

**ODOURISED COMMERCIAL PROPANE****1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER**

<b>Product Name</b>	Odourised Commercial Propane
<b>Product Code</b>	-
<b>Other Names</b>	-
<b>Product Use</b>	Heating
<b>Company Name</b>	Bromic Group
<b>Address</b>	1 Suttor Street Silverwater NSW 2128
<b>Telephone Number</b>	02 9748 3900
<b>Emergency Telephone</b>	1300 276 642

**2. HAZARDS IDENTIFICATION****EMERGENCY OVERVIEW**

Extremely flammable liquefied gas under pressure. Keep away from heat, sparks, flame, and all other ignition sources. Vapour is heavier than air and travel along the ground to possible distant ignition sources causing an explosive flashback.

Vapour replaces oxygen available for breathing and may cause suffocation in confined spaces. Avoid breathing vapour. Use only with adequate ventilation. Where appropriate, use proper respiratory protection and personal protective equipment. Liquid can cause freeze burn similar to frostbite. Do not get liquid in eyes, on skin, or on clothing. Keep service valve closed when not in use.

**POTENTIAL HEALTH EFFECTS INFORMATION**

**Inhalation:** Asphyxiation. Exposure to concentrations >10% may cause dizziness. Exposure to atmospheres containing 19% or less oxygen will bring about unconsciousness without warning. Lack of sufficient oxygen may cause serious injury or death

**Ingestion:** Ingestion is not expected to occur in normal use. Liquid can cause freeze burn similar to frostbite.

**Eye Contact:** Contact with liquid can cause freezing of tissue.

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

**Skin Absorption:** None.

**HAZARDOUS SUBSTANCE. DANGEROUS GOODS.**

Classified as hazardous according to the criteria of Safe Work Australia.

**Hazards** F<sup>+</sup> - Extremely flammable

**Risk Phrases** R12 - Extremely flammable

**Safety Phrases** S2 - Keep out of reach of children  
S9 - Keep container in a well-ventilated place.  
S16 - Keep away from sources of ignition - No smoking.  
S33 - Take precautionary measures against static discharges.

**3. COMPOSITION / INFORMATION ON INGREDIENTS**

<b>Chemical Characterisation</b>	<b>Mixture</b>
----------------------------------	----------------

## SAFETY DATA SHEET

<b>Ingredient (common name)</b>	<b>CAS Number</b>	<b>Proportion</b>
Propane	74-98-6	87.5-100%
Ethane	74-84-0	0-7%
Propylene	115-07-1	0-5%
Butane	106-97-8	0-2.5%
Ethyl mercaptan (odourant)	75-08-1	<0.1

### 4. FIRST AID MEASURES

<b>Inhalation</b>	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek immediate medical attention.
<b>Ingestion</b>	Never give anything by mouth to an unconscious person. Seek immediate medical attention.
<b>Skin</b>	In case of skin contact, immediately remove contaminated clothing and wash affected areas with water and soap. If frostbite occurs, immerse involved area in lukewarm water (20-30°C). Keep immersed for 20-40 minutes. Seek immediate medical attention.
<b>Eyes</b>	In case of eye contact, immediately flush eyes with plenty of lukewarm water (20-30°C) for at least 15 minutes. Seek immediate medical attention.

### 5. FIRE FIGHTING MEASURES

<b>Suitable Extinguishing Media</b>	For major fires call the Fire Brigade. Ensure that an escape path is available from any fire. Dry chemical, carbon dioxide, water spray or fog for surrounding area. Do not attempt to extinguish fire until propane source is isolated.
<b>Hazardous Combustion Products</b>	None.
<b>Special Protective Actions for Firefighters</b>	Evacuate all unnecessary personnel from the area. Allow only properly trained and protected emergency response personnel in area. A Safe Work Australia approved self-contained breathing apparatus may be required. Shut off leaks, if possible and without personal risks. If gas flow cannot be shut off, do not attempt to extinguish fire. Allow fire to burn out. Use high volume water supply to cool exposed pressure containers and nearby equipment. Approach a flame-enveloped container from the sides, never from the ends. Use extreme caution when applying water to a container that has been exposed to heat or flame for more than a short time. For uncontrollable fires and/or when flame is impinging on container, withdraw all personnel and evacuate vicinity immediately.
<b>Unusual Fire or Explosion Hazards</b>	Propane is heavier than air and travel along the ground to possible distant ignition sources causing an explosive flashback. Pressure in a container can build up due to heat. Container may rupture suddenly and violently without warning if pressure relief devices fail to function properly. If flames are against the container, withdraw immediately on hearing a rising sound, if venting increases in volume or intensity or if there is discoloration of the

**Hazchem Code**

container due to fire.  
2YE

## 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. Stay upwind and keep out of low areas. Do not breathe fumes and vapour. Ventilate contaminated area thoroughly. Remove all sources of ignition. Use a spark-proof tool. Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Attempt to disperse the vapour or to direct its flow to a safe location for example by using fog sprays. Avoid contact with spilled or released material. Immediately remove all contaminated clothing. Do not attempt to do so if clothing is adhering to skin.

### Environmental Precautions Methods and Materials for Containment and Cleaning Up

In the event of a major spill, prevent spillage from entering drains or water courses. Shut off leaks, if possible and without personal risks. Allow product to evaporate.

## 7. HANDLING AND STORAGE

### Precautions for Safe Handling

Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Use only with adequate ventilation. Prevent exposure to ignition sources. Use non-sparking tools and explosion-proof equipment. Use proper bonding and/or earthing procedures. However, bonding and earthing may not eliminate the hazard from static accumulation. Material can accumulate static charges which may cause an electrical spark. Containers, even those that have been emptied, can contain explosive vapours. Do not cut, drill, grind, weld or perform similar operations on or near containers. Do not drop or abuse cylinders. Never strike an arc on a gas container or make a container part of an electrical circuit.

### Conditions for Safe Storage

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.

Store in a tightly closed original container in a cool, dry, and well ventilated area. Do not expose to temperatures exceeding 50°C. Isolate from combustible materials. Provide separate storage locations for other compressed and flammable gases. Propane containers should be separated from oxygen cylinders or other oxidizers by a minimum distance of 6m, or by a barrier of non-combustible material at least 1.5m high having a fire rating of at least 30 minutes.

Full and empty cylinders should be segregated. Keep cylinders in an upright position at all times. Keep container valve closed and plugged or capped when not in use. Install protective caps when cylinders are not connected for use.  
Protect from heat, sparks, flame and other sources of ignition. Keep away from contact with oxidizing and other incompatible materials.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters - Exposure Standards (Safe Work Australia)

**Butane:**  
TWA: 800 ppm / 1900 mg/m<sup>3</sup>  
STEL: - ppm / - mg/m<sup>3</sup>

**Ethyl mercaptan:**  
TWA: 0.5 ppm / 1.3 mg/m<sup>3</sup>  
STEL: - ppm / - mg/m<sup>3</sup>

### Engineering Controls

Adequate explosion-proof ventilation to control airborne concentrations below the exposure guidelines/limits.

### Personal Protective Equipment (PPE)

#### Respiratory Protection

If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, use a Safe Work Australia approved self-contained breathing apparatus. See Australian Standards AS/NZS 1715 and 1716 for more information.

#### Eye/Face Protection

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

#### Skin Protection

Wear gloves and protective clothing that are impervious to the product for the duration of the anticipated exposure. Safety shoes are recommended when handling cylinders. See Australian Standards AS 2161 and 2919 and AS/NZS 2210 for more information.

