Material Safety Data Sheet

1-Butanol

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Section 1 - Product Description

Product Name: 1-Butanol
Product Code(s): 84-0490, 84-9790, 84-9792, 84-9794, C70432, C70011
Size: 15 mL, 500mL, 1 gal, 5 gal
Chemical Name: 1-Butanol
CAS Number: 71-36-3
Formula: C4H9OH
Synonyms: N-Butyl Alcohol, Butyl Alcohol, N-Butanol
Distributor: Carolina Biological Supply Company, 2700 York Road, Burlington, NC 27215
Chemical Information: 800-227-1150 (8am-5pm (ET) M-F) Chemtrec 800-424-9300 (Transportation Spill Response 24 hours)

Section 2 - Hazard Identification

Emergency Overview: Harmful if inhaled or swallowed.
Potential Health Effects:
- Eyes: May cause irritation.
- Skin: May cause irritation to skin.
- Ingestion: May cause gastrointestinal discomfort.
- Inhalation: May cause irritation to respiratory tract.

Section 3 - Composition / Information on Ingredients

Principal Hazardous Components: 1-Butanol (CAS# 71-36-3) 100%
TLV units: ACGIH-TLV 20 ppm (TWA)
PEL units: OSHA-PEL 100 ppm (TWA)

Section 4 - First Aid Measures

Emergency and First Aid Procedures:
- Eyes - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- Skin - After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water.
- Ingestion - If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.
- Inhalation - In case of accident by inhalation: remove casualty to fresh air and keep at rest.

Section 5 - Firefighting Procedures

Flash Point (Method Used): 98°F (37°C) (cc)
NFPA Rating:
Health: 1
Fire: 3
Reactivity: 0

Extinguisher Media: Use dry chemical, CO2 or appropriate foam.
Flammable Limits in Air % by Volume: 1.45% lower 11.25% upper
Autoignition Temperature: 343°C

Special Firefighting Procedures: Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.

Unusual Fire and Explosion Hazards: Vapours may travel back to ignition source. Closed Containers exposed to heat may explode.

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Section 6 - Spill or Leak Procedures

Steps to Take in Case Material Is Released or Spilled: Ventilate area of spill. Eliminate all sources of ignition. Remove all non-essential personnel from area. Clean-up personnel should wear proper protective equipment and clothing. Absorb material with suitable absorbent and containerize for disposal.

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Section 7 - Special Precautions

Precautions to Take in Handling or Storing: Avoid excess heat.
Bond and ground containers when transferring liquid. Keep container tightly closed in a cool, well-ventilated place.

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Section 8 - Protection Information

Respiratory Protection (Specify Type): None needed under normal conditions of use with adequate ventilation. A NIOSH/MSHA chemical cartridge respirator should be worn if PEL or TLV is exceeded.
Ventilation:
- Local Exhaust: Yes
- Mechanical(General): Yes
- Special: No
- Other: No

Protective Gloves: Natural rubber, Neoprene, PVC or equivalent.
Eye Protection: Splash proof chemical safety goggles should be worn.
Other Protective Clothing or Equipment: Lab coat, apron, eye wash, safety shower.

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Section 9 - Physical Data

Molecular Weight: 74.12
Boiling Point: 118°C
Vapor Density(Air=1): 2.6
Percent Volatile by Volume: 100%
Solubility in Water: Soluble
Melting Point: -89°C
Vapor Pressure: 7 mm Hg at 25°C
Specific Gravity (H2O=1): 0.81
Evaporation Rate (BuAc=1): 0.46
Appearance and Odor: Clear, colorless liquid, Sweet odor.

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Section 10 - Reactivity Data

Stability: Stable
Conditions to Avoid: Heat and sources of ignition.
Incompatibility (Materials to Avoid): N/A
Hazardous Decomposition Products: N/A
Hazardous Polymerization: Will not occur

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Section 11 - Toxicity Data

Toxicity Data: Dermal Rabbit LD50: 3400mg/kg
Oral Rat LD50: 790mg/kg
Effects of Overexposure:
- Acute: See Section 2
Chronic: Not listed as a carcinogen by IARC, NTP or OSHA.
Conditions Aggravated by Overexposure: Eye disorders, Skin disorders, Respiratory disorders,
Target Organs: Skin, Eyes, Kidneys, Liver, Respiratory system,
Primary Route(s) of Entry: Inhalation, ingestion, eye or skin contact.

Section 12 - Ecological Data

EPA Waste Numbers: U031 (Toxic Waste)

Section 13 - Disposal Information

Waste Disposal Methods: Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.

Section 14 - Transport Information

DOT Proper Shipping Name: UN1120, Butanols, 3, III

Section 15 - Regulatory Information

EPA TSCA Status: On TSCA Inventory
Hazard Category for SARA Section 311/312 Reporting: Acute

Name List: Chemical Category:
1-Butanol - Yes 1-Butanol - No

CERCLA Section 103 RQ(lb.): 1-Butanol - 5000
RCRA Section 261.33: 1-Butanol - No

Section 16 - Additional Information

The information provided in this Material Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the Material Safety Data Sheet. Any employer must carefully assess the applicability of any information contained herein in regards to the particular use to which the employer puts the material.

Glossary
ACGIH American Conference of Governmental Industrial Hygienists
CAS Number Chemical Services Abstract Number
CERCLA Comprehensive Environmental Response, Compensation, and Liability Act
DOT U.S. Department of Transportation
IARC International Agency of Research on Cancer
N/A Not Available
NTP National Toxicology Program
OSHA Occupational Safety and Health Administration
PEL Permissible Exposure Limit
ppm Parts per million
RCRA Resource Conservation and Recovery Act
SARA Superfund Amendments and Reauthorization Act
TLV Threshold Limit Value
TSCA Toxic Substances Control Act