

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: PROPANE

Intended use: Fuel gas.

Company Identification: United Pacific Energy
425 West Plumb Lane
Reno, NV 89509

Emergency Telephone Number: PERS: 800-633-8253

2. HAZARDS IDENTIFICATION

CLASSIFICATION Flammable Gas Category 1
Gas Under Pressure: Liquefied gas
Simple asphyxiant

Hazards not Otherwise Classified None

Label Elements



DANGER Contains gas under pressure; may explode if heated.
Extremely flammable gas.
May displace oxygen and cause rapid suffocation.

Precautionary Statement(s): Keep away from heat, sparks, open flames, and hot surfaces. No smoking.
Use only outdoors or in a well-ventilated area.
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.
Dispose of contents and container in accordance with local and national regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Components - Units</u>	<u>CAS-No</u>	<u>Concentration</u>
Propane – PPH*	74-98-6	98.9%
Ethane – PPH*	74-84-0	0.7%
Isobutane - PPH*	175-28-5	0.4%

* PPH=Percent (%)

4. FIRST AID MEASURES

Inhalation:	If breathing is difficult, oxygen should be administered by qualified personnel. If respiration or pulse has stopped, have a trained person administer basic life support (Cardio-Pulmonary Resuscitation/Automatic External Defibrillator) and CALL FOR EMERGENCY SERVICES IMMEDIATELY.
Skin Contact:	Frostbite: warm injured area in warm (tepid) water. Seek immediate medical attention for cryogenic burns.
Eye Contact:	Rinse immediately with plenty of water. If symptoms persist, seek medical attention.
Ingestion:	Not a relevant route of exposure for a gas.
<u>Most important symptoms and effects:</u>	
Acute:	Cardiac sensitization. CNS impairment. Lack of coordination. Excitation. Headache. Nausea. Irregular heartbeat (arrhythmia). Continued high exposure may result in unconsciousness, coma and death. Direct contact with liquid or compressed gas may cause cold burns/frost bite.
Delayed:	None.
Indication of immediate medical attention and special treatment, if necessary:	Immediate medical attention is required for symptom caused by oxygen deficient environments. Immediate medical attention is required for cryogenic burns.
Notes to Physician:	Treat frost-bitten areas as needed.
Other Comments:	Before attempting rescue, first responders should be alert to the fire and explosion hazard and the possible presence of propane in concentrations that have displaced normal atmospheric oxygen levels and should consider the need for respiratory protection (see Section 8). Remove casualty to fresh air as quickly as possible. Immediately begin artificial respiration if breathing has ceased. Consider whether oxygen administration is needed. Obtain medical advice for further treatment.

5. FIRE-FIGHTING MEASURES

Specific hazards arising from the chemical:	Extremely flammable. Gas can burn with near invisible flame in daylight. Readily ignited by heat, sparks or flames. Forms explosive mixtures with air. Incomplete combustion will create non-combusted hydrocarbons, carbon monoxide and smoke.
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Suitable extinguishing media:

Dry chemical. Carbon dioxide (CO₂). Water spray.

Special protective equipment and precautions for fire-fighters:

In case of fire, allow gas to burn if flow cannot be shut off immediately. Move containers from fire area if it can be done without risk. If liquid/gas has not been ignited, disperse with water spray. Use water in flooding quantities as fog. Cool all affected containers with flooding quantities of water. In the event of fire, wear self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures:

Avoid breathing gas. Avoid contact with skin and eyes. Keep public away. Isolate and evacuate area. Shut off source, if safe to do so. Ventilate the area. Eliminate all sources of ignition. Take precautionary measures against static discharges. Use spark-proof tools and explosion-proof equipment. Wear personal protective equipment as per Section 8.

Environmental Precautions:

Stop leak if possible without personal risk. Releases should be reported, if required, to appropriate agencies. Notify Local Emergency Planning Committee and State Emergency Response Commission for release greater than or equal to RQ (US. SARA Section 304). If release occurs in the U.S. and is reportable under CERCLA Section 103, notify the National Response Center at (800) 424-8802 or (202) 426-2675.

Methods and materials for containment and cleaning up:

Flammable/explosive gas will accumulate in enclosed areas. Permit escaped gas to dissipate with caution.

7. HANDLING AND STORAGE

Precautions for safe handling:

Avoid inhalation. Avoid contact with skin and eyes. Keep contaminated clothing away from sources of ignition. To avoid ignition by static electricity discharge, equipment must be bonded and grounded. Do not enter confined spaces such as tanks or pits without following proper entry procedures. Contains gas under pressure. Handle in accordance with all current regulations and standards. Avoid contact with liquid. Use only with adequate ventilation. Obtain appropriate training prior to handling.

If used in cylinders, use equipment rated for cylinder pressure. Close valve after each use and always replace cylinder cap after use. When transporting cylinders, use appropriate dolly or handling techniques. Protect cylinders from physical damage; do not drag, roll, slide, or drop.

Electrical installations and equipment in hazardous locations should be installed according to the National Electric Code (U.S.A.). Empty containers retain residue and may be hazardous. Do not pressurize, cut, heat, weld or expose such containers to sources of ignition.

Conditions for safe storage, including any incompatibilities:

Liquid/vapor storage containers are under high pressure. Use approved containers and equipment.

If stored in cylinders, store in a segregated and approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials. Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Cylinder temperatures should not exceed 52 °C (125 °F). May be subject to storage regulations: U.S. OSHA 29 CFR 1910.106.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines:

<u>Component</u>	<u>ACGIH</u>	<u>OSHA</u>	<u>Other</u>
Propane	None established	1,000 ppm TWA PEL	NIOSH IDLH 2,100 ppm
Ethane	None established	None established	None established
Isobutane	1,000 ppm STEL TLV	None established	None established

Note: State, local or other agencies or advisory groups may have established more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information.

Appropriate engineering controls:

Ensure compliance with applicable exposure limits. Ensure adequate ventilation, especially in confined areas. Use explosion proof equipment and lighting in classified/controlled areas. Where possible, enclose operations. Use local exhaust ventilation at the site of chemical release.

Personal Protective Equipment:

Eye/Face Protection:

Safety glasses with side-shields. Where pressurized liquid or gas may escape, use face-shield and goggles.

Skin/Hand Protection:

Chemical protective gloves. Thermal insulated gloves where liquefied gas may escape. Flame retardant protective clothing.

Respiratory Protection:

When exposure limits may be exceeded, wear respiratory equipment as per U.S. OSHA 29 CFR 1910.134. Positive pressure supplied air must be used when there is a potential for uncontrolled release. When the level may be above the IDLH, use an SCBA or positive pressure supplied air with an auxiliary self-contained escape pack. For rescue and maintenance work in storage tanks, use self-contained breathing apparatus.

Other Protective Equipment:

Hard hats and ear protection should be worn when working with pressurized containers or equipment. An emergency eye wash fountain and quick drench shower should be provided in the work area.

Hygiene Measures:

Obtain proper training prior to use. Handle in accordance with good industrial hygiene and safety practices. Do not smoke. Launder contaminated clothing before reuse.

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Liquefied compressed gas
Physical Form:	Colorless gas
Odor:	Odorless. Slight hydrocarbon.
Odor Threshold:	1,000 to 20,000 ppm (Propane)
Relative Density (water=1):	Pure: 0.5853; Mix: 0.506 @ 60 °F (15.6 °C)
Molecular Weight:	43.834 (Mixture)
Critical Temperature:	206.26 °F (96.81 °C) @ 42.01 atm (Propane)
Decomposition temperature:	Not determined
Melting/Freezing Point:	-309.5 °F (-189.7 °C) (Propane)
Initial Boiling Point/Range:	-43.8°F (-42.1 °C) (Propane)
Flash Point:	-156 °F (-104 °C) CC
Auto-ignition Temperature:	842 °F (450 °C) (Propane)
Flammability (solid, gas):	Highly flammable gas
Upper Explosive Limits (vol % in air):	9.5% (Propane)
Lower Explosive Limits (vol % in air):	2.1% (Propane)
Evaporation Rate (nBuAc=1):	Not determined
Volatility:	100%
Vapor Density (air=1):	1.56 @ 0 °C
Vapor Pressure:	Propane: 7162 mm Hg @ 25 °C; Mix: 213.6 psia @ 100 °F
Partition Coefficient (n-octanol/water) (Kow):	No data available
Solubility in Water:	Slight
Test Method:	Not applicable
pH:	Not applicable
Viscosity:	Not applicable

10. STABILITY AND REACTIVITY

Reactivity:	Non-reactive under normal conditions
Chemical stability:	Stable under normal conditions.
Possibility of hazardous reactions:	None known
Conditions to avoid:	Keep away from open flames, hot surfaces and sources of ignition.
Incompatible materials:	Strong oxidizers.
Hazardous decomposition products:	Incomplete combustion will create non-combusted hydrocarbons, carbon monoxide and smoke.

11. TOXICOLOGICAL INFORMATION

Health Hazards:

Acute Toxicity

Hazard

Inhalation:	Cardiac sensitization. Central Nervous System impairment. Lack of coordination. Excitation. Headache. Nausea. Irregular heartbeat (arrhythmia). Continued high exposure may result in unconsciousness, coma and death.
Skin Contact:	Contact with liquid may cause frostbite.
Eye Contact:	Contact with liquid may cause frostbite.

