



SAFETY DATA SHEET

1. Identification

Product identifier	PROPANE- LIQUEFIED PETROLEUM GAS
Other means of identification	
Product code	127
Synonyms	Unstented Propane * Stented Propane * HD-5 Propane * Standard Propane
Recommended use	Various.
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/Distributor information	
Manufacturer	Consumers' Co-operative Refineries Limited
Address	P.O. Box 260; 9th Avenue North Regina, SK S4P 3A1 Canada
Telephone	(306) 719-4353
Supplier	Consumers' Co-operative Refineries Limited
Address	P.O. Box 260; 9th Avenue North Regina, SK S4P 3A1 Canada
Telephone	(306) 719-4353
24-Hour emergency telephone	(613) 996-6666 - Canutec

2. Hazard(s) identification

Physical hazards	Flammable gases Gases under pressure Simple asphyxiants	Category 1 Liquefied gas Category 1
Health hazards	Not classified.	
Environmental hazards	Not classified.	
Label elements		
Signal word	Danger	
Hazard statement	Extremely flammable gas. Contains gas under pressure; may explode if heated. May displace oxygen and cause rapid suffocation.	
Precautionary statements		
Prevention	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Use only outdoors or in a well-ventilated area. Wear respiratory protection.	
Response	Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Eliminate all ignition sources if safe to do so.	
Storage	Protect from sunlight. Store in a well-ventilated place.	
Disposal	Dispose of waste and residues in accordance with local authority requirements.	
Other hazards	Contact with liquefied gas may cause frostbite.	
Supplemental information	None.	

3. Composition/information on ingredients

Mixtures			
Chemical name	CAS number	%	
Propane	74-98-6	100	

Ethanethiol	75-08-1	0.005
Composition comments	All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.	
4. First-aid measures		
Inhalation	Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory tract irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation. Get medical attention if breathing difficulty persists.	
Skin contact	Not likely, due to the form of the product. If frostbite occurs, immerse affected area in warm water (not exceeding 105°F/41°C). Keep immersed for 20 to 40 minutes. Get medical attention immediately.	
Eye contact	Not likely, due to the form of the product. If frostbite occurs, immediately flush eyes with plenty of warm water (not exceeding 105°F/41°C) for at least 20 minutes. If easy to do, remove contact lenses. Get medical attention promptly if symptoms persist or occur after washing.	
Ingestion	This material is a gas under normal atmospheric conditions and ingestion is unlikely.	
Most important symptoms/effects, acute and delayed	Symptoms of overexposure can include shortness of breath, drowsiness, headaches, confusion, decreased coordination, visual disturbances and vomiting, and are reversible if exposure is stopped. Continued exposure can lead to hypoxia (inadequate oxygen), cyanosis (bluish discoloration of the skin), numbness of the extremities, unconsciousness and death. Exposure to rapidly expanding gas or vapourizing liquid may cause frostbite ("cold burn").	
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically.	
General information	If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.	
5. Fire-fighting measures		
Suitable extinguishing media	Water fog. Water spray. Foam. Dry chemical powder. Carbon dioxide (CO2).	
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.	
Specific hazards arising from the chemical	Extremely flammable gas. Contents under pressure. Pressurised container may explode when exposed to heat or flame. During fire, gases hazardous to health may be formed.	
Special protective equipment and precautions for firefighters	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with full face-piece operated in positive pressure mode. Use approved gas detectors in confined spaces.	
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Do not extinguish fires unless gas flow can be stopped safely; explosive re-ignition may occur. Promptly isolate the scene by removing all persons from the vicinity of the incident. No action shall be taken involving any personal risk or without suitable training. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus. Stop flow of material. Use water to keep fire exposed containers cool and to protect personnel effecting shutoff. If a leak or spill has not ignited, use water spray to disperse the vapors and to protect personnel attempting to stop leak. Prevent runoff from fire control or dilution from entering streams, sewers or drinking water supply.	
Specific methods	Evacuate area. Check oxygen content before entering area. Stop leak if you can do so without risk. Remove pressurised gas cylinders from the immediate vicinity. Turn leaking cylinder with the leak up to prevent escape of gas in liquid state. Closed containers can burst violently when heated, due to excess pressure build-up. Use water spray to keep fire-exposed containers cool. Self-contained breathing apparatus and full protective clothing must be worn in case of fire. In the event of fire and/or explosion do not breathe fumes.	
General fire hazards	Extremely flammable gas.	

