

## Butyl Alcohol, (n-) (1-Butanol), ACS

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Butyl Alcohol, (n-) (1-Butanol), ACS

**Synonyms/Generic Names:** Trimethylcarbinol; 2-Methyl-2-propanol; tert-Butyl alcohol

**Product Number:** 0925

**Product Use:** Industrial, Manufacturing or Laboratory use

**Manufacturer:** Columbus Chemical Industries, Inc.  
N4335 Temkin Rd.  
Columbus, WI. 53925

**For More Information:** 920-623-2140 (Monday-Friday 8:00-4:30)  
[www.columbuschemical.com](http://www.columbuschemical.com)

**In Case of Emergency Call:** CHEMTREC - 800-424-9300 or 703-527-3887 (24 Hours/Day, 7 Days/Week)

### 2. HAZARDS IDENTIFICATION

**Target Organs:** Central nervous system, Kidney, Liver, Bladder, Thyroid

**Signal Word:** Danger

**Pictograms:**



**GHS Classification:**

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

**GHS Label Elements, including precautionary statements:**

**Hazard Statements:**

H226	Flammable liquid and vapor.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.

**Precautionary Statements:**

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.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor/physician.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P370+P378	In case of fire: Use appropriate media to extinguish.
P403+P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local regulations.

**Potential Health Effects**

<b>Eyes</b>	Causes eye irritation.
<b>Inhalation</b>	May be harmful if inhaled. Causes respiratory tract irritation.
<b>Skin</b>	May be harmful if absorbed through skin. Causes skin irritation.
<b>Ingestion</b>	May be harmful if swallowed.

**NFPA Ratings**

<b>Health</b>	1
<b>Flammability</b>	3
<b>Reactivity</b>	0
<b>Specific hazard</b>	Not Available

**HMIS Ratings**

<b>Health</b>	1
<b>Fire</b>	3
<b>Reactivity</b>	0

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	Weight %	CAS #	EINECS# / ELINCS#	Formula	Molecular Weight
n-Butyl Alcohol	>99	71-36-3	200-751-6	C <sub>4</sub> H <sub>10</sub> O	74.12 g/mol

**4. FIRST-AID MEASURES**

<b>Eyes</b>	Rinse with plenty of water for at least 15 minutes and seek medical attention.
<b>Inhalation</b>	Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.
<b>Skin</b>	Flush with plenty of water for at least 15 minutes and wash using soap. Get medical attention.
<b>Ingestion</b>	<b>Do Not Induce Vomiting!</b> Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention.

## 5. FIRE-FIGHTING MEASURES

<b>Suitable (and unsuitable) extinguishing media</b>	Product is flammable. Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Use appropriate media for adjacent fire. Cool unopened containers with water.
<b>Special protective equipment and precautions for firefighters</b>	Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots.
<b>Specific hazards arising from the chemical</b>	Emits toxic fumes (carbon oxides) under fire conditions. (See also Stability and Reactivity section).

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions, protective equipment and emergency procedures</b>	See section 8 for recommendations on the use of personal protective equipment.
<b>Environmental precautions</b>	Prevent spillage from entering drains. Any release to the environment may be subject to federal/national or local reporting requirements.
<b>Methods and materials for containment and cleaning up</b>	Absorb spill with noncombustible absorbent material, then place in a suitable container for disposal. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste and cleanup materials in accordance with regulations.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use. Avoid formation of aerosols. Use explosion-proof equipment. 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, dry well ventilated area. Keep away from incompatible materials (see section 10 for incompatibilities).

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Occupational exposure controls:** Ventilation and appropriate grounding of containers.

Component	Exposure Limits	Basis	Entity
n-Butyl Alcohol	100 ppm 303 mg/m <sup>3</sup>	TLV	ACGIH
	100 ppm 300 mg/m <sup>3</sup>	PEL	OSHA
	100 ppm 300 mg/m <sup>3</sup>	REL	NIOSH
	150 ppm 450 mg/m <sup>3</sup>	STEL	NIOSH

TWA: Time Weighted Average over 8 hours of work.

TLV: Threshold Limit Value over 8 hours of work.

REL: Recommended Exposure Limit

PEL: Permissible Exposure Limit  
 STEL: Short Term Exposure Limit during x minutes.  
 IDLH: Immediately Dangerous to Life or Health  
 WEEL: Workplace Environmental Exposure Levels  
 CEIL: Ceiling

### Personal Protection

<b>Eyes</b>	Wear chemical safety glasses or goggles with face shield.
<b>Inhalation</b>	Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator.
<b>Skin</b>	Wear nitrile or rubber gloves, and apron or lab coat. Flame retardant antistatic protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
<b>Other</b>	Not Available

### Other Recommendations

Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.)	Clear, colorless liquid
Odor	Camphor-like odor
Odor threshold	219 ppm
pH	Not Available
Melting point/freezing point	25.7°C (78.3°F)
Initial boiling point and boiling range	82.41°C (180.3°F)
Flash point	Closed Cup: 11.1°C (52°F) Open Cup: 16.2°C (61.2°F)
Evaporation rate	1.05 (Butyl acetate = 1)
Flammability (solid, gas)	Flammable liquid
Upper/lower flammability or explosive limit	Lower: 2.4% Upper: 8%
Vapor pressure	41 hPa (31 mmHg) at 20°C (68°F) 59 hPa (44 mmHg) at 26°C (79°F)
Vapor density	2.56 (Air = 1.0)
Density	0.775 g/mL at 25°C (77°F)
Solubility (ies)	Soluble in cold water, hot water. Miscible in esters, aliphatic and aromatic hydrocarbons, alcohol, and ether.
Partition coefficient: n-octanol/water	Not Available
Auto-ignition temperature	477.78°C (892°F)
Decomposition temperature	Not Available

