are administered, observe for the development of cardiac arrhythmias.

SECTION 5: FIRE FIGHTING MEASURES

NFPA 704 Hazard Class

Health: 2 Flammability: 4 Instability: 0

0 (Minimal)
1 (Slight)
2 (Moderate)
3 (Serious)
4 (Severe)

Extinguishing Media: Dry chemical or carbon dioxide is recommended. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces.

Specific Hazards Arising from the Chemical

Unusual Fire and Explosion Hazards: Extremely flammable. Contents under pressure. This material can be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, mechanical/electrical equipment, and electronic devices such as cell phones, computers, calculators, and pagers which have not been certified as intrinsically safe). Vapors may travel considerable distances to a source of ignition where they can ignite, flash back, or explode. May create vapor/air explosion hazard indoors, in confined spaces, outdoors, or in sewers. If container is not properly cooled, it can rupture in the heat of a fire. Drains can be plugged and valves made inoperable by the formation of ice if rapid evaporation of large quantities of the liquefied gas occurs. Do not allow run-off from fire-fighting to enter drains or water courses-may cause explosion hazard in drains and may reignite.

Hazardous Combustion Products: Combustion may yield smoke, carbon monoxide, and other products of incomplete combustion. Oxides of nitrogen and sulfur may also be formed.

Special Protective Actions for Firefighters: For fires beyond the initial stage, emergency responders in the immediate hazard area should wear protective clothing. When the potential chemical hazard is unknown, in enclosed or confined spaces, a self contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant.

Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done safely. If this cannot be done, allow fire to burn. Move undamaged containers from immediate hazard area if it can be done safely. Stay away from ends of container. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Cool equipment exposed to fire with water, if it can be done safely.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Extremely flammable. Spillages of liquid product will create a fire hazard and may form an explosive atmosphere. Keep all sources of ignition and hot metal surfaces away from spill/release if safe to do so. The use of explosion-proof electrical equipment is recommended. Beware of accumulation of gas in low areas or contained areas, where explosive concentrations may occur. Prevent from entering drains or any place where accumulation may occur. Ventilate area and allow to evaporate. Stay upwind and away from spill/release. Avoid direct contact with material. For large spillages, notify persons down wind of the spill/release, isolate immediate hazard area and keep unauthorized personnel out. Wear appropriate protective equipment, including respiratory protection, as conditions warrant.

Environmental Precautions: Stop spill/release if it can be done safely. Water spray may be useful in minimizing or dispersing vapors. If spill occurs on water, notify appropriate authorities and advise shipping of any hazard.

Methods and Material for Containment and Clean up: Notify relevant authorities in accordance with all applicable regulations.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling: Keep away from ignition sources such as heat/sparks/open flame—no smoking. Take precautionary measures against static discharge. Use good personal hygiene practices and wear appropriate personal protective equipment. Use explosion-proof equipment. Use only non-sparking tools. Avoid contact with skin and eyes. Do not breathe dust, fume, gas, mist, vapors, or spray. Use only in well-ventilated areas. When using, do not eat, drink, or smoke. Launder contaminated clothing before reuse. Wash hands before eating, drinking, or smoking.

Conditions for Safe Storage, Including any Incompatibilities: Proper grounding procedures to avoid static electricity should Be followed. Keep out of the reach of children. Store away from direct sunlight or other heat sources. Keep container tightly closed and in a well-ventilated place. Keep cool.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

CHEMICAL NAME	ACGIH	OSHA
Propane	Not Applicable	TWA: 1000 ppm
Propane	Not Applicable	TWA: 1800 mg/m^3

Engineering Controls: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional engineering controls may be required.

Eye/Face Protection: The use of eye protection (such as splash goggles) that meets or exceeds ANSI Z.87.1 is recommended when there is potential liquid contact to the eye. Depending on conditions of use, a face shield may be necessary.

Skin/Hand Protection: Wear thermal insulating gloves and face shield or eye protection when working with materials that present thermal hazards (hot or cold).

Respiratory Protection: A NIOSH approved, self-contained breathing apparatus (SCBA) or equivalent operated in a pressure demand Or other positive pressure mode should be used in situations of oxygen deficiency (oxygen content less than 19.5 percent), unknown Exposure concentrations, or situations that are immediately dangerous to life or health (IDLH).

A respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 and ANSI Z88.2 should be followed whenever workplace conditions warrant a respirator's use.

