LPG

Section 1: IDENTIFICATION of the MATERIAL and SUPPLIER

GHS Product Identifier	Liquefied Petroleum Gas
Product Name:	LPG
Chemical Name:	Liquefied Petroleum Gas. Mixture Propane, Butane and Propylene
Synonym(s):	LPG, Propane, Butane.
Uses:	Fuel gas. Industrial applications.

Supplier Name:	Speed Gas Pty Ltd
Address:	49 Chard Road, Brookvale, NSW 2100
Telephone:	1300 GAS NOW, 02 9907 7999
Fax:	02 9907 7666
Emergency:	24hr EMERGENCY TELEPHONE (Australia Only) 1300 994 556
Emergency:	DIAL 000
Website:	www.speedgas.com.au

Section 2: HAZARD(S) IDENTIFICATION

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA
CLASSIFIED AS DANGEROUS GOODS BY THE CRITERIA OF THE ADG CODE

GHS Classification:	Flammable Gases: Category 1 Gases Under Pressure: Liquefied Gas
Label Elements:	
Signal Word:	DANGER
Pictogram(s):	

Hazard Statements:	H220 – Extremely Flammable Gas H280 – Contains gas under pressure; May explode if heated.
Prevention Statements:	P210 – Keep away from heat/ sparks/ open flames/ hot surfaces. No Smoking.
Response Statements:	P377 – Leaking Gas Fire: Do Not extinguish unless leak can be stopped safely P381 – Eliminate all ignition sources if safe to do so.
Storage Statements:	P410 + P403 Protect from sunlight. Store in a well-ventilated place.
Disposal Statements:	None allocated
Other Hazards:	Asphyxiant. In addition to any other important health or physical hazards, this product may displace oxygen and cause rapid suffocation.

Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
PROPANE	74-98-6	200-827-9	Remainder
BUTANE	106-97-8	203-448-7	0.1 to 10%
ETHANE	74-84-0	200-814-8	0.1 to 10%
ISOBUTANE	75-28-5	200-857-2	0.1 to 10%
ODOURANT: ETHYL MERCAPTAN	75-08-1	200-837-3	Approx 25ppm

Section 4: FIRST AID MEASURES

Description of First Aid Measures

Eyes: Cold burns: Immediately flush with tepid water or with sterile saline solution. Hold eyelids apart and irrigate for 15 minutes. Seek medical attention.

Inhaled: Remove from exposure but avoid becoming a casualty. Apply artificial respiration if not breathing, preferably using an automated oxygen resuscitator. Rest and keep warm. Obtain medical attention. For advice contact Poisons Information Centre **Ph: 13 11 26** or a doctor.

Skin: Cold burns: Remove contaminated clothing and gently flush affected areas with warm water (30°C) for 15 minutes. Apply sterile dressing and treat as for a thermal burn. For large burns, immerse in warm water for 15 minutes. DO NOT apply any form of direct heat. Seek immediate medical attention.

Ingestion: Ingestion is not considered a potential route of exposure.

First Aid Facilities: Eye wash facilities and safety shower should be available

Most important symptoms and effects, both acute and delayed.

In high concentrations may cause asphyxiation. Direct contact with the liquefied material or escaping compressed gas may cause frostbite injury.

Immediate medical attention and special treatment needed.

Treat symptomatically.

Section 5: FIRE FIGHTING MEASURES

Extinguishing Media: Stop flow of gas if safe to do so, such as by slowly closing the cylinder valve.

Special hazards arising from the substance or mixture: Extremely flammable. Eliminate all ignition sources including cigarettes, open flames, spark producing switches /tools, heaters, naked lights, pilot lights, mobile phones etc. when handling.

Advice for Firefighters: Temperatures in a fire may cause cylinders to rupture and internal pressure relief devices to be activated. Cool cylinders or containers exposed to fire by applying water from a protected location. Do not extinguish flame if resulting escape of gas poses a greater risk. Do not approach cylinders or containers suspected of being hot. This material is capable of forming explosive mixtures in air.

