

Safety Data Sheet

1.0 IDENTIFICATION OF THE SUBSTANCE / MIXTURE

1.1 Product Identification

Substance	Propane
Commercial Product Name	Propane
Synonyms	LPG (Liquefied Petroleum Gas), LP-Gas, Propane HD-5, CGSB Propane Grade 1, CGSB Propane Grade 2, odorized propane, automotive propane, autogas
Specific Use(s)	Odorized propane for use as a fuel for internal combustion engines and burners designed to be fuelled with propane
CAS	74-98-6

1.2 Details of the supplier of the SDS

Company	Greenergy Fuels Canada 14 King Street, Suite 250 Saint John New Brunswick E2L 1G2 CANADA
Telephone No.	888 834 1980
Email	msds-info@greenergy.com

1.3 Emergency telephone number

Emergency telephone number (CANUTEC)	888 CAN UTEC (226 8832), or 613-996-6666 From Cellular phone only *666
Availability	24hrs

2.0 HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to GHS/HPR

Flam. gas. 1	H220: Extremely flammable gas
Compressed Gas	H280: Contains gas under pressure; may explode if heated
STOT single exp. 3	H336: May cause drowsiness or dizziness

2.2 Label elements

Labelling according to GHS / HPR / WHIMIS

Pictograms:



Signal word:

Danger

Hazard statements:

H220: Extremely flammable gas
H280: Contains gas under pressure; may explode if heated
H336: May cause drowsiness or dizziness

Precautionary statements:

P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P261: Avoid breathing gas/mist/vapours/spray
P271: Use only outdoors or in well-ventilated area
P377: Leaking gas fire: Do not extinguish, unless leak can be stopped safely
P381: Eliminate all ignition sources if safe to do so
P403 + P233: Store in a well-ventilated place. Keep container tightly closed
P410+P403: Protect from sunlight. Store in a well-ventilated place

Other Hazards

Simple asphyxiant – cat 1: May displace oxygen and cause rapid suffocation

3.0 COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances

Substance name	Product Identifier	%	Classification according to GHS/HPR
Propane	CAS no: 74-98-6	90-100%	H220 - Extremely flammable gas H280 - Contains gas under pressure; may explode if heated H336: May cause drowsiness or dizziness
Ethane	CAS no: 74-84-0	0.5 - 5.0%	H220 - Extremely flammable gas H280 - Contains gas under pressure; may explode if heated
Propene	CAS no: 115-07-01	0.5 - 5.0%	H220 - Extremely flammable gas H280 - Contains gas under pressure; may explode if heated
N-Butane	CAS no: 106-97-8	0.0 - 0.5%	H220 - Extremely flammable gas H280 - Contains gas under pressure; may explode if heated

3.2 Mixtures

Not Applicable

4.0 FIRST AID MEASURES

4.1 Description of first aid measures

Product-Specific hazards and other issues:

This product is of low acute toxicity
Simple asphyxiant, high concentrations can displace oxygen and cause drowsiness and dizziness. Take precautions to ensure your own safety before attempting rescue (e.g. wear appropriate protective equipment)
Possible cardiac sensitization.
Sudden release of this material from pressurized vessels may result in cryogenic burns (frostbite).
Remove contaminated clothes except in the case of frostbite.

Inhalation:

Do not leave the victim unattended
Keep patient warm and at rest
Remove to fresh air and keep at rest in a position comfortable for breathing
If breathing is difficult, give oxygen
Immediately seek medical attention.
If unconscious place in recovery position and seek medical advice.
In the event of unconsciousness, apnea or cardiac arrest (no pulse) apply cardiopulmonary resuscitation

Skin contact:	Non-irritating to the skin. If frostbite has occurred, seek medical attention immediately; do not rub the affected area or flush with water. To prevent further damage, do not attempt to remove frozen clothing from affected area. If frostbite has not occurred, immediately and thoroughly wash contaminated skin with soap and water
Eye contact:	If eye tissue is frozen, seek medical attention immediately. If tissue is not frozen, thoroughly flush the eyes with large amounts of clean low-pressure water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If irritation persists seek medical attention.
Ingestion:	This product is a compressed gas; hence oral exposure and resulting acute toxicity are unlikely

4.2 Most important symptoms and effects, both acute and delayed

Inhalation:	A high concentration can displace oxygen in the air, which can result in nausea, vomiting, collapse, convulsions and death
Skin contact:	Dermal contact with rapidly evaporating liquid could result in freezing of the tissues or frostbite.
Eye contact:	This gas is non-irritating; but direct contact with liquified/pressurized gas or frost particles may produce severe and possibly permanent eye damage from freeze burns
Ingestion:	This product is a compressed gas; hence oral exposure and resulting acute toxicity are unlikely

4.3 Indication of immediate medical attention and special treatment needed

In case of accident or if you feel unwell, seek medical advice immediately, symptoms may not appear immediately

5.0 FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media: Use dry chemical, CO₂, water spray or fog for large fires

Extinguishing media which shall not be used for safety reasons:

High volume water jet

5.2 Special hazards arising from the substance or mixture

Fire Hazard:	Extremely flammable gas
Combustion products:	Carbon dioxide, carbon monoxide, smoke, fumes and unburned hydrocarbons

Specific hazards:	Vapours may form explosive mixture with air Vapours may travel long distances and accumulate in hazardous amounts in low-lying areas before finding a source of ignition May displace oxygen in the air DO NOT extinguish a leaking gas fire unless leak can be stopped. Explosive atmosphere could form. Evacuate area and fight fire from a maximum distance or use unmanned hose holders or monitor nozzles Containers can build up pressure if exposure to heat; cool with flooding quantities of water until well after the fire is out DO NOT direct water at source of leak or pressure relief devices, icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of vessel and always stay away from the ends of "bullet" tanks Sustained fire attack on vessels may result in a Boiling Liquid Expanding Vapour Explosion (BLEVE) Move containers from fire area if you can do it without risk Potential explosion hazard from reignition, if fire is put out without shutting off source Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations
-------------------	--

5.3 Advice for firefighters

Special protective equipment for fire-fighters:

- Wear personal protective equipment
- Wear self-contained breathing apparatus for firefighting

6.0 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions:	Use personal protective equipment Ensure adequate ventilation Isolate spill or leak Eliminate all sources of ignition Evacuate personnel to safe areas and stay upwind Beware of vapours accumulating to form explosive concentrations, vapours can accumulate in low areas. Enter area only if strictly necessary, a combustible gas detector can be used to check for flammable gas or vapours Fuel grade propane is odorized to aid detection of leaks and releases Ensure all equipment is electrically grounded before beginning transfer operations
-----------------------	--

6.2 Environmental precautions

Environmental precautions:	Prevent entry into waterways, sewers, basements or confined areas Prevent further leakage or spillage if safe to do so. Maritime spillages should be dealt with according to a Shipboard Oil Pollution Emergency Plan (SOPEP), as required by MARPOL Annex1 Regulation 26. If the product contaminates rivers and lakes or drains inform respective authorities.
----------------------------	--

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up:	Eliminate all sources of ignition
	Let evaporate
	All equipment used when handling this product must be grounded
	Do not touch or walk through spilled material
	Stop leak if you can do it without risk
	If possible, turn leaking container so that gas escapes rather than liquid
	Suppress (knock down) gases/vapors/mists with a water spray jet
	Water spray may reduce vapor; but may not prevent ignition in closed spaces
	Prevent entry into waterways, sewers, basements or confined areas
	Spillages of liquid product in the water will likely result in a quick and complete vaporization of the product. Isolate the area and prevent fire/explosion hazard for ships and other structures, taking into account wind direction and speed, until the product is completely dispersed.

