



Centre Anti-Poison pour le Québec: (800) 463-5060

Tél. (Qc): (418) 660-8666 / 800-890-8666


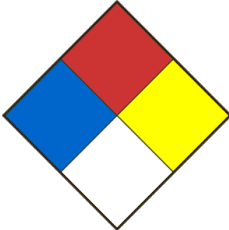
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## SAFETY DATA SHEET

### SECTION 01 - PRODUCT AND COMPANY IDENTIFICATION

Product Identifier 1-BUTANOL		Product Use Laboratory use	
Chemical formula CH <sub>3</sub> (CH <sub>2</sub> ) <sub>3</sub> OH		Product code BR-0144 ; BP-0131; BH-0101	Molar weight 74,12
Chemical name / Commercial name / Synonymous BUTANOL-1, ALCOOL BUTYLIQUE NORMAL, n-BUTANOL-1, n-BUTYL ALCOHOL, BUTAN-1-OL, BUTYL HYDROXIDE, 1-HYDROXYBUTANE, PROPYL CARBINOL, PROPYLMETHANOL			
Supplier's name Laboratoire MAT		Address-Street 610, Adanac Street	
City Québec		Province Québec	
Postal code G1C 7B7	Internet www.labmat.com	Phone number 418-660-8666 / 800-890-8666	
Emergency phone	CANUTEC: 613-996-6666		CENTRE ANTI-POISON DU QUÉBEC 800-463-5060
Date SDS 10/1/2018	SDS Prepared by Laboratoire MAT	E-Mail labmat@labmat.com	

## SECTION 02 - HAZARDS IDENTIFICATION

<b>Classification WHIMS / GHS</b>	Flammable liquids category 3 Acute toxicity - Oral category 4 Skin corrosion/irritation - Skin irritation category 2 Serious eye damage/eye irritation - Serious eye damage category 1
<b>Signal Word</b>	DANGER
<b>Hazards statements (H)</b>	H226 Flammable liquid and vapour. H302 Harmful if swallowed. H315 Causes skin irritation. H318 Causes serious eye damage.
<b>Precautionary statements (P)</b>	P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking. P233 Keep container tightly closed. P240 Ground/bond container and receiving equipment. P241 Use explosion-proof electrical/ventilating/lighting equipment. P242 Use only non-sparking tools. P243 Take precautionary measures against static discharge. P264 Wash the areas of the body that have been in contact with the product after handling. P270 Do not eat, drink or smoke when using this product. P280 Wear protective gloves/protective clothing/eye protection/face protection. P302 + P352 IF ON SKIN: Wash with plenty of soap and water. P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P321 Specific treatment (see section 4 of the SDS and on this label). P330 Rinse mouth. P332 + P313 If skin irritation occurs: Get medical advice/attention. P362 + P364 Take off contaminated clothing and wash it before reuse. P403 + P235 Store in a well-ventilated place. Keep cool. P501 Dispose of contents/container in accordance with local / regional / national / international regulations or contact a specialist waste disposal company. P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. P370 + P378 In case of fire: Use water spray or alcohol-resistant foam, or dry powder or carbon dioxide for extinction. P310 Immediately call a POISON CENTER or doctor/physician.
<b>PICTOGRAMS</b>	
<b>Other dangers</b>	NFPA (Risk: 0=No risk; 1=Slight; 2=Moderate; 3=Signifiant; 4=Extreme)
	<b>Health</b> 1 <b>Fire</b> 3 <b>Reactivity</b> 0 <b>Special danger</b>

## SECTION 03 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingrédients (Dénomination chimique / synonymes)	Numéro CAS et tout identificateur unique	Concentration (%)
1-butanol	71-36-3	<=100

## SECTION 04 - FIRST AID MEASURES

<b>Eye contact</b>	Wash eyes with large amounts of water for at least 15 minutes while holding eyelids apart to rinse eyes.
<b>Skin contact</b>	Wash skin with plenty of water for at least 15 minutes. Remove soiled clothing. If irritation persists, seek medical attention.
<b>Inhalation</b>	If breathed in, move person into fresh air. If breathing is difficult, give oxygen. Consult a physician.
<b>Ingestion</b>	If the person is conscious, give water to drink. Never give anything by mouth to an unconscious person. Consult a physician.
<b>Most important symptoms and effects (acute and delayed)</b>	Ref. section 11.
<b>Immediate medical attention and special treatment, if necessary</b>	In case of medical consultation, keep this sheet available.
<b>General advice</b>	Show this safety data sheet to the doctor in attendance.

## SECTION 05 - FIREFIGHTING MEASURES

<b>Flammability</b>	Yes
<b>Ignition conditions</b>	Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/hot surface. No smoking.
<b>Suitable extinguishing media</b>	
<b>Unsuitable extinguishing media</b>	Data not available.
<b>Dangerous fumes - combustion</b>	Carbon oxides.
<b>Hazardous combustion products</b>	Hazardous decomposition products formed under fire conditions. Carbon oxides.
<b>Special fire and explosion hazards</b>	May react violently with incompatible products (Ref Section 10).
<b>Special protective equipment and precautions for firefighters</b>	Discard incompatible substances if this can be done without risk. Firefighters should be equipped with standard protective equipment, fireproof clothing, face mask, gloves, protective boots and, where appropriate, self-contained breathing apparatus.

## SECTION 06 - ACCIDENTAL RELEASE MEASURES

<b>Methods and materials for containment and cleaning up / Personal precautions, protective equipment</b>	Evacuate personnel to safe areas. Remove all sources of ignition. Cover the residues with an activated charcoal absorbent. Dilute residues with water, clean and rinse. Ensure a good ventilation of the premises. When handling, wear appropriate safety equipment. Use a respirator as needed. Avoid breathing vapours, mist or gas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. Dispose of residues in a container provided for the disposal of hazardous materials.
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## SECTION 07 - HANDLING AND STORAGE

<b>Conditions for safe storage</b>	Store in a cool, dry place. Use venting and electrical equipment that is grounded and does not produce ignition sources (sparks). Protect from the sun's rays. Keep container tightly closed and store away from incompatible products, heat, sparks, and open flame.
<b>Methods of handling</b>	Always open containers slowly to allow any excess pressure to vent. Avoid inhalation of vapour or mist. Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

## SECTION 08 - EXPOSURE CONTROLS/PERSONAL PROTECTION

### Workplace control parameters

Components	CAS-No.	Value	Control parameters	Basis
n-Butanol	71-36-3	TWA	15.000000 ppm	Canada. British Columbia OEL
		C	30.000000 ppm	Canada. British Columbia OEL
		TWAEV	20 ppm	Canada. Ontario OELs
		TWAEV	20.000000 ppm	Canada. Ontario OELs
		C	50 ppm 152 mg/m <sup>3</sup>	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
Remarks	A substance which may not be recirculated in accordance with section 108 Skin (percutaneous)			
		C	50.000000 ppm 152.000000 mg/m <sup>3</sup>	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
	A substance which may not be recirculated in accordance with section 108 Skin (percutaneous)			
		TWA	20 ppm 60 mg/m <sup>3</sup>	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
	Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required			
		TWA	20.000000 ppm 60.000000 mg/m <sup>3</sup>	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
	Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required			
		TWA	20.000000 ppm	USA. ACGIH Threshold Limit Values (TLV)
		TWA	20 ppm	USA. ACGIH Threshold Limit Values (TLV)

<b>Data source</b>	Sigma-Aldrich.
<b>Ventilation</b>	Fan.
<b>Respiratory</b>	If the permissible levels are exceeded, use a mechanical filter / cartridge against NIOSH vapors or a respirator with air supply.
<b>Gloves</b>	Handle with gloves.
<b>Eyes</b>	Safety goggles with safety shutters.
<b>Shoes</b>	Safety shoes.
<b>Clothing</b>	Labcoat.
<b>Engineering control</b>	Have safety showers and eyewash stations in the workplace in case of an emergency and a ventilation system to maintain the level of concentrations in the air below the exposure limit values.

## SECTION 09 - PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid.
Appearance	incolore-
Odour	Donnée non disponible.
Odour threshold	Data not available
pH	Donnée non disponible.
Melting point / Freezing point	-90°C
Initial boiling point	117.7°C
Boiling range	Data not available
Flash point	35°C
Evaporation rate	Donnée non disponible-
Flammability	Yes
Lower flammable / Explosive limit	1.4% v/v
Upper flammable / Explosive limit	11.2% v/v
Vapour pressure	10 hPa @ 20 °C-
Vapour density	2.56 -(Air =1.0 )-
Relative density	0.81 g/ml
Solubility	H2O : 66 g/L @ 20 °C.
Partition coefficient water/n-octanol	Pow 10 @ 25 °C and pH 7-
Auto-ignition temperature	355°C
Decomposition temperature	Data not available
Viscosity	2.947mpas

## SECTION 10 - STABILITY AND REACTIVITY

Reactivity	Non-reactive under normal conditions.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	Stable under normal conditions.
Conditions of instability (Including sensitivity to shock / static discharge / vibration)	Avoid contact with incompatible materials and extreme temperatures. Heat, flames, sparks. Avoid the accumulation of static electricity.
Incompatible material	Strong bases. Halogens. Strong acids. Alkali metals. Strong oxidizing agents (nitric acid, perchloric acid, peroxides, chlorates and perchlorates), strong reducing agents (potassium, sodium, metal hydrides), chlorides and acid anhydrides, aluminum, chromium trioxide, copper and its alloys, heat and moisture.
Hazardous decomposition products	Hazardous decomposition products formed under fire conditions. Carbon oxides.

## SECTION 11 - TOXICOLOGICAL INFORMATION

### 1-BUTANOL

Routes of exposure	Ingestion, inhalation, skin and eyes.
Acute exposition effects / symptoms:	By exposure route below.
- Eyes	Irritation and may cause inflammation of the conjunctiva.
- Skin	Irritation and dermatitis.
- Inhalation	Irritation of the mucous membranes and respiratory tract. Narcotic effects, cough, dyspnea, headache, dizziness, drowsiness, confusion, watery eyes, nausea and vomiting.
Acute toxicity (Ingestion)	Irritation of the mucous membranes. Narcotic effects, gastrointestinal disorders, cramps, diarrhea, headache, dizziness, drowsiness, blurred vision, seizures, nausea and vomiting.
Chronic exposure effects / symptoms	Burning sensation, dermatitis, conjunctivitis, possibility of vacuolar keratitis, photophobia, narcotic effects, chest pain, cough, dyspnoea, laryngitis, headache, dizziness, drowsiness, confusion, irritability, tearing, blurred vision, disturbances of the skin hearing and possible involvement of the vestibular canal, fatigue, nausea and vomiting.
DL50 (specify species and route of entry)	LD50 Oral - Rat - 2292 mg/kg. LD50 Dermal - Rabbit - 3430 mg/kg.
CL50 (specify species and route of entry)	LC50 Inhalation - Rat - 4h - 17 mg/l

## SECTION 12 - ECOLOGICAL INFORMATION

<b>Ecotoxicity</b>	Toxicity to fish: LC50 - Pimephales promelas (fathead minnow) - 1840 mg/L - 96 h. Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia magna (Water flea) - 1983 mg/L - 48h.
<b>Persistence and degradability</b>	Data not available.
<b>Bioaccumulative potential</b>	Bioaccumulation Oncorhynchus mykiss (rainbow trout) - 24 h Bioconcentration factor (BCF): 0.
<b>Mobility in soil</b>	Data not available.
<b>Other adverse effects</b>	Data not available.

## SECTION 13 - DISPOSAL CONSIDERATIONS

<b>Waste Disposal Method</b>	Dispose of contents / container in accordance with local / regional / national / international regulations / or contact a specialist waste disposal company.
<b>Contaminated Packaging</b>	Dispose of as unused product.

## SECTION 14 - TRANSPORT INFORMATION

<b>UN Number</b>	1120
<b>UN Proper shipping name</b>	BUTANOLS
<b>Transport hazard class(es)</b>	3 Flammable liquids
<b>Packing group</b>	III
<b>Limited quantity index</b>	5L
<b>ERAP Index</b>	-
<b>Special precautions</b>	-

## SECTION 15 - REGULATORY INFORMATION

<b>WHIMS CANADA</b>	Flammable liquids category 3 Acute toxicity - Oral category 4 Skin corrosion/irritation - Skin irritation category 2 Serious eye damage/eye irritation - Serious eye damage category 1
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## SECTION 16 - OTHER INFORMATION

### Further information

The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. It does not represent any guarantee of the properties of the product. Laboratoire MAT Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.

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