

MATERIAL SAFETY DATA SHEET (MSDS) LIQUEFIED PETROLEUM GAS

DATE: December 2016

Version: 01

Reference Number: AVED/MSDS 001

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

1.1 Product Identifier	1.2 Supplier Details of the MSDS
LIQUEFIED PETROLEUM GAS Chemical Formula: C ₃ H ₈ + C ₄ H ₁₀ (mixture)	Avedia Energy (Pty) Ltd Portside Building 4 Bree Street, Cape Town, 8001 T: (021) 418 0280 Website – www.avediaenergy.com
1.3 Emergency Contact Number	1.4 Recommended Use:
On-site Emergency: 0800 283 342 (24hrs/7 days)	Used as an industrial, commercial, domestic and agricultural heating/fuel, a feedstock in chemical processes.

SECTION 2: HAZARD IDENTIFICATION

GHS Classification: Flammable gas, Category 1
Gases under pressure. Compressed gas
Carcinogenicity, Category 1B

Signal Words: **Danger**



GHS Label Element: **Symbols**
Hazard Statements: **PHYSICAL HAZARDS**

H220: Extremely flammable gas
H280: Contains gas under pressure; may explode if heated
H350: May cause cancer (*state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard*)

HEALTH HAZARDS

ENVIRONMENTAL HAZARDS

Not classified as an environmental hazard under GHS.

GHS Precautionary Statements:

Prevention:
P102: Keep out of reach of children
P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking
Response:
P376: Stop leak if safe to do so
P377: Leaking gas fire: Do not extinguish, unless leak can be stopped safely
P381: Eliminate all ignition sources if safe to do so.
Storage:
P403: Store in a well-ventilated area.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

<u>Substance/Mixture:</u>	<u>Chemical Name:</u>	<u>Chemical Family:</u>	<u>CAS No.:</u>	<u>UN No.:</u>
Mixture of	Propane (C ₃ H ₈)	Aliphatic Hydrocarbon	74-98-6	1978
	Butane (C ₄ H ₁₀)	Aliphatic Hydrocarbon	106-97-8	1011
LPG UN No.:	1075			
ERG No.:	115			
Hazchem Warning:	2A Flammable Gas			

SECTION 4: FIRST AID MEASURES

Inhalation:	Remove to fresh air. If breathing but unconscious, place in the recovery position. If breathing has stopped, apply artificial respiration. If heartbeat absent, give external cardiac compression. Monitor breathing and pulse, Seek urgent medical advice.
Skin Contact:	Do not remove clothing that adheres to the skin due to freezing. Obtain medical treatment immediately. In the event of frostbite, slowly warm the exposed area by rinsing with warm water. Otherwise seek medical treatment immediately. Contaminated clothing may be a fire hazard and should be soaked in water before being removed. Loosen tight clothing. Keep warm and at rest.
Eye Contact:	DO NOT DELAY , rinse eye with water and obtain medical treatment IMMEDIATELY. Remove any contact lenses, if present and easy to do. Continue rinsing. Flush eye with copious quantities of water.
Ingestion	In the unlikely event of ingestion, obtain medical treatment immediately
Most important symptoms/effects, acute & delayed:	High concentrations may cause central nervous system depression resulting in headaches, dizziness and nausea; continued exposure may result in unconsciousness and/or death
Immediate medical attention, special treatment:	Treat symptomatically. Administer oxygen if necessary

SECTION 5: FIRE-FIGHTING MEASURES

Clear fire area of all non-emergency personnel

Suitable extinguishing media: Shut off supply. If not possible and no risk to surroundings, let the fire burn itself out. Use foam for major fires. Use dry chemical powder, carbon dioxide or sand for minor fires.

Unsuitable extinguishing media: Do not use direct water jets on the burning product as it could cause a steam explosion and the spread of the fire.

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Specific hazards arising from chemical: Rupturing of cylinders or bulk containers due to excessive exposure to fire could result in a Boiling Liquid Expanding Vapour Explosion (BLEVE). Contents under pressure can explode when exposed to heat or flames. Vapour is heavier than air, spreads along the ground and distant ignition is possible.

Protective equipment & precautions for fire fighters: Proper protective equipment including, chemical resistant gloves and suits are to be worn, self-contained breathing apparatus must be worn when approaching a fire in a confined space. Select fire fighter's clothing approved to relevant standards.

