# Material Safety Data Sheet

## 1 . Identification of the material and supplier

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| **Product name** | **BP Butane** |
| **SDS no.** | 0000002705 |
| **Historic SDS no.** | YSTSC |
| **Supplier** | BP Australia Pty Ltd (ABN 53 004 085 616)<br>Melbourne Central,<br>360 Elizabeth Street,<br>Melbourne,<br>Victoria 3000,<br>Australia<br>Tel: +61 (03) 9268 4111<br>Fax: +61 (03) 9268 3321 |
| **EMERGENCY TELEPHONE NUMBER** | 1800 638 556 |
| **Product code** | 0000002705 |

## 2 . Hazards identification

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| **Statement of hazardous/dangerous nature** | NON-HAZARDOUS SUBSTANCE. DANGEROUS GOODS. |
| **Risk phrases** | R12- Extremely flammable. |
| **Safety phrases** | S3/9- Keep in a cool, well-ventilated place.<br>S16- Keep away from sources of ignition - No smoking. |

## 3 . Composition/information on ingredients

| Ingredient name | CAS no. | % |
|---|---|---|
| Butane | 106-97-8 | > 99 |
| Pentane | 109-66-0 | 0.1 - 1 |
| Butylene | 25167-67-3 | 0.1 - 1 |
| Ethane | 74-84-0 | 0.1 - 1 |
| 1,3-butadiene | 106-99-0 | < 0.1 |
| Ethyl mercaptan | 75-08-1 | < 0.05 |

## 4 . First-aid measures

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| **Eye contact** | Contact with liquid: Immediately flush with plenty of tepid water (41-46° C). DO NOT USE HOT WATER. Get immediate medical attention. |
| **Skin contact** | Contact with liquid: Immediately flush with plenty of tepid water (41-46° C). DO NOT USE HOT WATER. Get immediate medical attention. |
| **Inhalation** | If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately. |
| **Ingestion** | Not applicable (gas). |

## 5 . Fire-fighting measures

**Extinguishing media**

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| **Suitable** | In case of fire, allow gas to burn if flow cannot be shut off immediately. Apply water from a safe distance to cool container and protect surrounding area. |
| **Not suitable** | Do not use water jet. |
| **Hazardous decomposition products** | Decomposition products may include the following materials:<br>carbon dioxide<br>carbon monoxide |
| **Unusual fire/explosion hazards** | Flammable gas or vapour. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Runoff to sewer may create fire or explosion hazard. |

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| **Special fire-fighting procedures** | In case of fire, allow gas to burn if flow cannot be shut off immediately. Apply water from a safe distance to cool container and protect surrounding areas. Every precaution must be taken to keep containers cool to avoid the possibility of a boiling liquid expanding vapour explosion (BLEVE). |
| **Protection of fire-fighters** | Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear. |
| **Fire hazards in the presence of various substances** | Flammable gas or vapour. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. |
| **Hazchem code** | 2YE |

## 6 . Accidental release measures

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| **Personal precautions** | Accidental releases pose a serious fire or explosion hazard. Immediately contact 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. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe gas. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8). |
| **Environmental precautions** | Ensure emergency procedures to deal with accidental gas releases are in place to avoid contamination of the environment. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). |
| **Large spill** | Eliminate all ignition sources if safe to do so. Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment. Note: see section 1 for emergency contact information and section 13 for waste disposal. |
| **Small spill** | Eliminate all ignition sources if safe to do so. Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment. |

## 7 . Handling and storage

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| **Handling** | Use only with adequate ventilation. Keep away from heat, sparks and flame. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Avoid contact with skin and clothing. Avoid breathing gas. Wash thoroughly after handling. |
| **Storage** | Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame). Segregate from oxidising materials. |
| **Additional information-Storage** | This product must be handled in compliance with Australian Standard 1596:2008: The storage and handling of LP Gas. |

## 8 . Exposure controls/personal protection

| Ingredient name | Occupational exposure limits |
|---|---|
| Butane | **Safe Work Australia (Australia).**<br>TWA: 1900 mg/m³ 8 hour(s). Issued/Revised: 5/1995<br>TWA: 800 ppm 8 hour(s). Issued/Revised: 5/1995 |
| Pentane | **Safe Work Australia (Australia).**<br>STEL: 2210 mg/m³ 15 minute(s). Issued/Revised: 5/1995<br>STEL: 750 ppm 15 minute(s). Issued/Revised: 5/1995<br>TWA: 1770 mg/m³ 8 hour(s). Issued/Revised: 5/1995<br>TWA: 600 ppm 8 hour(s). Issued/Revised: 5/1995 |
| Butylene | **ACGIH TLV (United States).**<br>TWA: 250 ppm 8 hour(s). Issued/Revised: 1/2008 |
| Ethane | **ACGIH TLV (United States).**<br>TWA: 1000 ppm 8 hour(s). Issued/Revised: 1/2004 |

For information and guidance, the ACGIH values are included. For further information on these please consult your supplier.

