

**1 . IDENTIFICATION: PRODUCT IDENTIFIER AND CHEMICAL IDENTITY**

**Product Name:** LIQUEFIED PETROLEUM GAS **Product Code:** 1811610

**Other Means of Identification:** Compressed gas

**Recommended Use of the Chemical and Restriction on Use:**

Combustible gas cartridge for welding and refilling of professional and household portable equipment.

**Details of Manufacturer or Importer:**

Bromic Group  
10 Phiney Place  
Ingleburn NSW 2565

**Phone Number:** 02 9426 5222

**Emergency telephone number:** 1300 276 642

**2 . HAZARDS IDENTIFICATION**

**Hazardous Nature:**

Not classified as Hazardous according to criteria of National Occupational Health & Safety Commission (NOHSC), Australia.

Classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail (7th edition).



flame

Flam. Gas 1 H220 Extremely flammable gas.

Flam. Liq. 1 H224 Extremely flammable liquid and vapour.

Press. Gas H280 Contains gas under pressure; may explode if heated.

**Signal Word** Danger

**Hazard Statements**

H220 Extremely flammable gas.

H280 Contains gas under pressure; may explode if heated.

H224 Extremely flammable liquid and vapour.

**Precautionary Statements**

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P240 Ground/bond container and receiving equipment.

P233 Keep container tightly closed.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P377 Leaking gas fire: Do not extinguish, unless leak can be stopped safely.

P370+P378 In case of fire: Use for extinction: CO2, powder or water spray.

P381 Eliminate all ignition sources if safe to do so.

P410 Protect from sunlight.

P403 Store in a well-ventilated place.

P403+P235 Store in a well-ventilated place. Keep cool.

P501 Dispose of contents/container in accordance with local/regional/national regulations.

(Contd. on page 2)

**Product Name: LIQUEFIED PETROLEUM GAS**

(Contd. of page 1)


### 3 . COMPOSITION AND INFORMATION ON INGREDIENTS

**Chemical Characterisation: Substances**

**CAS No. Description**

Liquefied petroleum gas consisting of isobutane / n-butane (70% of weight) and propane (30% of weight).

**Hazardous Components:**

68476-85-7	Petroleum gases, liquefied	100%
	 Flam. Gas 1, H220; Flam. Liq. 1, H224; Press. Gas, H280	

**Additional information:**

Note H: The classification and label shown for this substance applies to the dangerous property(ies) indicated by the Risk Phrase(s) in combination with the category(ies) of danger shown. The manufacturers, distributors and importers of this substance shall be obliged to carry out an investigation to make themselves aware of the relevant and accessible data which exists for all other properties to classify and label the substance. The final label shall follow the requirements of section 7 of Annex VI of directive 67/548/EEC. (Petroleum gases, liquefied- CAS No. 68476-85-7)

Note K: The classification as a carcinogen or mutagen need not apply if it can be shown that the substance contains less than 0.1% w/w 1,3 butadiene (EINECS no. 203-450-8).

### 4 . FIRST AID MEASURES

**Inhalation:**

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Do not wear objects which can cause explosions. Seek medical attention as soon the first symptoms appear.

**Skin Contact:**

In case of skin contact, immediately remove contaminated clothing. Frozen tissue should be flushed with plenty of warm water. Do not use hot water. Cryogenic (low temperature) burns which result in blistering or deeper tissue freezing should be promptly treated by a physician.

**Eye Contact:**

In case of eye contact, rinse cautiously with water for several minutes until no chemical remains. Do not use hot water. Do not rub. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention.

**Ingestion:**

Accidental ingestion of the product is unlikely due to the high volatility of the product. May cause freezing to mucous membranes and tissue of mouth, oesophagus and stomach. Do not induce vomiting. Do not give anything by mouth to an unconscious person. Seek immediate medical attention.

**Symptoms Caused by Exposure:**

Inhalation: May cause irritation of mucous membranes and apnea. Absorption of gas causes narcotic effects (depression of central, nervous system), dizziness or asphyxia. Effects on lungs and heart (arrhythmia, heart attack) may be associated to the highest exposures (1% - 10% in air).

Skin Contact: May cause frostbite.

Eye Contact: May cause frostbite.

Ingestion: Product in its liquid phase causes instant freezing and may cause serious damage to the mucous membranes and tissue of the mouth, oesophagus and stomach..