Suggestions provided in this section for exposure control and specific types of protective equipment are based on readily available information. Users should consult with the specific manufacturer to confirm the performance of their protective equipment. Specific situations may require consultation with industrial hygiene, safety, or engineering professionals.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Note: Unless otherwise stated, values are determined at 20° (68°F) and 760 mm HG (1 atm). Data represent typical values and are not intended to be specifications.

Physical State:	Liquefied gas
Appearance:	Clear
Odor (unstenched):	Low to none
Odor (stenched):	Sulfur, Rotten Eggs
Odor Threshold:	No data available
pH:	Not applicable
Melting Point:	No data available
Freezing Point:	No data available
Boiling Point:	~-42°C (~-44°F)
Flash Point:	<-56°C (<-69°F)
Relative Evaporation Rate:	No data available
Flammability (solid, gas)	Extremely flammable
Explosive limits:	2.1-9.5 vol %
Explosive Properties:	No data available
Oxidizing Properties:	No data available
Vapor pressure:	600-39000 hPa at 20°C (68°F)
Relative Density:	0.506-0.583 g/cm^3 at 15°C (59°F)
Specific Gravity (water=1)	.50-.51 @ 15.6°C (60°F)
Solubility:	No data available
Partition coefficient	(n-octanol/water): 2.3
Auto-ignition temperature:	~450°C (~842°F)
Viscosity:	Not applicable

SECTION 10: STABILITY AND REACTIVITY

Reactivity:	Not chemically reactive
Chemical Stability:	Stable under normal storage conditions.
Possibility of hazardous reaction:	No dangerous reaction know under conditions of normal use
Conditions to avoid:	Avoid all possible sources of ignition. Heat will increase pressure in storage tanks.
Incompatible materials:	Avoid contact with strong oxidizers.
Hazardous Decomposition products:	Not anticipated under normal conditions of use.

SECTION 11: TOXICOLOGICAL INFORMATION

Propane Toxicity	Hazard	Additional Information	LC50/i.D50 Data
Inhalation	Unlikely to harm	Asphyxiant. High concentrations may limit oxygen available for breathing	>20,000 ppm
Dermal	Skin aborption not anticipated		N/A
Oral	Ingestion not anticipated		N/A

Aspiration Hazard:	Not applicable
Skin Corrosion/Irritation:	Not expected to be irritating. Contact with the liquefied or pressurized gas may cause frostbite ("cold" burn).
Serious Eye Damage/Irritation:	Not expected to be irritating. Contact with the liquefied or pressurized gas may cause momentary freezing followed by swelling and eye damage.
Skin Sensitization:	Skin Contact is not anticipated.
Respiratory Sensitization:	Not expected to be a respiratory sensitizer.
Specific Target Organ Toxicity (Single Exposure):	Not expected to cause organ effects from a single exposure.
Specific Target Organ Toxicity (Repeated):	Not expected to cause organ effects from repeated exposures.
Carcinogenicity:	Not expected to cause cancer.
Germ Cell Mutagenicity:	Not expected to cause heritable genetic effects.
Reproductive Toxicity:	Not expected to cause reproductive toxicity.

SECTION 12: ECOLOGICAL INFORMATION

Toxicity:	Petroleum gases will readily evaporate from the surface and would not be expected to have significant adverse effects in the aquatic environment.
Perisistence and Degradability:	The hydrocarbons in this material are expected to be inherently biodegradable. In practice, hydrocarbon gases are not likely to remain in solution long enough for biodegradation to be a significant loss process.
Bioaccumulative Potential:	Since the low Kow values measured for refinery gas constituents are below 3, they are not regarded as having the potential to bioaccumulate.
Mobility in Soil:	Due to the extreme volatility of petroleum gases, air is the only environmental compartment in which they will be found.
Other adverse effects:	None anticipated.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal recommendations:	This material must be disposed of in accordance with all local, state and federal regulations. The generation of waste should be avoided wherever possible.
Additional information:	Handle empty containers with care because residual vapors are flammable.

SECTION 14: TRANSPORT INFORMATION

U.S. Department of Transportation	(DOT) UN1978, Propane, 2.1 Propane, UN1978 Flammable gas Flammable gas / 1978
Packaging – References	49 CFR: 173.306; 173.304; 173.314 & .315 (Exceptions; Non-bulk; Bulk)

SECTION 15: REGULATORY INFORMATION

Federal Regulations:	All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.