Hazchem Code: 2YE

2 – Fine Water Spray

Y – Risk of explosion. Wear full fire kit and breathing apparatus. Contain spill and run off.

E – Evacuation of people in the immediate vicinity should be considered.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures.

Non-emergency personnel:

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Avoid breathing gas. Provide adequate ventilation.

If the cylinder is leaking, evacuate area of personnel. Inform manufacturer/supplier of leak. Use Personal Protective Equipment (PPE) as detailed in Section 8 of the SDS.

Environmental Precautions:

Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.

Methods of cleaning up:

Stop the flow of material if this is without risk. If the leak is irreparable carefully move to a safe and well ventilated area. Allow gas to escape to atmosphere. Keep area evacuated and free from ignition sources until any leaked or spilled liquid has evaporated.

Reference to other sections:

See Section 8 for Exposure Controls and Section 13 for disposal considerations

Section 7: HANDLING AND STORAGE

Precautions for Safe Handling.

Use safe work practices to avoid inhalation. Use appropriate personal protective equipment (see Section 8). Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement. Contains gas under pressure. Avoid contact with eyes, skin and clothing. Avoid breathing gas. Use equipment rated for cylinder pressure. Close valve after each use and when empty. The uncontrolled release of a gas under pressure may cause physical harm.

Conditions for safe storage, including any incompatibilities.

Store cylinders below 45ºC upright in a secure enclosure, preferably outside of buildings, protected from direct sunlight. Cylinders should also be stored in a dry, well ventilated area constructed of non-combustible material with firm level floor (preferably concrete). Secure cylinders by chains or similar device to prevent falling over. Keep away from flammable or combustible materials. Keep away from vehicular traffic and other thoroughfares.

Specific end use(s): No information provided.

8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Control Parameters.

Exposure Standards

Ingredient	Reference	TWA		STEL	
		ppm	mg/m^3	ppm	mg/m^3
Butane	SWA (Aus)	800	1900	-	-
Ethane	SWA (Aus)	Simple Asphyxiant			
Isobutane	SWA (Aus)	1000	-	-	-
Propane	SWA (Aus)	Simple Asphyxiant			

Biological limits: No biological limit values have been entered for this product.

Exposure Controls.

Engineering Controls: Avoid Inhalation. Where an inhalation risk exists, mechanical explosion proof. Extraction ventilation is recommended. Maintain vapour levels below the recommended exposure standard.

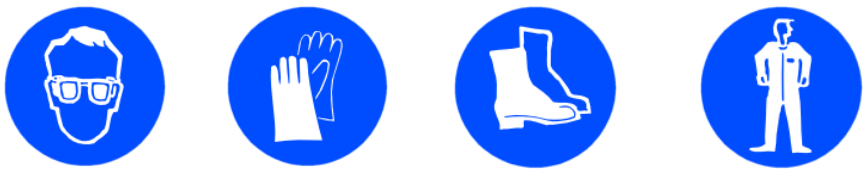
PPE

Eye/Face: Wear Safety Glasses

Hands: Chemical-resistant, impervious gloves complying with an approved standard should be worn.

Body: Appropriate footwear should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory: Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.



Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties.

Appearance: Colourless gas (liquefied under pressure)

Odour: Odourless Ethyl mercaptan added at prescribed quantities to give distinctive odour to warn of presence of gas

Flammability: Extremely Flammable.

Flash Point: -105^{o}C

Boiling Point: -42^{o}C

Melting Point: -190^{o}C

Evaporation Rate: Not applicable

pH: Not applicable.

Specific gravity: Not applicable.

Solubility in Water: Slightly soluble

Vapour Pressure:	871 kPa @ 20^{o}C
Upper explosion limit:	9.5%
Lower explosion limit:	2.1%
Partition Coefficient:	Not available
Auto-Ignition Temperature:	450^{o}C
Decomposition Temperature:	Not available
Viscosity	Not available
Explosive Properties	Not available
Oxidising Properties	Not available
Odour Threshold	Not available

Other Information

Vapour Density:	1.55 (Air=1) Heavier than air
Volatiles:	100%

Section 10: STABILITY AND REACTIVITY

Reactivity.

