



COLUMBUS CHEMICAL INDUSTRIES INC.

P.O. BOX 8
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Material Safety Data Sheet

May be used to comply with OSHA's Hazard Communication Standard, 29 CFR 1910 1200. Standard must be consulted for specific requirements

U.S. Department of Labor

Occupational Safety and Health Administration
 (Non-Mandatory Form)
 Form Approved
 OMB No. 1218-0072

IDENTITY (as Used on Label and List)

n-Butanol

Note: Blank spaces are not permitted. If any item is not applicable or no information is available, the space must be marked to indicate that.

Section I

Manufacturers /Distributor Address Number Street City State and Zip Code

Columbus Chemical Industries, Inc.

N4335 Temkin Road

Columbus, Wisconsin 53925

Emergency Telephone Number

CHEMTREC 1 (800) 424-9300

Telephone Number for Information

1 (920) 623-2140

Date Prepared

12-30-2005

Signature of Preparer (optional)

Section II - Hazardous Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity, Common Name(s))	CAS #	OSHA PEL	ACGIH TLV	Other Limits Recommended	% (optional)
n-Butanol*	71-36-3	100 ppm	20 ppm	STEL 50 (Skin)	>99%

*Synonyms: 1-Butanol, n-Butyl alcohol

Section III - Physical/Chemical Characteristics

Boiling Point	118°C (244°F)	Specific Gravity (H ₂ O = 1)	0.8180
Vapor Pressure (mm Hg) @ 20 °C (68 °F)	70 mmHg	Melting Point	-90 °C (-130 °F)
Vapor Density (AIR = 1)	2.6	Evaporation Rate (Butyl Acetate = 1)	0.46

Solubility in Water

Complete.

Appearance and Odor

Water-white liquid with alcohol odor.

Section IV Fire and Explosion Hazard Data

Flash Point (Method Used)	Flammable Limits	LEL	UEL
36 °C / 97 °F (closed cup)		1.4	11.2

Extinguishing Media

Use CO₂, "Alcohol Type" foam, or dry chemical extinguishing media. Use water spray to keep fire-exposed containers cool.

Special Fire Fighting Procedures

In the event of a fire, wear full protective clothing and NIOSH/MSHA-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. Prevent contact with skin and eyes.

Unusual Fire and Explosion Hazards

Vapors from this product may migrate along currents to an ignition source and flash back.

Emits toxic fumes under fire conditions. Autoignition Temperature: 364°C (650 °F).

Section V Reactivity Data

Stability	Unstable		Conditions to Avoid	Avoid heat, sparks, open flames, oxidizers and incompatibles.
	Stable	X		

Incompatibility Materials to Avoid

Oxidizers. Sodium, potassium and lithium metals. Mineral acids. Alkali metals.

Hazardous Decomposition or Byproducts

Carbon monoxide, carbon dioxide.

Hazardous Polymerization**Conditions to Avoid**

	May Occur		Not available.
	Will Not Occur	X	

Section VI Health Hazard Data**Routes of Entry****Inhalation ?****Skin ?****Ingestion ?**

Multiple	Yes	Yes	Yes
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Health Hazards (Acute and Chronic)

May be harmful if inhaled or absorbed through skin. Causes skin, eye and upper respiratory tract irritation.

Can cause central nervous system depression. Chronic exposure can cause liver, heart, and kidney damage.

Carcinogenicity**NTP****IARC Monographs****OSHA REGULATED?**

	Not Listed	Not Listed	Not Listed
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Signs and Symptoms of Exposure.

Headache, nausea, vomiting, drowsiness, slurred speech, fatigue, staggering gait, dizziness, unconsciousness. Coma and death

may result from exposure to high concentrations. Gastrointestinal disturbances. Skin, eye and respiratory irritation.

Medical Conditions Generally Aggravated by Exposure

Persons with preexisting skin disorders, bladder or liver or kidney dysfunction, or chronic

respiratory diseases should avoid exposure.

Emergency and First Aid Procedures

INGESTION: If swallowed, wash out mouth with water, call a physician. **DO NOT INDUCE**

VOMITING! **EYES:** In case of contact, immediately flush with large amounts of water for at least 15 minutes.

Call physician. **INHALATION:** If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call physician. **SKIN:** Immediately wash skin with soap and large amounts of water.

Section VII Precautions for Safe Handling and Use**Steps to be Taken in Case Material is Released or Spilled**

Evacuate area. Wear NIOSH/MSHA-approved respirator, chemical-resistant goggles, rubber boots, apron and heavy rubber gloves. Contain spill with dikes, sand or noncombustible absorbent material. Sweep up and place in a bag and hold for waste disposal. Ventilate area and wash spill site after material pickup is complete.

Waste Disposal Method Dispose in accordance with all Federal, state, and local regulations.

Precautions to be Taken in Handling and Storing

Keep in tightly closed plainly-labelled containers, stored in a cool, dry, ventilated area. Protect against physical damage. Keep away from heat, sparks and flame. Maintain adequate ventilation. Ground all equipment containing this material. Hygroscopic material. Keep in locked, secured area. **FLAMMABLE!**

Other Precautions Do not get in eyes, skin or clothing. Use with adequate ventilation. Containers, even when empty, will retain residue and vapors. Always obey hazard warnings and handle empty containers as if they were full.

Section VII Control Measures

Respiratory Protection (Specify Type) NIOSH-MSHA-approved respirator with organic vapor cartridge

Ventilation	Local Exhaust	Necessary.	Special	Safety shower nearby.
	Mechanical (General)	Recommended.	Other	Eyewash nearby.

Protective Gloves Appropriate chemical-resistant gloves. **Eye Protection** Goggles and/ or Splash Shield

Other Protective Clothing or Equipment Rubber boots and flame-retardent clothing.

Work /Hygienic Practices Contact lenses should not be worn when working with this material. Maintain eyewash and quick-drench facilities in work area. Avoid all unnecessary exposure to the chemical substance and ensure prompt removal from skin, eyes and clothing. Wash thoroughly after handling. Avoid breathing vapor. Avoid contact with tissues.

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