Note: recommended measures are based on the most likely spillage scenarios for this material; however, local conditions (wind, air temperature, wave/current direction and speed) may significantly influence the choice of appropriate actions. For this reason, local experts should be consulted when necessary. Local regulations may also prescribe or limit actions to be taken

7.0 HANDLING AND STORAGE

7.1 Precautions for safe handling

Handling:	Sudden release of this material from pressurized vessels may result in cryogenic burns (frostbite)
	If inspection shows cylinders in poor condition, immediately contact supplier.
	Keep away from all sources of ignition
	Keep container tightly closed when not in use
	Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours)
	Use only non-sparking tools
	Bond and ground all equipment before transferring this material from one container to another
	The vapor is heavier than air. Beware of accumulation in pits and confined spaces
	Use only in well ventilated areas
	Wear recommended personal protective equipment
	Contact with liquid and with containers and delivery lines from which LPG has just been drawn, should be avoided to prevent cold burns.

7.2 Conditions for safe storage, including any incompatibilities

Storage:	Compressed gases should be stored in a separate safety storage cabinet or room
	Keep away from direct sunlight
	Empty containers may contain flammable product residues. Do not weld, solder, drill, cut or perform similar operations on or near containers.
Hygiene measures:	Handle in accordance with good industrial hygiene and safety practice.
	Wash hands and face before breaks and immediately after handling the product.

7.3 Specific end use(s)

Specific use(s):	No data
------------------	---------

8.0 EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Component:	Propane (74-98-6)
TLV-TWA:	Simple asphyxiant, no specific TLV (ACGIH)

8.2 Exposure controls

Respiratory protection:	Ensure adequate ventilation Not required if used as directed In case of insufficient ventilation wear suitable respiratory equipment. (Respiratory equipment selection should be informed by relevant industry standards such as CSA Z94.4 Selection, Use, and Care of Respirators)
Hand protection:	Product can cause frostbite. Prevent all skin contact. Protect exposed skin using insulated neoprene gloves suitable for low temperatures, long sleeves, protective apron and trousers worn outside boots or over shoes.
Eye protection:	Safety glasses (CSA Z94.3 Eye and Face Protectors)

9.0 PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical State:	liquified gas
Colour:	colourless
Odour:	odourless unless odourised with ethyl mercaptan
Melting point and freezing point:	-188°C
Boiling point or initial boiling point and boiling range:	-42°C
Lower and upper explosion limit or lower and upper flammability limit:	LEL >2.1% (estimated) UEL ca 9.5% (estimated)
Flash point:	-104°C
Auto-ignition temperature:	450°C
Decomposition temperature:	not applicable
pH:	not applicable
Kinematic viscosity:	not available
Solubility (water):	62.4 mg/l @ 25°C
Partition coefficient (Log Kow):	2.36 @ 20°C (n-octanol/water)
Vapour pressure:	878 kPa @ 22°C
Density and relative density:	0.51 kg/m ³ / 0.51 @ 15°C
Relative vapour density:	ca 1.52
Oxidizing properties:	not applicable
Particle properties:	not applicable

9.2 Other information

No data available

10.0 STABILITY AND REACTIVITY

10.1 Reactivity

Reactivity: Extremely flammable gas

See also section 10.5.

10.2 Chemical stability

Stability: Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions: None under normal conditions of storage and use. Gas explodes spontaneously when mixed with chlorine dioxide

10.4 Conditions to avoid

Conditions to avoid: Keep away from heat, sources of ignition, and exposure to sunlight.

10.5 Incompatible materials

Incompatible materials: Strong oxidising agents, chlorine dioxide

10.6 Hazardous decomposition products

Hazardous decomposition Carbon dioxide, Carbon monoxide

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity:

A DNEL for acute toxicity should be derived if an acute hazard leading to acute toxicity (eg. C&L) has been identified and there is a potential for high peak exposures. This is not the case for Petroleum Gases. Dermal and oral studies are not technically feasible as they are gases at room temperature and all show very low toxicity via the inhalation route.