No specific test data related to reactivity available for this product or its ingredients. Carefully review all information provided in sections below.

Chemical Stability.

Stable under recommended conditions of storage.

Possibility of Hazardous Reactions.

Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to Avoid.

Avoid heat, sparks, open flames and other ignition sources.

Incompatible Materials.

Incompatible with oxidising agents (e.g. Hypochlorites), acids (e.g. Nitric Acid), heat and ignition sources. Do not use natural rubber flexible hoses. Also incompatible (potentially violently) with Oxygen, Halogens and Metal Halides.

Hazardous Decomposition Products.

This material will not decompose to form hazardous products other than that already present.

Section 11: TOXICOLOGICAL INFORMATION

Information on Toxicological Effects.

Acute Toxicity:	Swallowed: No liquid phase.
Skin:	Not irritating to the skin. Contact with the liquefied material or escaping compressed gas may cause frostbite injury.
Eyes:	Not irritating to the eye. Contact with the liquefied material or escaping compressed gas may cause frostbite injury.
Sensitisation:	Not classified as causing skin or respiratory sensitisation.

Mutagenicity:	Not classified as a mutagen.
Carcinogenicity:	Not classified as a carcinogen.
Reproductive:	Not classified as a reproductive toxin.
STOT Single Exposure:	Asphyxiant. Effects are proportional to oxygen displacement. Over exposure may result in dizziness, drowsiness, weakness, fatigue, breathing difficulties and unconsciousness.
STOT Repeated Exposure:	Not classified as causing organ damage from repeated exposure.
Aspiration:	Not classified as causing aspiration.

Section 12: ECOLOGICAL INFORMATION

Toxicity.	Not available.
Persistence and Degradability.	Not available.
Bioaccumulative Potential.	Not available.
Mobility in Soil	No information provided
Other Adverse Effects	When discharged to the atmosphere, carbon dioxide may contribute to the Product is not harmful to the environment.

Section 13: DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Waste disposal	Cylinders should be returned to the manufacturer or supplier for disposal of contents.
Legislation	Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Section 14: TRANSPORT INFORMATION

CLASSIFIED AS DANGEROUS GOODS BY THE CRITERIA OF THE ADG CODE

	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
UN Number	1075	1075	1075
Proper Shipping Name	PETROLEUM GAS, LIQUEFIED	PETROLEUM GAS, LIQUEFIED	PETROLEUM GAS, LIQUEFIED
Transport Hazard Class	2.1	2.1	2.1
Packing Group	None Allocated	None Allocated	None Allocated

Environmental Hazards. No information provided

Special Precautions for User.

Hazchem Code	2YE
GTEPG	2A2
EMS	F-D, S-U

Other Information: Ensure cylinder is separated from driver and that outlet relief device is not obstructed.

Section 15: REGULATORY INFORMATION

Safety, Health and Environmental Regulations
Legislation Specific for the Substance or Mixture.

Poison Schedule: A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

Classifications: Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.
The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].

Hazard Codes: None Allocated

Risk Phrases: None Allocated

Safety Phrases: None Allocated

Inventory Listing(s): AUSTRALIA: AICS (Australian Inventory of Chemical Substances)
All components are listed on AICS, or are exempt.

Section 16: OTHER INFORMATION

Additional Information The storage of significant quantities of gas cylinders must comply with AS4332 The Storage and Handling of Gases in Cylinders. When using this gas/gas mixture for welding, cutting and associated processes, additional hazards may be generated by the process such as radiation, noise and fume. Risk assessments should be made for each activity to identify and quantify the individual hazards involved.

APPLICATION METHOD Gas regulator of suitable pressure and flow rating fitted to cylinder or manifold with low pressure gas distribution to equipment.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE

It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

Abbreviations:

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
GHS	Globally Harmonised System
GTEPG	Group Text Emergency Procedure Guide
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m^3	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

[End of SDS]