Ingestion:	Unlikely route of exposure for a gas.
Chronic Effects:	Chronic exposure to n-butane has been reported to cause some symptoms in the central nervous system. In mice exposed to 2 hr. of butane vapors, the brain levels of n-butane were found to be 779 ppm. In both rats and mice the brain levels of n-butane correlated with the degree of CNS depression.
Carcinogenicity:	None of the components are listed as a carcinogen by IARC, NTP or OSHA.
Germ Cell Mutagenicity:	No effects expected.
Reproductive Toxicity:	<p>No data is available on the product itself.</p> <p>A fuel gas containing methane, ethane, and butane, as well as propane was found to produce neural tube defects in the fetuses of exposed mice. One mouse study found a fuel gas that contained butane as well as other hydrocarbons to cause hydrocephalus and exencephaly in the fetuses of exposed pregnant animals.</p> <p>Oxygen deficiency may have independent effects on embryonic development. Threat to the unborn if mother is exposed to a concentration sufficient to render unconscious.</p>
Acute Toxicity Values:	<p>Propane: LC50 Inhalation Rat 1,237 mg/L/ 120 min</p> <p>Ethane: LC50 Inhalation Rat 1,443 mg/L/ 120 min</p> <p>Isobutane: LC50 Inhalation Rat 1,443 mg/L/ 15 min.</p>

12. ECOLOGICAL INFORMATION

Ecotoxicity:	<p>No data for product.</p> <p>Propane: LC50 Fish 147.5 mg/L/ 96 hr. EC50 Daphnia 14.22 mg/L/ 48 hr.</p> <p>Ethane: LC50 Fish 27.98 mg/L/ 96 hr. EC50 Daphnia 14.22 mg/L/ 48 hr.</p>
Bioaccumulative potential:	No data for product.
Persistence and degradability:	<p>No data for product.</p> <p>Propane: Readily biodegradable.</p> <p>Ethane: Readily biodegradable.</p>
Mobility in soil:	No data for product.
Other adverse effects:	Release in large quantities may contribute to the greenhouse effect.

13. DISPOSAL CONSIDERATIONS

Waste from Residues/ Unused Product:	Reuse or reprocess, if possible. Return unused product in original container to supplier. Contact supplier if guidance is required. Dispose in accordance with all applicable regulations.
Contaminated Packaging:	Return container to supplier.

14. TRANSPORT INFORMATION

U.S. Department of Transportation (DOT)

Proper Shipping Name:	PETROLEUM GAS, LIQUEFIED
UN/Id No:	UN 1075
Hazard Class or Division:	2.1
Packing Group:	Not Applicable for gases
Labeling Requirements:	Class 2.1
Additional Shipping Description:	None

15. REGULATORY INFORMATION

U.S. Regulations:

CERCLA/SARA

Section 302 Extremely Hazardous Substances and TPQs (in pounds): This material contains the following chemicals subject to the reporting requirements of SARA 302 and 40 CFR 372: None

Section 311/312 (Title III Hazard Categories):	Acute Health: Yes
	Chronic Health: No
	Fire Hazard: Yes
	Pressure Hazard: Yes
	Reactive Hazard: No

Section 313 and 40 CFR 372: This material contains the following chemicals subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR 372: None

EPA (CERCLA)

Reportable Quantity (in pounds): This material does not contain chemicals subject to CERCLA reporting requirements. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

California Proposition 65:

This product does not contain regulated chemicals.

International Hazard Classification:

Canada: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the Regulations.

National Chemical Inventories

All components are either listed under TSCA or are exempt.
All components are listed on the Canadian DSL.

16. OTHER INFORMATION

NFPA 704 Hazard Class:	Health: 2 Flammability: 4 Instability: 0
HMIS: (Rated using National Paint & Coatings Association HMIS: Rating Instructions, 2nd Edition)	Health: 2 Flammability: 4 Physical Hazard: 0
	(0-Minimal, 1-Slight, 2-Moderate, 3-Serious, 4-Severe)
Date of Issue:	05 May 2015
Status:	Revision 4
Reason for Revision:	Update to GHS / OSHA HazCom 2012: Changes to all sections.
Previous Issue Date:	4 Dec. 2014
Additional Advice:	Before using any product, read all warnings and directions on the label.

Guide to Abbreviations:

ACGIH = American Conference of Governmental Industrial Hygienists; CASRN = Chemical Abstracts Service Registry Number; CEILING = Ceiling Limit (15 minutes); CERCLA = The Comprehensive Environmental Response, Compensation, and Liability Act; EPA = Environmental Protection Agency; GHS = Globally Harmonized System; IARC = International Agency for Research on Cancer; INSHT = National Institute for Health and Safety at Work; IOPC = International Oil Pollution Compensation; LEL = Lower Explosive Limit; NE = Not Established; NFPA = National Fire Protection Association; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; PEL = Permissible Exposure Limit (OSHA); SARA = Superfund Amendments and Reauthorization Act; STEL = Short Term Exposure Limit (15 minutes); TLV = Threshold Limit Value (ACGIH); TWA = Time Weighted Average (8 hours); UEL = Upper Explosive Limit; WHMIS = Worker Hazardous Materials Information System (Canada)

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