Whilst specific OELs for certain components are included in this SDS, it should be noted that other components of the preparation will be present in any mist, vapour or dust produced. For this reason, the specific OELs may not be applicable to the product and are provided for guidance purposes.

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| **Biological Limit Values** | No biological limit allocated. |
| **Exposure controls** | |
| **Occupational exposure controls** | Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapours below their respective occupational exposure limits. In accordance with good industrial hygiene and safety work practices, airborne exposures should be controlled to the lowest extent practicable. |
| **Hygiene measures** | Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. |
| **Personal protective equipment** | |
| **Respiratory protection** | Use only with adequate ventilation. Do not breathe vapour or mist. If operating conditions cause high vapour concentrations or the TLV is exceeded, use supplied-air respirator. |
| **Skin and body** | Avoid contact with skin and clothing. Wear clothing and footwear that cannot be penetrated by chemicals or oil. |

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| **Hand protection** | Wear gloves that cannot be penetrated by chemicals or oil. Insulated gloves suitable for low temperatures<br><br>The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions. |
| **Eye protection** | Safety glasses with side shields or chemical goggles. Goggles with a face shield may be necessary depending on quantity of material and conditions of use. |

## 9 . Physical and chemical properties

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| **Physical state** | Liquefied gas. |
| **Colour** | Colourless. |
| **Odour** | Sulphurous. |
| **Flash point** | <-50 °C (Closed cup) Pensky-Martens. |
| **Explosive properties** | Extremely explosive in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.<br>May form explosive mixtures with air. |
| **Explosion limits** | Lower: 1.9%<br>Upper: 9% |
| **Vapour pressure** | <520 kPa (<3910.4 mm Hg) at 40°C |
| **Vapour density** | 1.9 to 2.1 [Air = 1] |
| **pH** | Not available. |
| **Boiling point / range** | <-2°C (<28.4°F) |
| **Melting point / range** | Not available. |
| **Relative density/Specific gravity** | Not available. |
| **Density** | 580 kg/m$^3$ (0.58 g/cm$^3$) at 15°C |
| **Solubility** | Very slightly soluble in water |

## 10 . Stability and reactivity

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| **Stability** | The product is stable. |
| **Conditions to avoid** | Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow gas to accumulate in low or confined areas. |
| **Incompatibility with various substances/Hazardous Reactions** | Reactive or incompatible with the following materials: oxidizing materials. |
| **Hazardous decomposition products** | Decomposition products may include the following materials:<br>carbon dioxide<br>carbon monoxide |

## 11 . Toxicological information

**Effects and symptoms**

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| **Eyes** | Extremely cold material. Can cause burns similar to frostbite. |
| **Skin** | Harmful on prolonged exposure. Extremely cold material. Can cause burns similar to frostbite. |
| **Inhalation** | Inhalation causes headaches, dizziness, drowsiness and nausea and may lead to unconsciousness. At very high concentrations, can displace the normal air and cause suffocation from lack of oxygen. |
| **Ingestion** | Not applicable (gas). |

**Chronic toxicity**

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| **Carcinogenic effects** | No component of this product at levels greater than or equal to 0.1% is identified as a carcinogen by ACGIH, the International Agency for Research on Cancer (IARC), the European Commission (EC), or the National Occupational Health and Safety Commission (Australia). |
| **Mutagenic effects** | No known significant effects or critical hazards. |

**Other adverse effects**

This material is an asphyxiant. Asphyxiants may reduce the oxygen concentration in the air to dangerous levels. Symptoms of lack of oxygen include increased depth and frequency of breathing, air hunger, dizziness, headache, nausea or loss of consciousness.