### 5 . FIRE FIGHTING MEASURES

**Suitable Extinguishing Media:** Foam, carbon dioxide and chemical powder. Do not use water jet.

**Specific Hazards Arising from the Chemical:**

Hazardous decomposition products include hydrogen, ethylene, oxides of carbon and carbonaceous fumes. Extremely flammable gas if in contact with air. Vapours are heavier than air and may travel along the ground and collect in low or confined areas and be exposed to a source of ignition (pilot light, heater, electric motor)

(Contd. on page 3)

**Product Name: LIQUEFIED PETROLEUM GAS**

(Contd. of page 2)

some distance away and backfire. Containers may burst or explode if exposed to heat. This can result in the generation of irritant fumes and toxic gases (carbon monoxide) and projection of metal parts. Low electrical conduction may cause static electricity, and be ignited by a spark.

Gas fires should not be extinguished unless the gas flow can be stopped immediately. If gas source cannot be shut off immediately, fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool container with flooding quantities of water until well after fire is out to prevent container from exploding.

**Special Protective Equipment and Precautions for Fire Fighters:**

Wear Safe Work Australia approved self-contained breathing apparatus and full protective clothing.

**6 . ACCIDENTAL RELEASE MEASURES****Personal Precautions, Protective Equipment and Emergency Procedures:**

Wear Safe Work Australia approved self-contained breathing apparatus and full protective clothing. Evacuate all non-essential personnel from affected area. Do not breathe vapours. Ensure adequate ventilation. The closed place ventilate before entering. Extinguish all sources of ignition. Avoid sparks and open flames. No smoking.

**Environmental Precautions:**

In the event of a major spill, prevent spillage from entering drains or water courses.

**Methods and Materials for Containment and Cleaning Up:**

Eliminate all sources of ignition and stop leak if safe to do so. In case of a leak or of an emergency disposal, secure the cylinder and slowly discharge the gas to the atmosphere in a well-ventilated area or outdoors. Vapour can be dispersed with sustained water spray.

If product has not volatilised, contain product spill and absorb with sand, earth, vermaculite or some other absorbent material. Let contaminated materials in open air before disposing of them. Use only non-sparking tools.

**7 . HANDLING AND STORAGE****Precautions for Safe Handling:**

Use of safe work practices are recommended to avoid eye or skin contact and inhalation of vapours or gas. Use in a well-ventilated area. Take precautionary measures against static discharge.

Food, beverages and tobacco products should not be stored or consumed where this material is in use. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use. Provide eyewash fountains and safety showers in close proximity to points of potential exposure.

**Conditions for Safe Storage:**

Store in a cool, dry and well ventilated area. Protect from direct sunlight, heat, sparks, open flames and hot surfaces. Do not expose to temperatures exceeding 50 °C. Keep container tightly closed. Ground / bond container and receiving equipment. Take precautionary measures against static discharge. Keep away from strong oxidizing agents (hypochlorites, nitrates, perchlorates, permanganates, bicromate), comburent substances (peroxides, chlorine dioxide, nitrogen dioxide), halogens, chlorine, fluorine, acetylene and nickel carbonyl with oxygen mixture.

Cylinders should be stored upright and fastened to prevent falling. Do not drag, drop or roll cylinders. Regularly check for gas leaks (use water and soap solution).

**8 . EXPOSURE CONTROLS AND PERSONAL PROTECTION****Exposure Standards:****68476-85-7 Petroleum gases, liquefied**NES | TWA: 1800 mg/m<sup>3</sup>, 1000 ppm

(Contd. on page 4)

**Product Name: LIQUEFIED PETROLEUM GAS**

(Contd. of page 3)

**Engineering Controls:**

Local exhaust and general ventilation are necessary in work area to prevent accumulation of explosive mixtures. Provide special ventilation in sumps and confined spaces. Use explosion-proof ventilating equipment.

**Personal Protective Equipment (PPE):**

**Respiratory Protection:**

Use a Safe Work Australia approved airline respirator if high airborne concentrations of the material are present. See Australian Standards AS/NZS 1715 and 1716 for more information.

**Skin Protection:**

Protective (insulated or leather) gloves and protective clothing. See Australian Standards AS/NZS 2161, 2210.1 and 2210.2 for more information.

**Eye and Face Protection:**

Safety glasses with top and side shields or goggles. See Australian/New Zealand Standards AS/NZS 1336 and 1337 for more information.

<b>9 . PHYSICAL AND CHEMICAL PROPERTIES</b>
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**Appearance:**

**Form:** Liquid under pressure, gas at 15.6 °C and 1 bar.

**Colour:** Colourless

**Odour:** Typical of odorised, combustible gases

**Odour Threshold:** n-butane: in the range 2.9 and 14.6 mg/m<sup>3</sup>

**pH-Value at 20 °C:** Not pertinent

**Melting point/Melting range:** <-130 °C

**Initial Boiling Point/Boiling Range:** -0.5 °C

**Flash Point:** -74 °C

**Flammability:** Highly flammable.

**Auto-ignition Temperature:** 405 °C

**Decomposition Temperature:** No information available

**Explosion Limits:**

**Lower:** n-butane: 1.8 %

isobutane: 1.8%

propane : 2.2%

**Upper:** n-butane: 8.4%

isobutane: 9.8%

propane: 10%

**Vapour Pressure:** n-butane: 1820 mmHg at 25 °C

isobutane: 2611 mmHg at 25 °C

propane: 7150 mmHg at 25 °C

**Relative Density:** n-butane and isobutane: 0.6 (water=1), 2.07 (air=1)

propane: 0.5 (water=1), 1.56 (air=1)

**Evaporation Rate:** The liquid evaporates quickly in air causing instant freezing of surfaces with which it comes into contact.

**Solubility in Water:** n-butane : 61.2 mg/l at 25 °C

isobutane : 48.9 mg/L at 25 °C

propane : 62.4 ppm at 25 °C

**Solubility in Solvents:** Soluble in ether, chloroform

**Partition Coefficient (n-octanol/water):** 2.36-2.89 log POW

(Contd. on page 5)

**Product Name: LIQUEFIED PETROLEUM GAS**

(Contd. of page 4)

**Viscosity:** n-butane : 0.30 cSt at 20 °C (liquid)  
propane : 0.20 cSt at 20 °C (liquid)

**Additional Information:** Critical temperature- n-butane: 153.2 °C  
isobutane: 134.69 °C  
propane: 96.81 °C  
Critical pressure- butane: 35,7 atm  
isobutane: 35,82 atm  
propane: 42,01 atm

**10 . STABILITY AND REACTIVITY**

**Possibility of Hazardous Reactions:**  
Bursting or opening of container under unsuitable storage conditions may cause instant formation of explosive atmosphere.

**Chemical Stability:**  
Stable at ambient temperature and under normal conditions of use. However, strong heating of containers causes their quick decompression and gas leakage.

**Conditions to Avoid:**  
Heat, sparks, open flames, hot surfaces, direct sunlight and any conditions which may cause corrosion and rupture of containers.

**Incompatible Materials:**  
Strong oxidizing agents (hypochlorites, nitrates, perchlorates, permanganates, bicromate), comburent substances (peroxides, chlorine dioxide, nitrogen dioxide), halogens, chlorine, fluorine, acetylene and nickel carbonyl with oxygen mixture.

**Hazardous Decomposition Products:** Hydrogen, ethylene, oxides of carbon and carbonaceous fumes.

**11 . TOXICOLOGICAL INFORMATION**

**Toxicity:**

<b>LD<sub>50</sub>/LC<sub>50</sub> Values Relevant for Classification:</b>		
<b>106-97-8 Butane</b>		
Inhalation	LC <sub>50</sub> /4 h	658 mg/l (rat)
<b>74-98-6 Propane</b>		
Inhalation	EC <sub>50</sub>	28000 ppm (rat)

**Acute Health Effects**

**Inhalation:**

Inhalation of mists may cause irritation of mucous membranes and apnea. Absorption of gas causes narcotic effects (depression of central, nervous system), dizziness or asphyxia. Effects on lungs and heart (arrhythmia, heart attack) may be associated to the highest exposures (1% - 10% in air).

The release or the presence of gas in confined spaces may cause asphyxiation. Keep oxygen concentration over 17% (standard value = 20.9%).

**Skin:** Contact with liquid may cause frostbite .

**Eye:** Contact with liquid may cause frostbite .

**Ingestion:**

Product in its liquid phase causes instant freezing and may cause serious damage to the mucous membranes and tissue of the mouth, oesophagus and stomach.

**Skin Corrosion / Irritation:** Based on classification principles, the classification criteria are not met.

(Contd. on page 6)

**Product Name: LIQUEFIED PETROLEUM GAS**

(Contd. of page 5)

- Serious Eye Damage / Irritation:** Based on classification principles, the classification criteria are not met.
- Respiratory or Skin Sensitisation:** Based on classification principles, the classification criteria are not met.
- Germ Cell Mutagenicity:** Based on classification principles, the classification criteria are not met.
- Carcinogenicity:** This product does NOT contain any IARC listed chemicals.
- Reproductive Toxicity:** Based on classification principles, the classification criteria are not met.
- Specific Target Organ Toxicity (STOT) - Single Exposure:**  
Based on classification principles, the classification criteria are not met.
- Specific Target Organ Toxicity (STOT) - Repeated Exposure:**  
Based on classification principles, the classification criteria are not met.
- Aspiration Hazard:** Based on classification principles, the classification criteria are not met.
- Chronic Health Effects:** No information available
- Existing Conditions Aggravated by Exposure:** No information available

**12 . ECOLOGICAL INFORMATION**

- Ecotoxicity:** No information available
- Aquatic toxicity:** No information available
- Persistence and Degradability:**  
The product does not seem to damage the active sludge of biological depuration plants. The organic substances contained in product are biodegradable.
- Bioaccumulative Potential:** The product has moderate potential for bioaccumulation.
- Mobility in Soil:** When released into the soil layers, water and air, this material is expected to spread.
- Other adverse effects:**  
Emission in air of hydrocarbons and organic solvents contribute to the creation of ozone layer, which is a hazardous gas to environment and to the formation of organic nitrates.

**13 . DISPOSAL CONSIDERATIONS**

- Disposal Methods and Containers:**  
Do not pierce nor incinerate gas containers.  
Dispose according to applicable local and state government regulations.
- Special Precautions for Landfill or Incineration:**  
Please consult your state Land Waste Management Authority for more information.

**14 . TRANSPORT INFORMATION**

<b>UN Number</b> <b>ADG, IMDG, IATA</b>	UN2037
<b>Proper Shipping Name</b> <b>ADG, IMDG, IATA</b>	RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES) without a release device, non-refillable
<b>Dangerous Goods Class</b> <b>ADG Class:</b> <b>IATA Class:</b>	2 Gases. 2.1

(Contd. on page 7)

**Product Name: LIQUEFIED PETROLEUM GAS**

(Contd. of page 6)

<b>Packing Group:</b> ADG, IMDG, IATA	Not applicable
<b>Marine pollutant:</b>	No
<b>EMS Number:</b>	F-D,S-U
<b>Hazchem Code:</b>	2T
<b>Special Provisions:</b>	191, 277, 303
<b>Limited Quantities:</b>	See SP 277
<b>Packagings &amp; IBCs - Packing Instruction:</b>	P003
<b>Packagings &amp; IBCs - Special Packing Provisions:</b>	PP17
<b>Portable Tanks &amp; Bulk Containers - Instructions:</b>	Not applicable
<b>Portable Tanks &amp; Bulk Containers - Special Provisions:</b>	Not applicable

**15 . REGULATORY INFORMATION****Australian Inventory of Chemical Substances:**

68476-85-7 | Petroleum gases, liquefied

**Standard for the Uniform Scheduling of Drugs and Poisons (SUSMP) - Poison Schedule:**  
Not Scheduled.**16 . OTHER INFORMATION****Creation Date:** 12.01.2015**Prepared by:** MSDS.COM.AU Pty Ltd[www.msds.com.au](http://www.msds.com.au)**Abbreviations and acronyms:**

ADG: Australian Dangerous Goods

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC<sub>50</sub>: Lethal concentration, 50 percentLD<sub>50</sub>: Lethal dose, 50 percent

IARC: International Agency for Research on Cancer

STEL: Short Term Exposure Limit

TWA: Time Weighted Average

NES: National Exposure Standard (Safe Work Australia - Workplace Exposure Standards For Airborne Contaminants)

**Disclaimer**

This MSDS is prepared in accord with the Safe Work Australia document "Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals - December 2011"

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