

SAFETY DATA SHEET



1000 Tedia Way
Fairfield, Ohio 45014
USA
Email: tedia@tedia.com
Web: www.tedia.com

24-Hour Emergency Number (CHEMTREC)

USA: 800-424-9300
International: 703-527-3887

All non-emergency numbers should be directed
to Customer Service at 800-PURITY1

BENZYL ALCOHOL

SDS No. M0018

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Benzyl Alcohol

Synonyms: Benzenecarbinol; Benzenemethanol; alpha-Hydroxytoluene; Phenylmethyl Alcohol; Phenyl Carbinol

Recommended Use: This product is recommended for laboratory and manufacturing use only. It is not recommended for drug, food, or household use.

2. HAZARDS IDENTIFICATION



Classification:

Flammable Liquids: GHS Category 4

Skin Irritation: GHS Category 2

Label Elements

Signal Word: WARNING!

Hazard Statements:

- H302 – Harmful if swallowed.
- H315 – Causes skin irritation.
- H320 – Causes eye irritation.
- H335 – May cause respiratory tract irritation.

Precautionary Statements:

- P280 – Wear protective gloves/clothing/eye protection/face protection.
- P301+P310 – IF SWALLOWED: Immediately call POISON CENTER or doctor/physician.
- P303+P361+P353 – IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P410 – Protect from sunlight.
- P501 – Dispose of contents/ container to an approved waste disposal plant.

Emergency Overview

Clear focus. Consistent results. Complete confidence.

Harmful if inhaled or swallowed. Causes irritation to eyes and skin. May cause respiratory tract irritation. May cause central nervous system effects. Combustible liquid and vapor. Hygroscopic. Target Organs: Central nervous system, lungs, eyes, and skin.

HMIS Rating:

Health – 1* Flammability – 3 Physical Hazard – 0 PPE – User supplied

NOTE: HMIS ratings use a numbering scale that ranges from 0 - 4 to indicate the degree of hazard. A value of zero means the chemical presents no hazard while a value of four indicates a high hazard. These ratings are based on the inherent properties of this chemical under expected conditions of normal use and are not intended to be used in emergency situations. PPE is determined by the user based on their needs and conditions.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

<u>Ingredient</u>	<u>CAS No</u>	<u>Percent</u>	<u>Hazardous</u>
Benzyl Alcohol	100-51-6	>99%	Yes

4. FIRST-AID MEASURES

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Ingestion: Get medical help immediately. Do not induce vomiting. Call poison control center.

Skin Contact: Remove any contaminated clothing. Wash skin with water for at least 15 minutes. Wash clothing before reuse.

Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention.

Notes to Physician: Treat symptomatically and supportively.

5. FIRE FIGHTING MEASURES

Flammability: Combustible liquid and vapor (GHS Category 4)

Auto-ignition Temperature: 435° C (815° F)

Flash Point: 93° C (199° F)

Flammable Limits: Lower Limit – 1.3 vol %, Upper Limit – 13.0 vol %

Products of Combustion: May decompose into irritating and highly toxic gases under fire conditions (carbon monoxide and carbon dioxide).

Specific Fire Hazards: As in any fire, always wear self-contained breathing apparatus in pressure-demand (MSA/NIOSH approved or equivalent), and full protective gear. Vapors may form an explosive mixture with air. Vapors can travel to a source of ignition and flash back. Will burn if involved in a fire. Containers may explode in the heat of a fire. Combustible liquid and vapor.

Fire Fighting Media: Use water spray, dry chemical, carbon dioxide, or chemical foam.

National Fire Protective Association: Health - 1, Flammability - 1, Reactivity - 1

NOTE: NFPA ratings use a numbering scale that ranges from 0 - 4 to indicate the degree of hazard. A value of zero means the chemical presents no hazard while a value of four indicates a high hazard. They are for use by emergency personnel to address the hazards that are presented by short term, acute exposure to this product under fire, spill, or similar emergencies. Ratings involve data and interpretations that may vary from company to company.

6. ACCIDENTAL RELEASE MEASURES

Vapor surprising foam may be used. Absorb spilled liquid with sorbent pads, socks, or other inert material such as vermiculite, sand, or earth. Do not use sawdust or any combustible material. Use spark-proof tools. Provide ventilation to the affected area and remove all ignition sources. Approach the spill from upwind and pick up absorbed material and place it in a suitable container. Always use proper personal protective equipment as described in section 8.

7. HANDLING AND STORAGE

Clear focus. Consistent results. Complete confidence.