Inhalation:	A high concentration can displace oxygen in air. If less oxygen available to breath then symptoms can include rapid breathing, fatigue, nausea, vomiting, collapse, convulsions and death. Lack of oxygen can cause permanent damage to organs
Skin contact:	Prolonged skin contact may cause skin irritation and/or dermatitis and secondary infection. Direct contact can cause frostbite
Eye contact:	Contact with eyes can cause serious eye damage
Ingestion:	Not a relevant route

Chronic toxicity:

No chronic toxicity data are available for any Petroleum Gases.

Germ cell mutagenicity:	Not expected to cause harm
Carcinogenicity:	Not known to cause cancer
Further information:	No data available

12. ECOLOGICAL INFORMATION

12.1 Toxicity

The substances in the category (LPG's) are gases and will predominantly partition to the atmosphere, which will limit the aquatic toxicity. Due to the difficulty associated with conducting aquatic toxicity tests, experimental data were not available for the members of this category. In the absence of measured data, estimated data were calculated using the QSAR model ECOSAR v1.11. in EPI Suite v4.10. Calculations were conducted for each of the category members (methane, ethane, propane, butane, isobutane). The toxicity of the substances was calculated to range from 7.71 mg/L to 147.54 mg/L for the different aquatic taxonomic groups

12.2 Persistence and degradability

Persistence and degradability: Not known to be highly persistent

12.3 Bioaccumulative potential

Bioaccumulation: Not known to bioaccumulate

12.4 Mobility in soil

Mobility: Not available (study not conducted due to low partition coefficient)

12.5 Results of PBT and vPvB assessment

The substance is not PBT / vPvB

12.6 Other adverse effects

No data available

13.0 DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

- Product:
- Assure emissions comply with applicable regulations.
 - Contaminated product, soil, water, container residues and spill cleanup materials may be hazardous wastes.
 - Contaminated product, soil or water should be considered dangerous due to potential evolution of flammable vapor.
 - Proper grounding procedures to avoid static electricity should be followed.
 - The product should not be allowed to enter drains, water courses or the soil.
- Contaminated packaging:
- Do not puncture or incinerate. Do not burn or use a cutting torch on the empty drum. Never use pressure to empty container. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION

14.1 UN Number

UN number: 1075

14.2 UN proper shipping name

Proper shipping name: LIQUIFIED PETROLEUM GASES or PETROLEUM GASES, LIQUIFIED (Propane)

14.3 Transport hazard class(es)

14.3.1 Overland transport

Class: 2
Danger labels: 2.1 - Flammable gases



ERAP index: 3,000

14.3.2 Transport by sea

Class: 2
Danger labels: 2.1 - Flammable gases
IMDG emergency schedules: F-D, S-U

14.3.3 Air transport

Class: 2
Danger labels: 2.1 - Flammable gases
Packing Instruction: 200
(max 150kg by cargo aircraft)

14.4 Packing group

Packing group: Not applicable

14.5 Environmental hazards

Other information (transport): No supplementary information available.

14.6 Special precautions for users

No data available

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No data available

15.0 REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

This product has been classified according to the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all of the information required by the HPR and WHMIS.

16.0 OTHER INFORMATION

Sources of key data used to compile the datasheet: ECHAC hem hazardous chemicals portal and CCOHS chemical profiles and TDG regs

Revision: 1.0
 Date: Sept 2025
 Updated sections: All sections - new SDS

List of Abbreviations:

SDS	Safety Data Sheet
CCOHS	Canadian Centre for Occupational Health and Safety
HPR	Hazardous Product Regulations
TDG	Transport of Dangerous Goods
ECHA	European Chemicals Agency
GHS	Globally Harmonised System [of classification]
PBT	Persistent, Bio-accumulative and Toxic
vPvB	Very Persistent and very Bio-accumulative
BLEVE	Boiling Liquid Expanding Vapour Explosion
LPG	Liquified petroleum gas(es)

DISCLAIMER OF LIABILITY The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.