

**BUTANE**

**1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER**

<b>Product Name</b>	Butane
<b>Product Code</b>	TBF56
<b>Other Names</b>	-
<b>Product Use</b>	Soldering applications
<b>Company Name</b>	Bromic Group
<b>Address</b>	10 Phiney Place Ingleburn NSW 2565
<b>Telephone Number</b>	02 9426 5222
<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**

May cause cancer. May cause heritable genetic damage.

**Inhalation:** Asphyxiation. Causes disorientation, lack of coordination, rapid perspiration, headache and nausea at high concentrations. Continued exposure may result in unconsciousness, coma and possible 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.

**HAZARDOUS SUBSTANCE. DANGEROUS GOODS.**

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

<b>Hazards</b>	F+ - Extremely flammable T - Toxic
<b>Risk Phrases</b>	R12 - Extremely flammable R45 - May cause cancer. R46 - May cause heritable genetic damage.
<b>Safety Phrases</b>	S2 - Keep out of reach of children S9 - Keep container in a well-ventilated place. S16 - Keep away from sources of ignition - No smoking. S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). S53 - Avoid exposure-obtain special instructions before use.

Danger



### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Characterisation	Mixture		
Ingredient (common name)	CAS No	Proportion	Classification According to [NOHSC:1008(2004)]
Isobutane (containing $\geq 0.1\%$ butadiene )	75-28-5	78%	T - Toxic, R45, R46 F+ - Extremely Flammable, R12
Butane	106-97-8	22%	F+ - Extremely Flammable, R12

### 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. Water spray, dry chemical or carbon dioxide.
<b>Hazardous Combustion Products</b>	Do not attempt to extinguish fire until gas flow is shut off. Inefficient burning may produce carbon monoxide.
<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. Wear Safe Work Australia approved self-contained breathing apparatus and full protective clothing. 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>	Butane 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 container due to fire.

**Hazchem Code**

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.

### 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. 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.

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 tightly closed original container in a cool, dry, and well ventilated area. Do not expose to temperatures exceeding 50°C. Isolate from combustible materials.

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)  
Engineering Controls**

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

<b>Appearance</b>	Colourless, liquified compressed gas
<b>Odour</b>	No odour
<b>Odour Threshold</b>	No information available
<b>pH</b>	No information available
<b>Melting Point / Freezing Point</b>	No information available
<b>Initial Boiling Point / Range</b>	-24°C
<b>Flash Point</b>	< -83°C
<b>Evaporation Rate</b>	Not applicable
<b>Flammability</b>	Extremely flammable
<b>Lower Flammability or Explosive Limit</b>	1.8%
<b>Upper Flammability or Explosive Limit</b>	8.4%
<b>Vapour Pressure</b>	28 psig
<b>Vapour Density</b>	>1
<b>Relative Density (Specific Gravity)</b>	0.5676
<b>Solubility in Water</b>	<0.1% by weight @ 21°C
<b>Partition coefficient: n-octanol/water</b>	No information available
<b>Auto-ignition Temperature</b>	No information available
<b>Decomposition Temperature</b>	No information available
<b>Viscosity</b>	No information available
<b>Percent Volatile by Weight</b>	100%

## 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>	No information available.

## 11. TOXICOLOGICAL INFORMATION

<b>Acute Health Effects</b>	
<b>Skin Corrosion/Irritation</b>	Contact with liquid can cause frostbite
<b>Serious Eye Damage/Irritation</b>	Contact with liquid can cause freezing of tissue.
<b>Sensitization</b>	No information available.
<b>Mutagenicity</b>	May cause heritable genetic damage. Isobutane (containing $\geq 0.1\%$ butadiene) is classified by Safe Work Australia as Mutagen Category 2.
<b>Carcinogenicity</b>	May cause cancer. Isobutane (containing $\geq 0.1\%$ butadiene) is classified by Safe Work Australia as Carcinogen Category 1. 1,3-Butadiene is classified by IARC as a Group 1 - Recognized carcinogen.
<b>Reproductive Toxicity</b>	No information available.
<b>STOT-Single Exposure</b>	No information available.
<b>STOT-Repeated Exposure</b>	No information available.
<b>Aspiration Hazard</b>	No information available.
<b>Routes of Exposure</b>	Inhalation : This product is an asphyxiant. Causes disorientation, lack of coordination, rapid perspiration, headache and nausea at high concentrations. Continued exposure may result in unconsciousness, coma and possible death. Ingestion: Ingestion is not expected to occur in normal use. However, liquid can cause freeze burn similar to frostbite. Eye: Contact with liquid can cause freezing of tissue. Skin: Contact with liquid can cause frostbite.
<b>Chronic Health Effects</b>	None.
<b>Existing Conditions</b>	Respiratory disorders (asthma).
<b>Aggravated by Exposure</b>	

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity** No information available.  
**Bioaccumulation, Persistence and Degradability** No information available.

### 13. DISPOSAL CONSIDERATIONS

**Disposal methods and containers** 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.

**Special precautions for landfill or incineration** 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.

**UN Number** 1011  
**Proper Shipping Name** BUTANE  
**Dangerous Goods Class** 2.1  
**Subsidiary Risk** Not applicable  
**Hazchem Code** 2YE  
**Packing Group** Not applicable  
**Special Provisions** AU 03  
**Limited Quantities** 0  
**Packagings & IBCs - Packing Instruction** P200  
**Packagings & IBCs - Special Packing Provisions** Not applicable  
**Portable Tanks & Bulk Containers – Instructions** T50  
**Portable Tanks & Bulk Containers – Special Provisions** Not applicable

#### SEA TRANSPORT – IMDG

**UN Number** 1011  
**Proper Shipping Name** BUTANE  
**Dangerous Goods Class** 2.1  
**Packing Group** Not applicable  
**Marine Polution** No

#### AIR TRANSPORT – ICAO / IATA

**UN Number** 1011  
**Proper Shipping Name** BUTANE  
**Dangerous Goods Class** 2.1  
**Packing Group** Not applicable

### 15. REGULATORY INFORMATION

Butane and isobutane are listed in the Australian Inventory of Chemical Substances (AICS).

**16. OTHER INFORMATION**

**Last Revision of MSDS** Rev 1.0 (14/02/2012)  
**Prepared by** MSDS.COM.AU Pty Ltd [www.msds.com.au](http://www.msds.com.au)

**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>

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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" 3rd Edition [NOHSC:1008(2004)]