Precautions: Always use proper personal protective equipment as described in section 8. Wash thoroughly after handling. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Avoid contact with eyes, skin, and clothing. Remove contaminated clothing and wash before reuse. Empty containers contain product residue (liquid and vapor) and can be dangerous. Keep container tightly closed and away from heat, spark, and flame. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks, or open flames. Use with adequate ventilation. Avoid breathing vapor or mist.

Storage: Keep in a flammables area away in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from sources of ignition. Store under nitrogen

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Use explosion-proof ventilation equipment. Facilities storing or using the material should be equipped with eyewash station and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Personal Protection: Wear protective chemical goggles or other appropriate eye protection. Use butyl rubber gloves and protective clothing to prevent skin exposure. A respiratory protection program that meets OSHA 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever possible. Always use a NIOSH or European Standard EN 149 approved respirators when necessary.

Exposure Limits: None established.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State and Appearance: Clear, colorless to pale yellow liquid.

Odor: Faint aromatic odor.

Odor Threshold: 5.5 ppm

Molecular Formula: C₆H₅CH₂OH

Molecular Weight: 108.14

Auto-ignition Temperature: 435° C (815° F)

Flash Point: 93° C (199° F)

Flammable Limits: Lower Limit – 1.3 vol %, Upper Limit – 13.0 vol %

pH: Not available.

Boiling Point: 205° C @ 760 mm Hg

Freezing/Melting Point: -15° C

Decomposition Temperature: Not available

Specific Gravity: 1.044 g/cm³

Vapor Density (Air=1): 3.72

Vapor Pressure: 0.13 mbar Hg @ 25° C.

Evaporation Rate (Butyl acetate = 1): Not available

Viscosity: 6.6 mPa @ 20 deg C

Solubility: Soluble

Conductivity (25°C): Conductive; Conductivity = 1.8x10⁸ pS/m; Dielectric Constant = NA; Relaxation Time Constant = NA

10. STABILITY AND REACTIVITY

Stability: Air sensitive. Light sensitive. Hygroscopic: absorbs moisture or water from the air. Slowly oxidized by atmospheric oxygen.

Conditions to Avoid: Incompatible materials, light, ignition sources, exposure to air, excess heat, exposure to moist air or water.

Incompatibility with Various Substances: Strong oxidizing agents, strong acids, hydrogen bromide gas + iron at >100C (exothermic polymerization), Corrosive to iron, steel and aluminum when heated.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide.

Hazardous Polymerization: May occur.

11. TOXICOLOGICAL INFORMATION

Routes of Entry: Inhalation, skin absorption, skin contact

Acute Exposure Hazards:

INHALATION HAZARD: Harmful if inhaled. Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. May cause respiratory tract irritation.

INGESTION HAZARD: Harmful if swallowed. May cause severe digestive tract irritation with abdominal pain, nausea, vomiting and diarrhea. May cause central nervous system effects.

SKIN CONTACT HAZARD: Causes skin irritation. May be harmful if absorbed through the skin.

EYE CONTACT HAZARD: Causes eye irritation.

Chronic Exposure Hazards: Prolonged or repeated skin contact may cause dermatitis. Adverse reproductive effects have been reported in animals. Laboratory experiments have resulted in mutagenic effects.

Animal Toxicity:

Draize test, rabbit, skin: 100 mg/24H Moderate;

Inhalation, mouse: LC50 = >500 mg/m³;

Inhalation, rat: LC50 = >500 mg/m³;

Oral, mouse: LD50 = 1360 mg/kg;

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Oral, rabbit: LD50 = 1040 mg/kg;

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Oral, rat: LD50 = 1230 mg/kg;

Oral, rat: LD50 = 1660 mg/kg;

Skin, rabbit: LD50 = 2000 mg/kg;

Skin, rat: LD50 = 100 pph/90M;

Skin sensitization, guinea pig: Sensitized 1/10.;

Inhalation, rat, LCLo: 1000 ppm/8H.

Carcinogenicity: Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65

Epidemiology: No information available.

Teratogenicity: Teratogenic effects have occurred in experimental animals.

Reproductive Effects: : No information available.

Mutagenicity: Mutagenic effects have occurred in experimental animals.

