



1. Identification of the material and supplier

Product name	Export Butane
SDS no.	0000003629
Supplier	BP Australia Pty Ltd (ABN 53 004 085 616) 717 Bourke Street Docklands VIC 3008 Australia Tel: +61 (03) 9268 4111 Fax: +61 (03) 9268 3321
EMERGENCY TELEPHONE NUMBER	1800 638 556
Product code	0000003629

2. Hazards identification

Statement of hazardous/dangerous nature	HAZARDOUS SUBSTANCE. DANGEROUS GOODS.
Risk phrases	R12- Extremely flammable. R45- May cause cancer. R46- May cause heritable genetic damage.
Safety phrases	S53- Avoid exposure - obtain special instructions before use. S3/9- Keep in a cool, well-ventilated place. 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	0.3 Maximum
Ethyl mercaptan	75-08-1	< 0.01

4. First-aid measures

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	
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: carbon dioxide 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.
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**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**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**

Butane

Occupational exposure limits**Safe Work Australia (Australia).**

TWA: 1900 mg/m³ 8 hour(s). Issued/Revised: 5/1995

TWA: 800 ppm 8 hour(s). Issued/Revised: 5/1995

Pentane

Safe Work Australia (Australia).

STEL: 2210 mg/m³ 15 minute(s). Issued/Revised: 5/1995

STEL: 750 ppm 15 minute(s). Issued/Revised: 5/1995

TWA: 1770 mg/m³ 8 hour(s). Issued/Revised: 5/1995

TWA: 600 ppm 8 hour(s). Issued/Revised: 5/1995

Butylene

ACGIH TLV (United States).

TWA: 250 ppm 8 hour(s). Issued/Revised: 1/2008

Ethane

ACGIH TLV (United States).

TWA: 1000 ppm 8 hour(s). Issued/Revised: 1/2004

1,3-butadiene

Safe Work Australia (Australia).

TWA: 22 mg/m³ 8 hour(s). Issued/Revised: 5/1995

TWA: 10 ppm 8 hour(s). Issued/Revised: 5/1995

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.

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.

Hand protection

Wear gloves that cannot be penetrated by chemicals or oil. Insulated gloves suitable for low temperatures

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

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. May form explosive mixtures with air.
Explosion limits	Lower: 1.9% 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

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: carbon dioxide carbon monoxide

11 . Toxicological information

Effects and symptoms

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	Contains material which can cause cancer. Contains material which can cause heritable genetic effects. 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. Solvent "sniffing" (abuse) or intentional overexposure to vapours can produce serious central nervous system effects, including unconsciousness, and possibly death.
Ingestion	Not applicable (gas).
Chronic toxicity	
Carcinogenic effects	CANCER HAZARD - CONTAINS MATERIAL WHICH CAN CAUSE CANCER. Risk of cancer depends on duration and level of exposure. Classified A2 (Suspected for humans.) by ACGIH: [1,3-butadiene] Classified 1 (Proven for humans.) by IARC: [1,3-butadiene]
Mutagenic effects	May cause heritable genetic damage.

Other information

1,3-Butadiene: 1,3-Butadiene has been shown to cause cancer in rodents, and to cause genetic damage in mice but not in rats or hamsters. This is thought to be related to differences in metabolism, particularly mice, and specific sensitivities of that species.

An epidemiology study of workers in a 1,3-butadiene monomer production facility showed an excess of lymphosarcoma deaths. However, a causal relationship to butadiene exposure is unlikely since there was a lack of a dose-response compared potential 1,3-butadiene exposure, and mortality was higher in workers with shorter durations of exposure. Mortality from leukaemia actually decreased with increasing length of employment.

Another epidemiology study of approximately 16,000 workers in the styrene-butadiene-rubber (SBR) industry reported that high levels of exposure to 1,3-butadiene, either alone or in combination with a stopping agent, was associated with an increased incidence of leukaemia mortality in certain segments of the workforce. The study found no increases in any other cause of death, including other lymphopoietic cancers that have been said to be caused by 1,3-butadiene.

There were no adverse reproductive and developmental effects from 1,3-butadiene exposure in studies conducted with rats, guinea pigs, and rabbits; however, mice showed developmental effects. Following chronic inhalation exposure, female mice developed ovarian atrophy and male mice testicular atrophy.

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

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

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 2YE Initial emergency response guide 04 Remarks 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 FORBIDDEN ON PASSENGER AIRCRAFT

Regulatory information	UN number	Proper shipping name	Class	PG*	Label	Additional information
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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

No Listed Substance

Schedule

Australia Regulations

Labelling requirements for SUSDP do not apply to a poison that is packed and sold solely for industrial, laboratory or manufacturing use. However, this product is labelled in accordance with NOSHC National Code of Practice for labelling of workplace substances.

Other regulations

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.

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

Date of issue

15/12/2010.

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15/12/2010.

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.

It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The BP Group shall not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material. Purchasers of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet. Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken.