

MATERIAL SAFETY DATA SHEET

Ref. No. : LS3527

Issue date : October 2003

Issued by LABSCAN ASIA

PRODUCT NAME : BUTAN - 1 - OL

COMPANY DETAILS

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HAZARDS IDENTIFICATION

Product Name	BUTAN-1-OL		
Proper Shipping Name	BUTAN-1-OL		
Other Names	<u>Name</u>	<u>Grade</u>	<u>Labscan Code</u>
	BUTAN-1-OL	AR	A3527
	BUTAN-1-OL	HPLC	C2529
	BUTAN-1-OL	GPR	G4527
	1-BUTANOL		
	PROPYL CARBINOL		
	1-HYDROXYBUTANE		
	BUTYRIC ALCOHOL		
	N-BUTYL ALCOHOL		
UN No.	1120		
D.G. Class	3.3		
Packaging Group	III		
Hazchem Code	3 [Y]		
Poisons schedule	Not Scheduled		
EEC-No	603-004-00-6		
Class	R10 Xn; R22 R37/38 R41		
CAS-No	71-36-3		
Weight	100%		
Most important hazards	Harmful if swallowed. Flammable.		
Specific hazards	Risk of serious damage to eyes. Irritating to respiratory system and skin. Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.		

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FIRST AID

General advice:	Show this safety data sheet to the doctor in attendance.
Inhalation:	Move to fresh air in case of accidental inhalation of vapors. Keep patient warm. In case of shortness of breath, give oxygen. Apply artificial respiration only if patient is not breathing or under medical supervision. No artificial aspiration mount – to – mouth or mouth to nose. Use suitable instruments / apparatus. Consult a physician after significant exposure.
Skin contact:	Remove contaminated clothing and wash affected skin with soap and water. Wash contaminated clothing before re-use. If skin irritation persists, call a physician
Eye contact:	If the substance has got into the eyes, wash out with water or saline solution for at least 15 minutes. Keep eye wide open while rinsing. Consult a physician for severe cases.
Ingestion:	Clean mouth with water and drink afterwards plenty of water. Do not induce vomiting without medical advice. If signs of poisoning appear, treat as for inhalation. Consult a physician for severe cases. Never give anything by mouth to an unconscious person.

FIRE-FIGHTING MEASURES

Suitable extinguishing media:	Extinguish with carbon dioxide, dry chemical, foam or water spray.
Extinguishing media which must not be used for safety reasons:	Do not use a solid water stream as it may scatter and spread fire.
Specific hazards:	Vapors may form explosive mixture with air. Flash back possible over considerable distance.
Special protective equipment for firefighters:	Wear a positive-pressure supplied-air respirator/ full protective flameproof clothing.
Specific methods:	Standard procedure for chemical fires. Water mist may be used to cool closed containers.
Hazchem Code:	3[Y]

ACCIDENTAL RELEASE MEASURES

Personal precautions:	Evacuate personnel to safe areas. Remove all sources of ignition. Wear a positive-pressure supplied-air respirator, flame retardant antistatic protective clothing. Shut off leaks if without risk. Keep people away from and upwind of spill/leak. Take precautionary measures against static discharges.
Environmental precautions:	Contain or absorb leaking liquid with sand or earth. Prevent liquid entering sewers, basements and work pits vapor may create suffocating atmosphere. If substance has entered a water course or sewer or contaminated soil or vegetation, advise police.
Methods for cleaning up:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Transfer to covered steel drums. Contact waste disposal services. Dispose of As special waste in compliance with local and national regulations.

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SAFE HANDLING AND STORAGE INFORMATION

Handling: Use only in areas provided with appropriate exhaust ventilation. Do not breathe vapors or spray mist. Avoid contact with skin, eyes and clothing. Take precautionary measures against static discharge. Keep away from open flames, hot surfaces and sources of ignition. Wear suitable gloves and eye/face protection.

Storage : Keep tightly closed in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition. Electrical equipment should be protected to the appropriate standard. Take necessary action to avoid static electricity discharge (which might cause ignition vapors). Store in original container.

EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical Name BUTAN-1-OL	National occupational exposure limits OEL: 50 PPM (150 mg/m ³) 15 min TLV
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Engineering measures to reduce exposure:

The product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Ventilation hoods and fans required when working with organic solvents or in hot melt applications.

Personal protection equipment:

- **Respiratory protection:** In case of insufficient ventilation wear suitable respiratory equipment.
- **Hand protection:** Neoprene gloves solvent-resistant gloves (nitrile rubber)).
- **Eye protection:** Goggles giving complete protection to eyes.
- **Skin and body protection:** Chemical resistant apron/flame retardant antistatic protective clothing, heavy duty work shoes.

Hygiene measures Keep working clothes separately. Keep away from food, drink and animal feeding stuffs. Wash hands and face before breaks and immediately after handling the products.

PHYSICAL DATA AND OTHER PROPERTIES

Formula	CH ₃ (CH ₂) ₃ OH
Form	Liquid,
Colour	Colourless,
Odour	Characteristic
PH	(20°C) 7 (70 g/l H ₂ O)
Boiling point/range	116-118°C
Melting point/range	-89°C
Flash point	34°C
Autoignition temperature	345°C
Flammability (solid, gas)	Flammable
Explosion limits	- lower 1.4 vol. % - upper 11.3 vol. %
Vapour pressure	(20°C) 5.6 hPa
Relative density	(20°C) >= 0.81 g/cm ³ <= 0.83 g/cm ³
Bulk density	810 kg/m ³

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PRODUCT NAME : BUTAN-1-OL

Solubility:	Water solubility	(20°C) 77 g/l
	Solubility in other solvents	Solubility in other solvents.
Partition coefficient (n-octanol/water)		Log P _{ow} = 0.8
Viscosity		(20°C) 2.9 mPa.s

STABILITY AND REACTIVITY

Stability:	Stable at normal conditions. Stable under recommended storage conditions.
Conditions to avoid:	Keep away from heat and sources of ignition. Take precautionary measures against static discharges.
Materials to avoid:	Strong oxidizers, alkali metals, alkaline earth metals may cause fires or explosions.
Hazardous decomposition products:	Burning produces irritant fumes, carbon dioxide (CO ₂)

TOXICOLOGICAL INFORMATION

Acute toxicity:	Inhalation : LC50/inhalation/4h/rat = >17.76 mg/l Inhalation of high vapors concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. The vapor may have narcotic effect.
	Skin contact : LD50/dermal/rabbit = 4200 mg/kg Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product.
	Eye contact : Irritant effect on eyes / mucous membranes.
	Ingestion : LD50/oral/rat = 700-4400 mg/kg Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Liver and kidney injuries may occur.
Sensitization:	Irritating to eyes, respiratory system and skin.
Long term toxicity:	Danger of serious damage to health by prolonged exposure.
Chronic toxicity:	Prolonged or repeated exposure may cause injuries to liver, kidneys, lungs, nerves and hereditary factors.

ECOLOGICAL INFORMATION

Mobility:	Completely miscible with water.
Persistence / degradability:	Readily biodegradable, according to appropriate OECD test : 302B/ ISO9888/ EEC 88/302
Bio accumulation:	Biological degradability > 90%
Ecotoxicity:	Fish = LC50/96h 1200 – 1700 mg/l. Toxicity to algae = EC/LC50/72h > 500 mg/l. Toxicity to bacteria EC/LC50/17h = 4400 mg/l. EC50/48h/Daphnia = > 500 mg/l

DISPOSAL CONSIDERATIONS

Waste from residues / unused products:
If recycling is not practicable, dispose of in compliance with local regulations.
Can be incinerated, when in compliance with local regulations.

Contaminated packaging:
Empty containers should be taken for local recycling, recovery or waste disposal.
Empty containers can be land filled after cleaning, when in compliance with local regulations.

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TRANSPORT INFORMATION

UN-No.....1120	Marine pollutant.....Not
ADR/RID	
Class.....3.	Item.....31 (c)
TREM-CARD.....LAB30TRM30	HI/UN No.....30/1120
Proper shipping name.....BUTAN-1-OL	Packaging group.....III
IMO	
Class.....3.3	EmS.....3-06
MFAG.....305	IMDG Page.....3191
Proper shipping name..... BUTAN-1-OL	
ICAO	
Class.....3	UN/ID No.....1120
Proper shipping name.....BUTAN-1-OL	Packaging group.....III

REGULATORY INFORMATION

Classification according to European directive on classification of hazardous preparations 90/492/EEC

Contains BUTAN-1-OL
Symbol(s) Xn-Harmful



- | | | |
|----------------------|--------|---|
| R – phrase(s) | R10 | – Flammable. |
| | R22 | - Harmful if swallowed. |
| | R37/38 | - Irritating to respiratory system and skin. |
| | R41 | - Risk of serious damage to eyes. |
| | R67 | - Vapours may cause drowsiness and dizziness. |
| S – phrase(s) | S7/9 | - Keep container tightly closed and in a well-ventilated place. |
| | S13 | - Keep away from food, drink and animal feeding stuffs. |
| | S26 | - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. |
| | S37/39 | - Wear suitable gloves and eye/face protection. |
| | S46 | - If swallowed, seek medical advice immediately and show this container or label. |

Recommended restrictions:

Take notice of labels and material safety data sheets for the working chemicals.
 Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors).

Recommended use: General purpose solvent.

CONTACT POINT

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