SECTION 6: ACCIDENTAL RELEASE MEASURE

Evacuate the area of all non-essential personnel. Ventilate contaminated area thoroughly.

Personal precautions, protective equipment & emergency procedures: Shut off leaks, if possible without personal risks. Remove all possible sources of ignition and evacuate personnel. Take precautionary measures against static discharge. Ensure electrical equipment to be flameproof. monitor area with gas detector.

Environmental precautions: Use appropriate containment to avoid environmental contamination

Methods & materials for containment & cleaning up: Allow evaporation. Attempt to disperse gas to a safe location. Notify authorities if any exposure to the general public or the environment occurs or is likely to occur. Inform emergency services if product enters surface water drains.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling: Extinguish any naked flames. Do not smoke, avoid sparks, and remove ignition sources. Avoid prolong contact with skin. Electrostatic charges may generate during handling, and may discharge fire. Earth all equipment. Wear suitable protective clothing

Conditions for safe storage: Store only in purpose-designed, appropriately labelled pressure vessels and or cylinders. Must be stored in a well-ventilated area, ignition sources & other sources of heat. Do not store near cylinders containing compressed oxygen or other oxidizers. Cylinders containing LPG should only be handled & stored in a vertical/upright position on a level, fireproof floor, secure in position. Cylinders should never be rolled. Full cylinders shall be stored separately from empty ones. Restrict access to storage area and post warning sign. Inspect periodically for deficiencies such as damage or leaks. Have fire extinguishers available in an near the storage area.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Ventilation is normally required when handling or using LPG, can be hazardous when used in poorly ventilated areas.

Hygiene Measures: Wash hands, forearms and face after handling LPG at the end of the day as well as before eating and smoking.

Protection Measures: (PPE) Protect against accidental release of pressurized LPG:
Thermal insulating gloves and safety goggles, anti-static body cover to protect against cold burn.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State	:Gas. (Liquefied Petroleum Gas)	Vapour pressure	:The Vapour pressure at 37.8° ranges between 750 to 1050 KPa.
Colour	:Colourless/Clear	Solubility	:Insoluble in water, hot water
Odour	:Ethyl Mercaptan	pH	:Not applicable
Odour Threshold	:Not available	Flash point	:Closed-cup: 104.44°C (-156°F)
Boiling point	:> -42.17°C (-43.9°F)	Auto-ignition temperature	:434.9°C (814.8°F)
Explosion Limits	:Lower: 1.9% Upper: 8.5%	Density	:0.50-0.59 (Liquid)
Vapour density	:1.5-2.1		

SECTION 10: STABILITY AND REACTIVITY

Stable under normal ambient conditions for storage and use.
Avoid heat sources.
Can react with oxidizing agents

SECTION 11: TOXICOLOGICAL INFORMATION

Swallowed: Due to high volatility of product, this is not likely to occur
Skin & Eye Contact: Liquid will cause severe damage, vapour will cause irritation and can result in cold burns
Inhaled: May cause light-headedness, dizziness, & drowsiness

SECTION 12: ECOLOGICAL INFORMATION

LPG will vapourise rapidly when released to atmosphere.
There are no known adverse ecological effects.

SECTION 13: DISPOSAL CONSIDERATIONS

Get hold of Avedia Energy if disposal of LPG is required.
LPG cylinders, when no longer required or no longer in use, should be returned to the company which owns the cylinder (Follow the cylinder Branding).
Do **NOT** incinerate LPG cylinders

SECTION 14: TRANSPORT INFORMATION

Transport Information:	Class:	2.1	HAZ-CHEM warning:	2A –flammable gas
	Shipping name:	Propane	Butane	LPG
	UN Number:	1978	1011	1075

SECTION 15: REGULATORY INFORMATION

LPG is a prescribed Hazardous Substance and its storage and handling is covered by various legislative requirements.
The installation of LPG equipment must be performed only by appropriately licensed or authorized persons.
Data compiled from SANS 10234:2008 Edition 1.1



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SECTION 16: OTHER INFORMATION

Exclusion of Liability:

Avedia Energy (Pty) Ltd shall not assume any liability for the accuracy of the information contained herein or any advice given unless there has been gross negligence on our part. Our responsibility for product as sold is subject to our standard terms and conditions, a copy of which is sent to our customers and is also available on request.