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Eliminate all sources of ignition in vicinity of released gas. Evacuate all non-essential personnel to an area upwind. Stop leak if possible without any risk. Ventilate enclosed areas to prevent formation of toxic, flammable or oxygen deficient atmospheres. Use suitable protective equipment (section 8). Follow all fire-fighting procedures (section 5). Keep out of low areas. Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks). Wear appropriate protective equipment and clothing during clean-up. Emergency personnel need self-contained breathing equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil etc) away from spilled material. Stop leak if you can do so without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Isolate area until gas has dispersed. For waste disposal, see section 13 of the SDS.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Attempt to stop the gas leak, if no risk is involved.

7. Handling and storage

Precautions for safe handling

Eliminate all sources of ignition. When using do not smoke. Before entering storage tanks and commencing any operation in a confined area, check the atmosphere for oxygen content and flammability. Valve protection caps must remain in place unless container is secured with valve outlet piping to use point. Close valve after each use and when container is empty. Do not drop, drag, slide or roll cylinders on their sides. Use a suitable hand truck to move gas containers. Use a pressure reducing regulator when connecting container to piping or systems. Never insert an object (e.g. wrench, screwdriver, pry bar) into cap openings. Use an adjustable strap wrench to remove over-tight or rusted caps. Open valve slowly. Do not use gas directly from containers. Do not heat container by any means to increase the discharge rate of product from the container. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not enter storage areas or confined spaces unless adequately ventilated. Use only outdoors or in a well-ventilated area. Oxygen concentration should not fall below 19.5 % at sea level (pO₂ = 135 mmHg). All equipment used when handling the product must be grounded. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Keep away from heat, sparks and open flame. Store in a cool, dry place out of direct sunlight. Secure cylinders in an upright position at all times, close all valves when not in use. Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value
Propane (CAS 74-98-6)	TWA	1000 ppm

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Material	Type	Value
PROPANE- LIQUEFIED PETROLEUM GAS (CAS Mixture)	TWA	1000 ppm
Components	Type	Value
Propane (CAS 74-98-6)	TWA	1000 ppm

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Material	Type	Value
PROPANE- LIQUEFIED PETROLEUM GAS (CAS Mixture)	TWA	1000 ppm
Components	Type	Value
Propane (CAS 74-98-6)	TWA	1000 ppm

Components	Type	Value
Propane (CAS 74-98-6)	TWA	1800 mg/m3 1000 ppm
Biological limit values	No biological exposure limits noted for the ingredient(s).	
Exposure guidelines	No exposure standards allocated.	
Appropriate engineering controls	Explosion proof exhaust ventilation should be used. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Provide adequate ventilation and minimize the risk of inhalation of gas.	
Individual protection measures, such as personal protective equipment		
Eye/face protection	If eye contact is likely, safety glasses with side shields or chemical type goggles should be worn.	
Skin protection		
Hand protection	Wear cold insulating gloves.	
Other	Wear suitable protective clothing.	
Respiratory protection	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Selection and use of respiratory protective equipment should be in accordance with OSHA General Industry Standard 29 CFR 1910.134; or in Canada with CSA Standard Z94.4.	
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.	
General hygiene considerations	When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.	

9. Physical and chemical properties

Appearance

Physical state	Gas.
Form	Compressed liquefied gas.
Colour	Colourless.
Odour	Boiling cabbage if stench.
Odour threshold	4800 ppm
pH	Not available.
Melting point/freezing point	-180 °C (-292 °F) / -185.89 °C (-302.6 °F)
Initial boiling point and boiling range	-42 °C (-43.6 °F)
Flash point	-101.1 °C (-150.0 °F) Pensky-Martens Closed Cup
Evaporation rate	> 1 (Ether (anhydrous)=1)
Flammability (solid, gas)	Extremely flammable gas.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)	2.2 %
Flammability limit - upper (%)	9.5 %
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapour pressure	1034.1 - 1241 kPa
Vapour density	1.6
Relative density	Not available.
Solubility(ies)	
Solubility (water)	6.5 % v/v in water.
Solubility temp. (water)	20 °C (68 °F)
Partition coefficient (n-octanol/water)	Not available.

Auto-ignition temperature	432 °C (809.6 °F)
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Critical temperature	96.6 °C (205.88 °F)
Explosive properties	Not explosive.
Molecular weight	44.11 g/mol
Oxidising properties	Not oxidising.
VOC	100 %

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidising agents.
Hazardous decomposition products	Thermal decomposition of this product can generate carbon monoxide and carbon dioxide.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Suffocation (asphyxiant) hazard - if allowed to accumulate to concentrations that reduce oxygen below safe breathing levels. Prolonged inhalation may be harmful. May cause drowsiness or dizziness. Inhalation of high concentrations may result in central nervous system depression and reduce the ability of the blood to carry oxygen to body tissues.
Skin contact	Exposure to rapidly expanding gas or vapourizing liquid may cause frostbite ("cold burn").
Eye contact	Exposure to rapidly expanding gas or vapourizing liquid may cause frostbite ("cold burn").
Ingestion	This material is a gas under normal atmospheric conditions and ingestion is unlikely.
Symptoms related to the physical, chemical and toxicological characteristics	Symptoms of overexposure can include shortness of breath, drowsiness, headaches, confusion, decreased coordination, visual disturbances and vomiting, and are reversible if exposure is stopped. Continued exposure can lead to hypoxia (inadequate oxygen), cyanosis (bluish discoloration of the skin), numbness of the extremities, unconsciousness and death. Exposure to rapidly expanding gas or vapourizing liquid may cause frostbite ("cold burn").

Information on toxicological effects

Acute toxicity	Not expected to be acutely toxic.
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Components	Species	Test results
Propane (CAS 74-98-6)		
Acute		
Inhalation		
Gas		
LC50	Rat	> 80000 ppm, 15 Minutes
Skin corrosion/irritation	Contact with liquefied gas might cause frostbites, in some cases with tissue damage.	
Serious eye damage/eye irritation	Direct contact with liquefied gas may cause eye damage from frostbite.	
Respiratory or skin sensitisation		
Respiratory sensitisation	Not a respiratory sensitizer.	
Skin sensitisation	This product is not expected to cause skin sensitisation.	
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
Carcinogenicity	Not classifiable as to carcinogenicity to humans.	
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.	
Specific target organ toxicity - single exposure	Not classified.	

Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not likely, due to the form of the product.
Chronic effects	None known.
Further information	Chronic effects are not expected when this product is used as intended.

12. Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Persistence and degradability	No data is available on the degradability of this product.
Bioaccumulative potential	
Partition coefficient n-octanol / water (log Kow)	
Propane (CAS 74-98-6)	2.36
Mobility in soil	The product is slightly soluble in water.
Mobility in general	The product contains volatile substances, which may spread in the atmosphere.
Other adverse effects	The product is a volatile organic compound which has a photochemical ozone creation potential.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

TDG

UN number	UN1978
UN proper shipping name	PROPANE
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Packing group	Not applicable.
Environmental hazards	No
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IATA

UN number	UN1978
UN proper shipping name	Propane
Transport hazard class(es)	
Class	2.1
Subsidiary risk	-
Label(s)	2.1
Packing group	Not applicable.
Environmental hazards	No
ERG Code	10L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number	UN1978
UN proper shipping name	PROPANE
Transport hazard class(es)	
Class	2.1
Subsidiary risk	2F

Packing group	Not applicable.
Environmental hazards	
Marine pollutant	No
EmS	F-D, S-U
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.

15. Regulatory information

Canadian regulations This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR.

Controlled Drugs and Substances Act

Not regulated.

Export Control List (CEPA 1999, Schedule 3)

Not listed.

Greenhouse Gases

Not listed.

Precursor Control Regulations

Not regulated.

International regulations

Stockholm Convention

Not applicable.

Rotterdam Convention

Not applicable.

Kyoto protocol

Not applicable.

Montreal Protocol

Not applicable.

Basel Convention

Not applicable.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information

Issue date	10-January-2017
Revision date	-
Version No.	01

Further information

The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.

Disclaimer

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.