## 10. STABILITY AND REACTIVITY

<b>Chemical Stability</b>	Stable
<b>Possibility of Hazardous Reactions</b>	Vapors may form explosive mixture with air.
<b>Conditions to Avoid</b>	Heat, flames and sparks. Extremes of temperature and direct sunlight.
<b>Incompatible Materials</b>	Strong oxidizing agents, copper, alkali metals, aluminum.
<b>Hazardous Decomposition Products</b>	Carbon oxides.

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

#### *n-Butyl Alcohol*

<b>Skin</b>	LD50 Dermal - Rabbit - 3,400 mg/kg
<b>Eyes</b>	Eyes - Rabbit Result: Blindness
<b>Respiratory</b>	LC50 Inhalation - Rat - 4 h - 8000 ppm
<b>Ingestion</b>	LD50 Oral - rat - 790 mg/kg

### Carcinogenicity

<b>IARC</b>	No components of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
<b>ACGIH</b>	A4: Not classifiable for human or animal (tert-Butyl Alcohol).
<b>NTP</b>	No components of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
<b>OSHA</b>	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

### Signs & Symptoms of Exposure

<b>Skin</b>	Irritation, redness, dryness, cracking of skin.
<b>Eyes</b>	Burning sensation, redness, watering eyes.
<b>Respiratory</b>	Irritation, coughing.
<b>Ingestion</b>	Irritation, nausea, vomiting, diarrhea.

<b>Chronic Toxicity</b>	Not Available
<b>Teratogenicity</b>	Not Available
<b>Mutagenicity</b>	Mutagenic for bacteria or yeast.
<b>Embryotoxicity</b>	Not Available
<b>Specific Target Organ Toxicity</b>	May cause respiratory irritation
<b>Reproductive Toxicity</b>	Not Available
<b>Respiratory/Skin Sensitization</b>	Not Available

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### *n-Butyl Alcohol*

<b>Aquatic Vertebrate</b>	LC50 - Pimephales promelas (fathead minnow) - 1,840 mg/l - 96 h
<b>Aquatic Invertebrate</b>	EC50 - Daphnia magna (Water flea) - 1,983 mg/l - 48 h
<b>Terrestrial</b>	Not Available

<b>Persistence and Degradability</b>	Zahn-Wellens Test Result: > 99.9 % - Readily biodegradable
<b>Bioaccumulative Potential</b>	Oncorhynchus mykiss (rainbow trout) - 24 h - 921 mg/l Bioconcentration factor (BCF): 0.38
<b>Mobility in Soil</b>	Not Available
<b>PBT and vPvB Assessment</b>	Not Available
<b>Other Adverse Effects</b>	Not Available

### 13. DISPOSAL CONSIDERATIONS

<b>Waste Product or Residues</b>	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product or residue.
<b>Product Containers</b>	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

### 14. TRANSPORTATION INFORMATION

US DOT	UN1120, Butanols, 3, pg III
TDG	UN1120, BUTANOLS, 3, PG III
IMDG	UN1120, BUTANOLS, 3, PG III
Marine Pollutant	No
IATA/ICAO	UN1120, Butanols, 3, pg III

### 15. REGULATORY INFORMATION

TSCA Inventory Status	All ingredients are listed on the TSCA Active inventory.
DSL / NDSL	All ingredients are listed on the DSL inventory.
California Proposition 65	Not Listed
Rhode Island: Hazardous Substance List	Listed: n-Butyl Alcohol
Massachusetts: Toxic or Hazardous Substance List, Right to Know	Listed: n-Butyl Alcohol
Pennsylvania: Hazardous Substance List	Listed: n-Butyl Alcohol
New Jersey: Right to Know Hazardous Substance List	Listed: n-Butyl Alcohol
SARA 302	Not Listed
SARA 304	Not Listed
SARA 311	Fire Hazard, Acute Health Hazard, Chronic Health Hazard.
SARA 312	Fire Hazard, Acute Health Hazard, Chronic Health Hazard.
SARA 313	Listed: n-Butyl Alcohol
WHMIS Canada	Class B2: Flammable and combustible material – Flammable liquid. Class D2B: Poisonous and infectious material – Other effects – Toxic.

---

**16. OTHER INFORMATION**

---

<b>Revision</b>	<b>Date</b>
Original	01/07/2013
Revision 1	08/08/2013
Revision 2	02/18/2015
Revision 3	09/13/2021

Disclaimer: The information provided in this Safety Data Sheet ("SDS") is correct to the best of our knowledge, information, and belief at the date of publication. The information in this SDS relates only to the specific Product identified under Section 1, and does not relate to its use in combination with other materials or products, or its use as to any particular process. Those handling, storing, or using the Product should satisfy themselves that they have current information regarding the particular way the Product is handled, stored or used and that the same is done in accordance with federal, state and local law. WE DO NOT MAKE ANY WARRANTY, EXPRESS OR IMPLIED, INCLUDING (WITHOUT LIMITATION) WARRANTIES WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN OR WITH RESPECT TO FITNESS FOR ANY PARTICULAR USE. WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, INJURY, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT.