PUREGAS	SAFETY DATA SHEET	Version: 4 Revision date: 2025-04-25
	Liquefied Petroleum Gas LPG	PG-SDS-05

This SDS conforms to the Globally Harmonised System (GHS), South African Regulations on Hazardous Chemical Agents, and SANS 10234, SANS 11014 & SANS 10228.

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product name	Liquefied Petroleum Gas (LPG)
Chemical Name	Petroleum gases, liquefied (LPG)
Other means of identification	Petroleum Gas
Recommended Intended Purpose	This substance is used by consumers, by professional workers (widespread uses), in formulation or re-packing, at industrial sites and in manufacturing.
Company Information	**Puregas (Pty) Ltd** PO Box 123884, Alrode, 1451, Gauteng, South Africa **Tel:** (011) 903 9760 **Fax:** (011) 903 9766 **Cellphone:** 082 889 6946 (1st) 082 885 7475 (2nd) **Email:** info@puregas.co.za Website: www.puregas.co.za
Emergency Telephone	0800 172 743 Rapid Spill Response - 24 hours, 7 days a week

SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance - GHS classification as published through ECHA

Hazard Classification	Category	Hazard Statement	
Flammable Gas	1	H220	Extremely flammable gas.
Flammable Liquids	1	H224	Extremely flammable liquid and vapour
Germ cell mutagenicity	1B	H340	May cause genetic defects
Gases under pressure	2.2	H280	Contains gas under pressure; may explode if heated
Carcinogenicity	1B	H350	May cause cancer

Hazard Pictograms

GHS02 GHS04 GHS08

Signal Word: **Danger**

Precautionary Statements

General:	P101	If medical advice is needed, have product container or label at hand
	P102	Keep out of reach of children
	P103	Read carefully and follow all instructions
Prevention	P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
	P280	Wear protective gloves/protective clothing/eye protection/face protection.
Response	P377	Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
	P381	In case of leakage, eliminate all ignition sources
	P318	If exposed or concerned, get medical advice.
Storage	P403	Store in a well-ventilated place.
	P405	Store locked up.
Disposal	P501	Dispose of contents/ container to an approved facility in accordance with local, regional, national and international regulations.

Main Hazard	This substance may cause genetic defects, may cause cancer and is an extremely flammable gas.
Flammability	Highly flammable product
Chemical Hazard	LPG is relatively non-toxic and is a stable product
Biological Hazard	Contact with the liquid phase of LPG with the skin can result in frostbite
Health Hazards	May cause genetic defects, may cause cancer
Other Hazards	An asphyxiant at high concentrations – oxygen depletion can be fatal. Contact with evaporating liquid may cause frostbite or freezing of skin

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

CAS No	EC No	Name
68476-85-7	270-704-2	LPG
UN Number:	1075	

See Section 8 for Exposure Guidelines and Section 15 for Regulatory Classifications.

SECTION 4. FIRST AID MEASURES

General information	Adhere to personal protective measures when giving first aid. Seek medical advice immediately.
In the case of inhalation	Exposure to high concentrations may cause asphyxiation. Move to fresh air. Do not leave the victim unattended. Keep the patient warm and at rest. If unconscious place in recovery position. Seek immediate medical attention. If breathing is difficult, give oxygen if possible, or assisted ventilation.
In case of skin contact	Contact with a product in liquid form may cause frostbite. Do not remove clothing that adheres due to freezing. Immediately flush the affected area with plenty of water – continue for at least 15 minutes. If there are signs of frostbite, (blanching or redness of skin or burning or tingling sensation), do not rub, massage or compress the affected area. Send the casualty immediately to the hospital.
In case of eye contact	Contact with a product in liquid form may cause frostbite. Remove any contact lenses. Flush eyes with water thoroughly and continuously for at least 15 minutes. Keep your eye wide open while rinsing.
In case of ingestion	Not considered a likely route of exposure – frostbite to the lips and mouth may occur if in contact with the liquid.
Treatment (Advice to doctor)	A simple asphyxiant gas at normal temperatures and pressures – there is no specific antidote. In the event of contact with the product in liquid form treat for frostbite.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	Where possible stop the flow of gas, and if safe to do so. If the flow cannot be stopped allow the fire to burn out, whilst cooling containers and surroundings with a water spray. LARGE FIRE: Use water spray, water fog or foam. SMALL FIRE: Dry powder or carbon dioxide (CO2) extinguisher, dry sand or firefighting foam.

Unsuitable extinguishing media	Do NOT use a water jet. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam.
Special hazards arising from the substance	Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).
Special protective equipment for fire-fighters	In case of a large fire or in confined or poorly ventilated spaces wear full fire-resistant protective clothing and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode in addition to standard firefighting gear.
Additional information	Vapour is denser than air – flashback may be possible over considerable distances. Cylinders or other containment vessels may explode under fire conditions - use water spray to cool unopened containers. Do not allow run-off from firefighting to enter drains or watercourses – may cause explosion hazard in drains and may reignite.

SECTION 6. ACCIDENTAL RELEASE MEASURES

General	Spillages of material generate large volumes of extremely flammable gas which is heavier than air and will accumulate in low areas or confined spaces. (Subject to applicability): When the presence of dangerous amounts of H2S and/or CO around the spilled product is suspected or proved, additional or special actions may be warranted, including access restrictions, use of special protection equipment, procedures and personnel training. Stop leak if safe to do so. Avoid direct contact with released material and breathing vapours. Stay upwind. Keep non-involved personnel away from the area of spillage. Alert emergency personnel. Enter area only if strictly necessary. A combustible gas detector can be used to check for flammable gas or vapours. Eliminate all ignition sources if safe to do so (e.g. electricity, sparks, fires, flares, etc.). If required, notify relevant authorities according to applicable regulations.
Personal precautions	Wear personal protective equipment, including self-contained breathing apparatus, unless the atmosphere is proved to be safe.
Environmental precautions	Land spillage : Prevent further leakage or spillage if safe to do so. Prevent spillage from entering drains or any place where accumulation may occur. Ensure adequate ventilation, especially in confined areas. Spillages in water or at sea : Prevent further leakage or spillage if safe to do so. 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 material is completely dispersed. If the spillage contaminates rivers, lakes or drains inform respective authorities.
Methods and material for containment and cleaning up	Contain spillage – ventilate the area and allow to evaporate.
Further accidental release measures	Spillages of liquid products will create a fire hazard and form an explosive atmosphere. Ensure all equipment is non-sparking or electrically bonded. Dispose of wastes safely.

SECTION 7. HANDLING AND STORAGE

General protective measures	Risk of explosive mixtures of vapour and air. (Subject to applicability) A specific assessment of inhalation risks from the presence of H2S and/or CO in tank headspaces, confined spaces, product residue, tank waste and wastewater, and unintentional releases must be made to help determine controls appropriate to local circumstances.
Precautions for safe handling	Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimise exposure using measures such as closed systems, dedicated facilities and suitable general/local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean/flush equipment, where possible, prior to maintenance. Consider the need for risk-based health surveillance. Ensure safe systems of work or equivalent arrangements are in place to manage risks. Regularly inspect, test and maintain all control measures.
Hygiene measures	Smoking, eating and drinking should be prohibited.
Requirements for storage rooms and vessels	Store in a designated cool and well-ventilated place. Cleaning, inspection and maintenance of the internal structure of storage tanks must be done only by properly equipped and qualified personnel as defined by national, local or company regulations To store only in supplied cylinders or approved vessels.
Advice on protection against fire and explosion	Avoid all sources of ignition, oxidising agents, chlorine and hydrogen chloride or hydrogen fluoride. Take precautionary measures against static discharges, and use proper bonding and/or grounding procedures. Use piping and equipment designed to withstand the pressures to be encountered. Use a check valve or other protective device to prevent reverse flow. Handle empty containers with care; vapour residue may be flammable. Do not pressurise, cut, weld, braze, solder, drill, or grind on containers. Dispose of rinse water in accordance with local and national regulations. The vapour is heavier than air, beware of accumulation in pits and confined spaces. Ensure that all relevant regulations regarding explosive atmospheres, and handling and storage facilities of flammable products are followed. No smoking. Cylinders should be secured vertical - and only transported in a secure position in a well-ventilated vehicle or hand truck. Cylinders which have been opened must be carefully resealed and kept upright. For maintenance work or conservation, emptied tanks should be purged, and blanketed with inert gas (i.e. nitrogen).

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Exposure controls	As vapourised LPG is a simple asphyxiant, avoid any areas where spillage has taken place. Only enter once testing has proved the atmosphere to be safe.
Respiratory protection	Keep self-contained breathing apparatus readily available for emergency use.

