

**MATERIAL SAFETY DATA SHEET****Product Name:** 1-Butanol**CAS No.:** 71-36-3**Version:** 1**1. Identification**

**Product Code** : 91809,91522,93039  
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**2. Hazards Identification****Hazard classification**

Flammable liquids : Category 3  
Acute toxicity, Oral : Category 4  
Skin irritation : Category 2  
Serious eye damage : Category 1  
Specific target organ toxicity - single exposure : Category 3  
Specific target organ toxicity - single exposure : Category 3

**Label elements****Hazard symbol**

**Signal word** : Danger

**Hazard statement** : Flammable liquid and vapour.  
Harmful if swallowed.  
Causes skin irritation.  
Causes serious eye damage.  
May cause respiratory irritation.  
May cause drowsiness or dizziness.

**Precautionary statement** : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
Wear eye protection/ face protection.  
IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.  
IF INHALED: Remove person to fresh air and keep comfortable for

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breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.

**IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.

Store in a well-ventilated place. Keep cool.

Supplemental Hazard Statements

: None.

**3. Composition/information on ingredients**

<b>Ingredient</b>	<b>CAS No</b>
1-Butanol	71-36-3

**4. First Aid Measures****Description of first aid measures****General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance.

**Inhalation**

: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**Skin contact**

: Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

**Eye contact**

: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**Swallowed**

: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

**Most important symptoms and effects, both acute and delayed**

: To the best of our knowledge, the chemical, physical, and toxicological properties have not been Thoroughly investigated.

**Indication of any immediate medical attention and special treatment needed Treatment**

: No data available

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Flash back possible over considerable distance.**Advice for firefighters** : Wear self contained breathing apparatus for fire fighting if necessary**Further information** : May intensify fire; oxidiser.**6. Accidental Release Measures****Personal precautions, protective equipment and emergency procedures** : Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.**Environmental precautions** : Prevent further leakage or spillage if safe to do so. Do not let product enter drains.**Methods and materials for containment and cleaning up** : Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations**Reference to other sections** : For disposal see section 13.**7. Handling and Storage****Precautions for safe handling** : Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

**Conditions for safe storage, including any incompatibilities** : Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Handle and store under inert gas. hygroscopic  
Flammable liquids**Specific end use(s)** : No data available**8. Exposure Controls Personal Protection****Control parameters****Components with workplace control parameters**

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Wash and dry hands.**Body Protection**

: Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory protection**

: Respiratory protection is required.

**9. Physical and Chemical Properties**

<b>Appearance</b>	: Colorless liquid
<b>Odor</b>	: No data available
<b>pH</b>	: No data available
<b>Melting point/freezing point</b>	: -90 °C
<b>Initial boiling point and boiling range</b>	: 116 - 118 °C
<b>Flash Point</b>	: 35 °C
<b>Vapor pressure</b>	: 5 hPa at 20 °C
<b>Vapor density</b>	: 5 hPa at 20 °C
<b>Relative density</b>	: 0.81 g/mL at 25 °C
<b>Solubility in water</b>	: Soluble
<b>Solubility (other)</b>	: No data available
<b>Formula</b>	: C <sub>4</sub> H <sub>10</sub> O
<b>Molecular Weight</b>	: 74.12 g/mol

**10. Stability and Reactivity**

<b>Reactivity</b>	: No data available
<b>Chemical stability</b>	: Stable under recommended storage conditions.
<b>Possibility of hazardous reactions</b>	: No data available
<b>Conditions to avoid</b>	: Exposure to moisture Heat, flames and sparks.
<b>Incompatible materials</b>	: Oxidizing agents, Alkali metals, Bases, Strong acids, Halogens

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**Hazardous decomposition products** : Other decomposition products - No data available

**11. Toxicological Information****Information on toxicological effects**

- Acute toxicity** : LD50 Oral - Rat - 790 mg/kg  
Remarks: Liver:Fatty liver degeneration. Kidney, Ureter, Bladder:Other changes. Blood:Other changes.  
LC50 Inhalation - Rat - 4 h - 8000 ppm  
LD50 Dermal - Rabbit - 3.400 mg/kg
- Skin corrosion/irritation** : Skin - Rabbit  
Result: Skin irritation - 24 h
- Serious eye damage/eye irritation** : Eyes - Rabbit  
Result: Blindness  
(OECD Test Guideline 405)
- Respiratory or skin sensitization** : No data available
- Germ cell mutagenicity** : No data available
- Carcinogenicity** : IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- Reproductive toxicity** : No data available
- Specific target organ toxicity - single exposure** : May cause respiratory irritation.  
May cause drowsiness or dizziness.
- Specific target organ toxicity - repeated exposure** : No data available
- Aspiration hazard** : No data available

**12. Ecological Information**

- Toxicity** : Toxicity to fish- LC50 - Pimephales promelas (fathead minnow) - 1.840 mg/l - 96 h  
Toxicity to daphnia and other aquatic invertebrates  
EC50 - Daphnia magna (Water flea) - 1.983 mg/l - 48 h
- Persistence and degradability** : No data available
- Bioaccumulative potential** : Bioaccumulation Oncorhynchus mykiss (rainbow trout) - 24 h  
- 921 mg/l  
Bioconcentration factor (BCF): 0,38
- Mobility in soil** : No data available
- Other adverse effects** : No data available

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**13. Disposal consideration**

- Disposal instructions** : Discharge, treatment, or disposal may be subject to national, state, or local laws.
- Contaminated packaging** : Offer rinsed packaging material to local recycling facilities. Since emptied containers retain product residue, follow label warnings even after container is emptied.

**14. Transport Information**

	UN No.	UN proper shipping name	Hazard Class(es)	Packaging group	Marine Pollutant
<b>DOT</b>	1120	BUTANOLS	3	III	No
<b>IMDG</b>	1120	BUTANOLS	3	III	No
<b>IATA</b>	1120	BUTANOLS	3	III	No

**15. Regulatory Information**

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

Safety, health and environmental regulations/legislation specific for the substance or mixture  
No Data Available.

**16. Other Information**

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Version : 1

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