

## n-Butyl Alcohol

MSDS # 478.00

**Section 1: Product and Company Identification**
**n-Butyl Alcohol**
**Synonyms/General Names:** n-Butanol, 1-Butanol

**Product Use:** For educational use only

**Manufacturer:** Columbus Chemical Industries, Inc., Columbus, WI 53925.

**24 Hour Emergency Information Telephone Numbers**
**CHEMTREC (USA): 800-424-9300**
**CANUTEC (Canada): 613-424-6666**

ScholAR Chemistry; 5100 W. Henrietta Rd, Rochester, NY 14586; (866) 260-0501; www.Scholarchemistry.com

**Section 2: Hazards Identification**
*Clear liquid, strong odor.*
**WARNING!** Flammable liquid, body tissue irritant and slightly toxic.

Flammable liquid, keep away from all ignition sources.

Target organs: Liver, kidneys, central nervous system.

**HMIS (0 to 4)**

Health	1
Fire Hazard	3
Reactivity	0

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Section 3: Composition / Information on Ingredients**

n-Butyl Alcohol (71-36-3), &gt;99%

**Section 4: First Aid Measures**
*Always seek professional medical attention after first aid measures are provided.*
**Eyes:** Immediately flush eyes with excess water for 15 minutes, lifting lower and upper eyelids occasionally.

**Skin:** Immediately flush skin with excess water for 15 minutes while removing contaminated clothing.

**Ingestion:** Call Poison Control immediately. **Aspiration hazard.** Rinse mouth with cold water. Give victim 1-2 tbsp of activated charcoal mixed with 8 oz water.

**Inhalation:** Remove to fresh air. If not breathing, give artificial respiration.

**Section 5: Fire Fighting Measures**

Class IC Flammable Liquid. When heated to decomposition, emits acrid fumes of carbon oxides.

**Protective equipment and precautions for firefighters:** Use foam or dry chemical to extinguish fire.

Firefighters should wear full fire fighting turn-out gear and respiratory protection (SCBA). Cool container with water spray. Material is not sensitive to mechanical impact. Material is sensitive to static discharge.


**Section 6: Accidental Release Measures**

Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Remove all ignition sources and ventilate area. Contain spill with sand or absorbent material and place material in a sealed bag or container for disposal. Wash spill area after pickup is complete. See Section 13 for disposal information.

**Section 7: Handling and Storage**
**Red**
**Handling:** Use with adequate ventilation and do not breathe dust or vapor. Avoid contact with skin, eyes, or clothing. Wash hands thoroughly after handling.

**Storage:** Store in Flammable Area [Red Storage] with other flammable materials and away from any strong oxidizers. Store in a dedicated flammables cabinet. Store in a cool, dry, well-ventilated, locked store room away from incompatible materials.

**Section 8: Exposure Controls / Personal Protection**

 Use ventilation to keep airborne concentrations below exposure limits. Have approved eyewash facility, safety shower, and fire extinguishers readily available. Wear chemical splash goggles and chemical resistant clothing such as gloves and aprons. Wash hands thoroughly after handling material and before eating or drinking. Use NIOSH-approved respirator with an acid/organic cartridge. Exposure guidelines: n-Butyl Alcohol: OSHA PEL: 300 mg/m<sup>3</sup> and ACGIH TLV: 61 mg/m<sup>3</sup>, STEL: N/A.

**Section 9: Physical and Chemical Properties**

<b>Molecular formula</b>	CH <sub>3</sub> (CH <sub>2</sub> ) <sub>2</sub> CH <sub>2</sub> OH.	<b>Appearance</b>	Clear liquid.
<b>Molecular weight</b>	74.12.	<b>Odor</b>	Strong odor .
<b>Specific Gravity</b>	0.81 g/mL @ 20°C.	<b>Odor Threshold</b>	N/A.
<b>Vapor Density (air=1)</b>	2.6.	<b>Solubility</b>	Completely soluble in water.
<b>Melting Point</b>	-90°C.	<b>Evaporation rate</b>	0.43 (Butyl acetate = 1).
<b>Boiling Point/Range</b>	117°C.	<b>Partition Coefficient</b>	N/A. (log P <sub>ow</sub> ).
<b>Vapor Pressure (20°C)</b>	4.1 mm Hg.	<b>pH</b>	N/A.
<b>Flash Point:</b>	36°C (97°F) CC.	<b>UEL</b>	1.4%.
<b>Autoignition Temp.:</b>	343°C (650°F).	<b>LEL</b>	11 %.

N/A = Not available or applicable

**Section 10: Stability and Reactivity**

Avoid heat and ignition sources.

**Stability:** Stable under normal conditions of use. May oxidize over time.**Incompatibility:** Oxidizers**Shelf life:** Fair shelf life, store in a cool, dry environment.**Section 11: Toxicology Information**

**Acute Symptoms/Signs of exposure:** *Eyes:* Stinging pain, watering of eyes, inflammation of eyelids and conjunctivitis. *Skin:* Insensitivity to pain, feel of coolness or cold, skin looks white and feels hard and cold. *Ingestion:* Breath has sweet, organic odor, metal confusion, drowsiness, nausea, vomiting and headache. *Inhalation:* Rapid irregular breathing, headache, fatigue, mental confusion, nausea and vomiting, giddiness and poor judgment, convulsions and death.

**Chronic Effects:** Repeated/prolonged skin contact may cause dryness or rashes.**Sensitization:** none expected

*n-Butyl Alcohol:* LD50 [oral, rat]; 2.5 g/kg; LC50 [rat]; 8,000 ppm (4 hours); LD50 Dermal [rabbit]; 20 mg/24H MOD  
Material has not been found to be a carcinogen nor produce genetic, reproductive, or developmental effects.

**Section 12: Ecological Information****Ecotoxicity (aquatic and terrestrial):**

Ecological impact has not been determined.

**Section 13: Disposal Considerations**

Check with all applicable local, regional, and national laws and regulations. Local regulations may be more stringent than regional or national regulations. Small amounts of this material may be suitable for sanitary sewer or trash disposal.

**Section 14: Transport Information**

<b>DOT Shipping Name:</b>	Butanols.	<b>Canada TDG:</b>	Butanols.
<b>DOT Hazard Class:</b>	3, pg III.	<b>Hazard Class:</b>	3, pg II.
<b>Identification Number:</b>	UN1120.	<b>UN Number:</b>	UN1120.

**Section 15: Regulatory Information****EINECS:** Listed (200-751-6).**WHMIS Canada:** B2, D2B: Flammable, Very toxic material.**TSCA:** All components are listed or are exempt.**California Proposition 65:** Not listed.

The product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

**Section 16: Other Information****Current Issue Date:** January 23, 2009

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