High vapour concentrations can cause headaches, dizziness, drowsiness and nausea and may lead to unconsciousness. Exposure to vapor may have the following effects: heartbeat irregularity (arrhythmia)

## 12 . Ecological information

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| **Ecotoxicity** | Ecological testing has not been conducted on this product by BP. |
| **Biodegradability** | |
| **Persistence/degradability** | The biodegradability of this material has not been determined. |
| **Mobility** | Spillages are unlikely to penetrate the soil. This product is likely to volatilise rapidly into the air because of its high vapour pressure. |
| **Bioaccumulative potential** | This product is not expected to bioaccumulate through food chains in the environment. |
| **Other ecological information** | Unlikely to cause long term effects in the aquatic environment. |

## 13 . Disposal considerations

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| **Disposal considerations / Waste information** | The generation of waste should be avoided or minimised wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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. Do not puncture or incinerate container. Empty pressure vessels should be returned to the supplier. |
| **Special Precautions for Landfill or Incineration** | No additional special precautions identified. |

## 14 . Transport information

**International transport regulations**

| Regulatory information | UN number | Proper shipping name | Class | PG* | Label | Additional information |
|---|---|---|---|---|---|---|
| **ADG Classification** | UN1075 | Petroleum gases, liquefied, or Liquefied petroleum gas (Butane) | 2.1 | - |  | **Hazchem code**<br>2YE<br><br>**Initial emergency response guide**<br>04<br><br>**Remarks**<br>FORBIDDEN ON PASSENGER AIRCRAFT |
| **IMDG Classification** | UN1075 | Petroleum gases, liquefied, or Liquefied petroleum gas (Butane) | 2.1 | - |  | - |
| **IATA/ICAO Classification** | UN1075 | Petroleum gases, liquefied, or Liquefied petroleum gas (Butane) | 2.1 | - |  | **Remarks**<br>FORBIDDEN ON PASSENGER AIRCRAFT |

PG* : Packing group

**Special precautions for user** No known special precautions required. See Section: "Handling and storage" for additional information.

## 15 . Regulatory information

**Standard for the Uniform Scheduling of Drugs and Poisons**

Not regulated.

**Control of Scheduled Carcinogenic Substances**

| Ingredient name | Schedule |
|---|---|
| No Listed Substance | |

**Other regulations**

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| **Europe inventory** | All components are listed or exempted. |
| **United States inventory (TSCA 8b)** | All components are listed or exempted. |
| **Australia inventory (AICS)** | All components are listed or exempted. |
| **Canada inventory** | All components are listed or exempted. |
| **China inventory (IECSC)** | All components are listed or exempted. |
| **Japan inventory (ENCS)** | All components are listed or exempted. |

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| **Korea inventory (KECI)** | All components are listed or exempted. |
| **Philippines inventory (PICCS)** | All components are listed or exempted. |

## 16 . Other information

**Key to abbreviations**

AMP = Acceptable Maximum Peak
ACGIH = American Conference of Governmental Industrial Hygienists, an agency that promulgates exposure standards.
ADG = Australian Code for the Transport of Dangerous Goods by Road and Rail
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CAS Number = Chemical Abstracts Service Registry Number
HAZCHEM Code = Emergency action code of numbers and letters which gives information to emergency services. Its use is required by the ADG Code for Dangerous Goods in bulk.
ICAO = International Civil Aviation Organization.
IATA = International Air Transport Association, the organization promulgating rules governing shipment of goods by air.
IMDG = International Maritime Organization Rules, rules governing shipment of goods by water.
IP 346 = A chemical screening assay for dermal toxicity. The European Commission has recommended that Method IP 346 be used as the basis for labelling certain lubricant oil base stocks for carcinogenicity. The EU Commission has stipulated that the classification as a carcinogen need not apply if it can be shown that the substance contains less than 3% DMSO extract as measured by IP 346. (See Note L, European Commission Directive 67/548/EEC as amended and adapted.) DMSO is a solvent.
NOHSC = National Occupational Health & Safety Commission, Australia
TWA = Time weighted average
STEL = Short term exposure limit
UN Number = United Nations Number, a four digit number assigned by the United Nations Committee of Experts on the Transport of Dangerous Goods.

**History**

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| **Date of previous issue** | 14/02/2007. |
| **Prepared by** | Product Stewardship |

**Notice to reader**

All reasonably practicable steps have been taken to ensure this data sheet and the health, safety and environmental information contained in it is accurate as of the date specified below. No warranty or representation, express or implied is made as to the accuracy or completeness of the data and information in this data sheet.

The data and advice given apply when the product is sold for the stated application or applications. You should not use the product other than for the stated application or applications without seeking advice from us.

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