Hand protection	Protective gloves against mechanical risks. Wear gloves while handling containers Protective gloves against cold. Protective gloves should be used if there is a risk of
Eye protection	direct contact or splash
Skin and body protection	Wear safety glasses with side shields or face shields Wear fire-resistant or flame-retardant clothing. Wear safety shoes while handling cylinders.
Engineering Controls	Consider a work permit system e.g. for maintenance activities. Ensure adequate air ventilation. Provide adequate general and local exhaust ventilation. Keep concentrations well below lower explosion limits. Gas detectors should be used when quantities of flammable gases or vapours may be released. Systems under pressure should be regularly checked for leakages. Product to be handled in a closed system. Use only permanent leak-tight installations (e.g. welded pipes). Take precautionary measures against static discharges. Gas detectors should be used when toxic quantities may be released.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Colourless liquified gas
Colour	Colourless
Odour	Mercaptan like (Will have a pungent garlic or skunk-like smell)
Odour threshold	Subjective and is inadequate to warn of over-exposure
pH	Not applicable
Melting / freezing point	-187.6 - -138.3 °C @ 101.3 kPa [5] -78.5 °C
Boiling point	-161.48 - -0.5 °C @ 101.3 - 101.325 kPa [5]
Flash point	-104 - -60 °C @ 101.3 kPa [4]
Auto flammability / self-ignition	287 - 537 °C @ 99.8 - 102.1 kPa [6]
Density	0.423 - 0.589 g/cm^3 @ -89 - 25 °C [5]
Log Pow	1.09 - 2.8 @ 20 °C and pH 7 [5]
Vapour pressure	412.927 kPa @ 20 °C [1]
Solubility : Water	24.4 - 60.4 mg/L @ 20 - 25 °C and pH 7 [3]

SECTION 10. STABILITY AND REACTIVITY

Reactivity	None
Chemical Stability	Stable under normal conditions
Possibility of Hazardous reactions	Can form a potentially explosive atmosphere in air. May react violently with Oxidants
Conditions to avoid	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Never use cylinders as rollers or supports; or for any other purpose than storage.
Incompatible materials	Air, oxidisers, Chlorine dioxide
Hazardous decomposition products.	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute inhalation toxicity:	LC50 Rat: 15 min; gas; 1,442.738 - 1,443 mg/l; LC50 Mouse: 2 h; gas; 1,237 mg/l;
Germ cell mutagenicity:	Not classified
Carcinogenicity:	Not classified
Reproductive toxicity:	Not classified

SECTION 12. ECOLOGICAL INFORMATION

Toxicity to fish	4 d; LC50; 24.11 - 147.54 mg/l;
Toxicity to daphnia and other aquatic invertebrates	48 h; LC50; 14.22 - 69.43 mg/l
Toxicity to bacteria	4 d; EC50; 7.71 - 16.5 mg/l
Effect on the global warming	3 Contains greenhouse gas(es). When discharged in large quantities may contribute to the greenhouse effect.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods:

Small amounts may be blown to the atmosphere under controlled conditions. Large amounts should only be handled by the gas supplier. In general, should it become necessary to dispose of LPG, the best procedure, as for other flammable gases, is to burn them in any suitable burning unit available in the plant. This should be done in accordance with appropriate regulations

Packaging: The disposal of cylinders must only be handled by the gas supplier.

SECTION 14. TRANSPORT INFORMATION

UN Pictogram

Flammable Gas

OR

Flammable Liquid

Land and inland navigation transport ADR/RID

UN No. 1075, Shipping Name LPG, ERG No. 115, Class 3 or 2.1, Subsidiary Risk: Flammable Gas 1, Hazchem Warning 2A-Flammable gas.

Marine transport IMDG

MDG 1075, Shipping Name LPG, ERG No. 115, Class 3 or 2.1, Subsidiary Risk: Flammable Gas 1, Hazchem Warning Flammable gas.

Air transport ICAO/IATA-DGR

ICAO/IATA Code 1075, Class 2.1, Subsidiary risk Flam gas 1, Packaging instructions: Cargo: 200, Passenger: Forbidden, Maximum quantity allowed: Cargo: 150 kg, Passenger: Forbidden

Special precautions for user

The protective measures listed in Sections 6, 7 and 8 of the Safety Data Sheet have to be considered.

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture:
Occupational Health and Safety Act, Hazardous Chemical Agents Regulations
SANS 11014:2010 Edition 1
SANS 10228:2012 Edition 6
SANS 10234:2019 Edition 2
SUPPLEMENT TO SANS 10234 Edition 1
National Road Traffic Act
Dangerous Goods Regulations

SECTION 16. OTHER INFORMATION

SELECTED BIBLIOGRAPHY

1. Data sheets as supplied by various Suppliers and Manufacturers
2. Emergency Response Handbook - Annex A of SABS 0232-3
3. GHS Purple booklet
4. Handling Chemicals Safety, 2nd. Ed. Dutch Association of Safety Experts, Dutch Chemical Industry Association, Dutch Safety Institute, 1980
5. NIOSH Pocket Guide to Chemical Hazards, NIOSH, June 1990
6. ECHA
7. Occupational Health and Safety Act, Hazardous Chemical Agents Regulations
8. SANS 11014:2010 Edition 1
9. SANS 10228:2012 Edition 6
10. SANS 10234:2019 Edition 2
11. SUPPLEMENT TO SANS 10234 Edition 1
12. National Road Traffic Act
13. Dangerous Goods Regulations

Disclaimer:
This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety, and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.