

SAFETY DATA SHEET

Section 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME Liquefied petroleum gas
OTHER NAMES LPG
PRODUCT USE Use in closed pressurised systems fitted with temperature and pressure safety relief valves which are vented to allow safe dispersal. Domestic and industrial fuel, automotive fuel, barbecue fuel. Used for welding, brazing, soldering and metal cutting. Refined liquefied petroleum gas is used as an aerosol propellant. Cylinder colour: Silver or galvanised.

SUPPLIER

Company: IRPC Public Company Limited
Address: 299 Moo.5 Sukhumvit Road, Tumbon Chern-nern
Amphur Muang, Rayong 21000
THAILAND
Telephone: +66 38802560

Section 2 - HAZARDS IDENTIFICATION

GHS Classification Flammable Gas Category 1
Gas under Pressure
Carcinogenicity Category 1B
Mutagenicity Category 1B
STOT – Single exposure Category 3

PICTOGRAMS



SIGNAL WORD DANGER

HAZARD STATEMENTS

- H220 Extremely flammable gas.
- H280 Contains gas under pressure; may explode if heated.
- H340 May cause genetic defects.
- H350 May cause cancer
- H335 May cause respiratory irritation.
- H336 May cause drowsiness or dizziness.



PRECAUTIONARY STATEMENTS

- P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- P261 Avoid breathing fume/gas.
- P271 Use only outdoors or in a well- ventilated area.
- P304+P340 IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
- P308+P313 IF exposure or concerned: Get medical advice/ attention
- P312 Call a POISON CENTER or doctor/physician if you feel unwell.
- 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 Protect from sunlight.
- P501 Dispose of contents/containers in accordance with local regulation.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

Chemical name	CAS Number	EC Number	Composition
Liquefied petroleum gas (LPG)	68476-85-7	270-704-2	100 %

Section 4 - FIRST AID MEASURES

- Skin Exposure** If skin or hair contact occurs:
Flush skin and hair with running water (and soap if available).
Seek medical attention in event of irritation.
- Eyes Exposure** Open the eyelid(s) wide to allow the material to evaporate.
Gently rinse the affected eye(s) with clean, cool water for at least 15 minutes. Have the patient lie or sit down and tilt the head back.
- Inhalation** Following exposure to gas, remove the patient from the gas source or contaminated area.
Prostheses such as false teeth, which may block the airway, should be removed, where possible, prior to initiating first aid procedures.
If the patient is not breathing spontaneously, administer rescue breathing.
- Ingestion** Not considered a normal route of entry.

Section 5 - FIRE FIGHTING MEASURES

Suitable extinguishing agents	Dry chemical, CO ₂ or water spray to extinguish gas (only if absolutely necessary and safe to do so). DO NOT use water jets. DO NOT Extinguish burning gas unless leak can be stopped safely.
Fire fighting	Cool cylinder by direct flooding quantities of water onto upper surface until well after fire is out. To stop the flow of gas, specifically trained personnel may inert the atmosphere to reduce oxygen levels thus allowing the capping of leaking container(s). DO NOT extinguish the fire until the supply is shut off otherwise an explosive re-ignition may occur.
Hazards during fire-fighting	Carbon monoxide (CO), carbon dioxide (CO ₂), other pyrolysis products typical of burning organic material.
Protective equipment	Breathing apparatus. Gas tight chemical resistant suit.

Section 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions	Avoid breathing vapour and any contact with gas. Protective equipment including respirator should be used.
Cleanup	Clear area of all unprotected personnel and move upwind. Alert Emergency Authority and advise them of the location and nature of hazard. May be violently or explosively reactive. Remove leaking cylinders to a safe place. Fit vent pipes. Release pressure under safe, controlled conditions Burn issuing gas at vent pipes. DO NOT exert excessive pressure on valve; DO NOT attempt to operate damaged valve.

Section 7 - HANDLING AND STORAGE

Handling	Containers, even those that have been emptied, may contain explosive vapours. Consider use in closed pressure systems, fitted with temperature, pressure and safety relief valves which are vented for safe disposal. Use a pressure reducing regulator when connecting cylinder to lower pressure (< 100 psig) piping or systems. Electrostatic discharge may be generated during pumping - this may result in fire. Before connecting gas cylinders, ensure manifold is mechanically secure and does not containing another gas. Before disconnecting gas cylinder, isolate supply line segment proximal to cylinder, remove trapped gas in supply line with aid of vacuum pump. Do NOT drag, slide or roll cylinders - use a suitable hand truck for cylinder movement DO NOT transfer gas from one cylinder to another.
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Storage conditions

Store in an upright position.
 Outside or detached storage is preferred.
 Cylinders should be stored in a purpose-built compound with good ventilation, preferably in the open.
 The storage compound should be kept clear and access restricted to authorised personnel only.
 Cylinders stored in the open should be protected against rust and extremes of weather.

Section 8 - EXPOSURE CONTROLS/ PERSONAL PROTECTION

Exposure limits

Component Name	Reference	TWA	
		ppm	mg/m3
Liquefied petroleum gas (LPG)	NIOSH	1000	1800
	OSHA	1000	1800

Exposure controls

Exposed individuals are reasonably expected to be warned, by smell, that the Exposure Standard is being exceeded.