Neurotoxicity: No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Fish: Fathead Minnow: LC50 = 46.41 mg/L; 96 Hr.; Static, Soft Water

Fish: Fathead Minnow: LC50 = 59.30 mg/L; 96 Hr.; Static, Hard Water

Fish: Bluegill/Sunfish: LC50 = 25.05 mg/L; 96 Hr.; Static, Hard Water

Fish: Goldfish: LC50 = 64.74 mg/L; 96 Hr.; Static, Hard Water

Water flea Daphnia: EC50 = 400.0 mg/L; 48 Hr.; Unspecified

Water flea Daphnia: EC50 = 23.0 mg/L; 48 Hr.; Unspecified

Bacteria: Phytobacterium phosphoreum: EC50 = 71.4 mg/L; 5,15,30 minutes; Microtox test, 15 degrees C log Pow:1.1

Fish toxicity: LC50 (48-96hr) fathead minnow 770-460 mg/l, static bioassay at 18-22°C [Verschuieren, K. Handbook of Environmental Data of Organic Chemicals 2nd ed., 1983, Van Nostrand Reinhold, New York] Invertebrate toxicity:

EC50 (5,15,30 min) Photobacterium phosphoreum 71.4 mg/l Microtox test [Kaiser, K.L.E; et al. Water Pollut. Res. J.

Canada 1991, 26 (3),361-431] EC50 (48 hr) Daphnia magna 400 mg/l, EC100 (48 hr) Daphnia magna 500 mg/l.

Environmental Fate: If released to soil, benzyl alcohol is expected to display high mobility and readily leach through soil. Volatilization from dry soil to the atmosphere may be an important fate process; however, it is not expected to be an important process in moist soils. If released to water, benzyl alcohol is expected to undergo microbial degradation under aerobic and anaerobic conditions. In the atmosphere, benzyl alcohol is expected to exist almost entirely in the vapor phase. The estimated half-life for the vapor phase reaction of benzyl alcohol with photochemically produced hydroxyl radicals is 2 days. Benzyl alcohol's volatilization to the atmosphere, hydrolysis, direct photolytic degradation, chemical oxidation,

bioconcentration in fish and aquatic organisms, nor adsorption to sediment and suspended organic matter are not expected to be significant processes in environmental waters.

13. DISPOSAL CONSIDERATIONS

Material that cannot be saved for recovery or recycling should be managed in an appropriate and approved waste facility. Processing, use, or contamination of this product may change the waste management options. Waste generators must decide if discarded material is a hazardous waste. State and local disposal regulations may differ from federal disposal definitions found in 40 CFR 261.3. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. TRANSPORT INFORMATION

Not regulated for transportation.

15. REGULATORY INFORMATION

US Federal Regulations:

TSCA: CAS# 100-51-6 is listed on the TSCA Inventory.

Health and Safety Reporting List: Not listed.

Chemical Test Rules: CAS# 100-51-6: Not listed.

Section 12b: Not listed.

TSCA Significant New Use Rule: CAS# 100-51-6: No SNUR under TSCA.

CERCLA Hazardous Substances: CAS# 100-51-6; Does not have an RQ

SARA Section 302: Does not have a TPQ

SARA Codes: CAS# 100-51-6 – immediate, fire

Section 313: n-amyl alcohol (CAS# 100-51-6) is not subject to SARA Title III Section 313 and 40 CFR 373 reporting requirements.

Clean Air Act: CAS# 100-51-6 is not listed as a hazardous air pollutant (HAP). It is not a Class 1 Ozone Depleter. It is not a Class 2 Ozone Depleter.

Clean Water Act: CAS# 100-51-6 is not listed as a Hazardous Substance. It is not a Priority Pollutant. It is not a Toxic Pollutant.

OSHA: Not considered highly hazardous by OSHA.

US State Regulations:

CAS# 100-51-6 is on the following state right-to-know lists: Pennsylvania, Minnesota, and Massachusetts

California Prop 65: California No Significant Risk Level: Not listed

Canada:

DSL/NDSL: CAS# 100-51-6 is listed on Canada's DSL list.

WHMIS: The material has a WHMIS category of B2, D2B. This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and this MSDS contains all the information required by those regulations.

Ingredient Disclosure List: CAS# 100-51-6 is listed on Canada's Ingredient Disclosure List.

DSCL (EEC):

Hazard Symbols: Xn

Risk Phrases: R20/22 – Harmful by inhalation or if swallowed.

Safety Phrases: S26 – In case of contact with eyes, rinse with plenty of water and get medical assistance.

WGK (Water Danger/protection): CAS# 100-51-6: 1

16. OTHER INFORMATION

Originally Prepared: 1/1/2006

Last Revised: 03/22/2021 – Updated precaution statements in Section 2

The information contained herein is based on current knowledge and experience; no responsibility is accepted that the information is sufficient or correct in all cases. Users should consider these data only as a supplement to other information

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