#### Thermal Hazards

No information available.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

Colourless gas (at normal temperature and pressure)

### Odour

Strong, unpleasant, mercaptan odour

### Odour Threshold

No information available

### pH

No information available

### Melting Point / Freezing Point

No information available

### Initial Boiling Point / Range

-42°C @ 1 atm. pressure

### Flash Point

-104°C

### Evaporation Rate

No information available

### Flammability

Extremely flammable

### Lower Flammability or Explosive Limit

2.15%

### Upper Flammability or Explosive Limit

9.6%

### Vapour Pressure

127 psig @20°C, 210 psig @45°C, 287 psig @55°C

### Vapour Density

1.5 @ 15.56°C

### Relative Density (Specific Gravity)

0.504 @ 15.56°C (liquid)

<b>Solubility in Water</b>	Slight (0.1%-1%)
<b>Partition coefficient: n-octanol/water</b>	No information available
<b>Ignition Temperature</b>	493°C - 549°C
<b>Decomposition Temperature</b>	No information available
<b>Viscosity</b>	No information available
<b>Odourant Warning</b>	Ethyl mercaptan (odourant) is added to aid in the detection of leaks due to a foul smell. The odour level can be reduced by certain chemical reactions with material in the propane system or when fugitive propane gas from underground leaks passes through certain soils. No odorant will be 100% effective in all circumstances.

## 10. STABILITY AND REACTIVITY

<b>Chemical Stability</b>	Stable at ambient temperature and under normal conditions of use
<b>Hazardous Polymerization</b>	Will not occur.
<b>Conditions to Avoid</b>	Strong heat and sources of ignition.
<b>Incompatible Materials</b>	Strong oxidising agents.
<b>Hazardous Decomposition Products</b>	Under fire conditions, fumes, smoke, carbon monoxide, aldehydes and other decomposition products.

## 11. TOXICOLOGICAL INFORMATION

<b>Toxicity</b>	<p><b>Propane:</b> May be harmful if inhaled. Asphyxiant at high concentrations.</p> <p><b>Propylene:</b> Asphyxiant. May be harmful by inhalation. Laboratory animals exposed to high levels of propylene for prolonged periods of time showed evidence of effects in the liver, kidneys and nasal cavity. Propylene is classified by IARC as a Group 3 - Not classifiable as to its carcinogenicity to humans.</p> <p><b>Butane:</b> Inhalation LC<sub>50</sub> (rat) = 658 g/m<sup>3</sup>/4h Inhalation LC<sub>50</sub> (mouse) = 680 g/m<sup>3</sup>/2h May be harmful if inhaled. Can cause rapid suffocation. Eye irritant. Narcotic.</p> <p><b>Ethane:</b> Asphyxiant. May be harmful if inhaled. Toxicology not fully investigated.</p> <p><b>Ethyl mercaptan:</b> Oral LD<sub>50</sub> (rat) = 1960 mg/kg Inhalation LC<sub>50</sub> (mouse) = 4420 ppm /4h Intraperitoneal LD<sub>50</sub> (rat) = 450 mg/kg Irritant. Harmful if inhaled. May act as a narcotic in moderate concentrations. Ethyl mercaptan is the preferred warning agent for propane. Any smell of odourant, even a faint one, may indicate a dangerous situation. Effectiveness of the odourant may be reduced by cold temperatures, other odours, such as from cooking. It may fade from</p>
-----------------	--

## SAFETY DATA SHEET

	rust air and water in used containers that have been allowed to stand open to the atmosphere.
<b>Acute Health Effects</b>	
<b>Skin</b>	Contact with liquid can cause frostbite
<b>Corrosion/Irritation</b>	
<b>Serious Eye</b>	Contact with liquid can cause freezing of tissue.
<b>Damage/Irritation</b>	
<b>Sensitization</b>	None.
<b>Mutagenicity</b>	None.
<b>Carcinogenicity</b>	Propylene is classified by IARC as a Group 3 - Not classifiable as to its carcinogenicity to humans.
<b>Reproductive Toxicity</b>	None.
<b>STOT-Single</b>	No information available.
<b>Exposure</b>	
<b>STOT-Repeated</b>	No information available.
<b>Exposure</b>	
<b>Aspiration Hazard</b>	No information available.
<b>Routes of Exposure</b>	Inhalation: Asphyxiation. Exposure to concentrations >10% may cause dizziness. Exposure to atmospheres containing 19% or less oxygen will bring about unconsciousness without warning. Lack of sufficient oxygen may cause serious injury or death Ingestion: Ingestion is not expected to occur in normal use. Liquid can cause freeze burn similar to frostbite. Eye: Contact with liquid can cause freezing of tissue. Skin: Contact with liquid can cause frostbite. Skin Absorption: None.
<b>Chronic Health Effects</b>	None.
<b>Existing Conditions</b>	Individuals with nasal perception problems may not be able to smell
<b>Aggravated by</b>	the ethyl mercaptan (odourant)
<b>Exposure</b>	

## 12. ECOLOGICAL INFORMATION

<b>Ecotoxicity</b>	No adverse ecological effects are expected.
<b>Bioaccumulation, Persistence and Degradability</b>	No information available.

## 13. DISPOSAL CONSIDERATIONS

<b>Disposal methods and containers</b>	Do not attempt to dispose of residual or unused product in the container; return it to your supplier. Dispose according to applicable local and state government regulations.
<b>Special precautions for landfill or incineration</b>	Please consult your state Land Waste Management Authority for more information.

## 14. TRANSPORT INFORMATION

Classified as a dangerous good according to the Australian Code for the Transport of Dangerous goods by road or rail.

<b>UN Number</b>	1075
<b>Proper Shipping Name</b>	PETROLEUM GASES, LIQUEFIED
<b>Dangerous Goods Class</b>	2.1
<b>Subsidiary Risk</b>	Not applicable
<b>Hazchem Code</b>	2YE
<b>Packing Group</b>	Not applicable
<b>Special Provisions</b>	AU 03
<b>Limited Quantities</b>	0
<b>Packagings &amp; IBCs - Packing Instruction</b>	P200
<b>Packagings &amp; IBCs - Special Packing Provisions</b>	Not applicable
<b>Portable Tanks &amp; Bulk Containers – Instructions</b>	T50
<b>Portable Tanks &amp; Bulk Containers – Special Provisions</b>	TP33

## SEA TRANSPORT – IMDG

<b>UN Number</b>	1075
<b>Proper Shipping Name</b>	PETROLEUM GASES, LIQUEFIED
<b>Dangerous Goods Class</b>	2.1
<b>Packing Group</b>	Not applicable
<b>Marine Pollutant</b>	No

## AIR TRANSPORT – ICAO / IATA

<b>UN Number</b>	1075
<b>Proper Shipping Name</b>	PETROLEUM GASES, LIQUEFIED
<b>Dangerous Goods Class</b>	2.1
<b>Packing Group</b>	Not applicable

## 15. REGULATORY INFORMATION

Propane, propylene, butane, ethane and ethyl mercaptan are listed in the Australian Inventory of Chemical Substances (AICS).

## 16. OTHER INFORMATION

<b>Last Revision of MSDS</b>	Rev 1.0 (14/02/2012)	
<b>Prepared by</b>	MSDS.COM.AU Pty Ltd	<a href="http://www.msds.com.au">www.msds.com.au</a>

**Abbreviations Used**

IARC: International Agency for Research on Cancer  
 ASCC: National Occupational Health and Safety Commission  
 NTP: National Toxicology Program (U.S.)  
 OSHA: Occupational Safety and Health Administration (U.S.)  
 STEL: Short term exposure limit  
 TWA: Time weighted average

## Emergency Contacts

<b>Bromic Group</b>	<b>02 9748 3900</b>
<b>Bromic Group – Emergency Number</b>	<b>1300 276 642</b>
<b>Police and Fire Brigade</b>	<b>000</b>
<b>Poisons Information Centre</b>	<b>13 11 26</b>

## SAFETY DATA SHEET

---

The information contained in this material safety data sheet is provided in good faith and is believed to be accurate at the date of issuance. Bromic Group makes no representation of the accuracy or comprehensiveness of the information and to the full extent allowed by law excludes all liability for any loss or damage related to the supply or use of the information in this material safety data sheet. MSDS.COM.AU Pty Ltd is not in a position to warrant the accuracy of the data herein. The user is cautioned to make their own determinations as to the suitability of the information provided to the particular circumstances in which the product is used.

Please read instructions / label before using product.

This MSDS is prepared in accord with the Safe Work Australia document "National Code of Practice for the Preparation of Material Safety Data Sheets" 2nd Edition [NOHSC:2011(2003)]