Personal protective equipments

Respiratory protection

Not required if good ventilation is maintained. If exposure exceeds occupational exposure limits, use a NIOSH approved respirator to prevent overexposure.

Eye protection

Safety glasses with side shields. Chemical goggles.

Protective clothing

The clothing worn by process operators insulated from earth may develop static charges far higher (up to 100 times) than the minimum ignition energies for various flammable gas-air mixtures. This holds true for a wide range of clothing materials including cotton.

Hand protection

When handling sealed and suitably insulated cylinders wear cloth or leather gloves.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

State	Gas
Melting Range	- 188 °C
Viscosity	Not applicable
Boiling Range	> -40 °C
Solubility in water	Immiscible
Flash Point (°C)	- 105 °C

pH (1% solution)	Not applicable
Decomposition Temp (°C)	Not applicable
Autoignition Temp	466 °C (approx)
Vapour Pressure	1313.56 mmHg @ -29 °C
Upper Explosive Limit (%)	10.0
Lower Explosive Limit (%)	1.5
Specific Gravity (water=1)	0.51-0.58
Relative Vapour Density (air=1)	approx 2.0
Volatile Component (%vol)	100

Section 10 - CHEMICAL STABILITY

Chemical Stability	Product is considered stable.
Dangerous reaction	May react violently with the incompatible materials
Condition to Avoid	High temperatures, heat, flames and static electricity.
Material to Avoid	Strong oxidizing agents; nitrates, oxidizing acids, chlorine bleaches
Dangerous decomposition	Carbon monoxide (CO), carbon dioxide (CO ₂), mercury vapour/ mercury metal, other pyrolysis products typical of burning organic material.

Section 11 - TOXICOLOGICAL INFORMATION

Acute Toxicity

Chemical name	Route	Species	Acute Toxic Value
Liquefied Petroleum Gas	Inhalation	Rat	LC ₅₀ > 800000 ppm

Irritating/corrosive effects

Eye Irritation	Direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness.
Skin Irritation	Not produce adverse health effects or skin irritation following contact.
Respiratory Irritation	Inhalation of high concentrations of gas/vapour causes lung irritation with coughing and nausea, central nervous depression with headache and dizziness, slowing of reflexes, fatigue and inco-ordination.
Ingestion Irritation	Overexposure is unlikely in this form.





Section 12 - ECOLOGICAL INFORMATION

- Eco-toxicity** No relevant studies identified.
- Persistence and degradability** The product is not likely persist in the aquatic environment.
- Bioaccumulative potential** Product is not expected to bioaccumulation.
- Mobility in soil** The product is expected to volatilize rapidly due to its very low boiling point. Therefore, degradation in soil will not play an important role.
- Other adverse effects** This substance is not in Annex I of Regulation (EC) 2037/2000 on substances that deplete the ozone layer.

Section 13 - DISPOSAL CONSIDERATIONS

- Evaporate or incinerate residue at an approved site.
- Return empty containers to supplier.
- Ensure damaged or non-returnable cylinders are gas-free before disposal.

Section 14 - TRANSPORTATION INFORMATION

Regulatory information	UN number	Class	Packing group	Label	Proper Shipping Name
DOT	1075	2.1	-		PETROLEUM GASES, LIQUEFIED
ADR /RID	1075	2.1	-		PETROLEUM GASES, LIQUEFIED
IMDG	1075	2.1	-		PETROLEUM GASES, LIQUEFIED
ICAO/IATA	1075	2.1	-		PETROLEUM GASES, LIQUEFIED

Section 15 - REGULATORY INFORMATION

REGULATIONS

US. Toxic Substances Control Act

All components of this product are on the TSCA Inventory.

NFPA - USA

Health - 2, Flammability - 4, Reactivity - 0

HMIS - USA

Health - 2, Flammability - 4, Reactivity - 0

European Inventory of Existing Commercial Chemical Substances (EINECS)

The components of this product are on the EINECS inventory.

EU Directives 67/548/EEC

Classification F+, T

Symbols



R-Phrases

R45: May cause cancer.

R46: May cause heritable genetic damage.

R12: Extremely flammable.

S-Phrases

S53: Avoid exposure - obtain special instructions before use.

S45: In case of accident or if you feel unwell, seek medical advice immediately (show the table where possible)



Section 16 - OTHER INFORMATION

The information in this document is based on our best present. Nevertheless, it does not constitute a guarantee for any specific product features and does not establish any a legally binding contract.

DOT	Department of Transportation
ADR	European agreement concerning the international carriage of dangerous goods by road.
RID	Regulations concerning the international carriage of dangerous goods by rail.
IMDG – CODE	International maritime dangerous goods code
ICAO	International Civil Aviation Organization
IATA	International air transport association
GHS	Globally Harmonized System of Classification and Labeling of Chemicals
NIOSH	National Institute for Occupational Safety and Health
NFPA	National Fire Protection Association
HMIS	Hazardous Materials Identification System
OSHA	Occupational Safety and Health Administration

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