

Benzyl alcohol SDS/MSDS (Safety Data Sheet)

1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier

- * Product Name: Benzyl alcohol
- * Catalog Number: S4600
- * CAS Number: 100-51-6
- * IUPAC Name: Benzenemethanol

Relevant identified uses and uses advised against

- * Identified uses: For research and development use only; laboratory chemicals; manufacture of substances.
- * Uses advised against: Not for pharmaceutical, household, or other unapproved uses.

Details of the supplier

- * Company: Selleck Chemicals
- * TollFree: +1 877 796-6397
- * Tel: +1 832 582-8158
- * Fax: +1 832 582-8590

Emergency telephone number

- * Emergency phone #: +1 832 582-8158

2. HAZARDS IDENTIFICATION

2.1 GHS classification in accordance with 29 CFR 1910 (OSHA HCS):

- Flammable liquids: Category 4. H227
- Acute toxicity (oral): Category 4. H302
- Acute toxicity (dermal): Category 4. H312
- Skin irritation: Category 2. H315
- Skin sensitization: Category 1. H317
- Serious eye irritation: Category 2. H319
- Acute toxicity (inhalation): Category 3. H331
- Acute toxicity (inhalation): Category 4. H332
- Specific target organ toxicity (single exposure): Category 3. H335
- Specific target organ toxicity (single exposure): Category 3. H336
- Specific target organ toxicity (single exposure): Category 1. H370
- Specific target organ toxicity (repeated exposure): Category 1. H372
- Acute aquatic toxicity: Category 2. H401

2.2 GHS Label elements, including precautionary statements

Hazard Pictogram(s)



Signal Word

Danger

Hazard statement(s)	H227: Combustible liquid H302: Harmful if swallowed H312: Harmful in contact with skin H315: Causes skin irritation H317: May cause an allergic skin reaction H319: Causes serious eye irritation H331: Toxic if inhaled H332: Harmful if inhaled H335: May cause respiratory irritation H336: May cause drowsiness or dizziness H370: Causes damage to organs H372: Causes damage to organs through prolonged or repeated exposure H401: Toxic to aquatic life
Precautionary statement(s)	None.
Prevention	P210: Keep away from heat, hot surface, sparks, open flames and other ignition sources. No smoking. P260: Do not breathe dust/fume/gas/mist/vapors/spray. P261: Avoid breathing dust/fume/gas/mist/vapors/spray. P264: Wash hands thoroughly after handling. P264+P265: Wash hands thoroughly after handling. Do not touch eyes. P270: Do not eat, drink or smoke when using this product. P271: Use only outdoors or in a well-ventilated area. P272: Contaminated work clothing should not be allowed out of the workplace. P273: Avoid release to the environment. P280: Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
Response	P301+P317: IF SWALLOWED: Get medical help. P302+P352: IF ON SKIN: wash with plenty of water. P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing. P305+P351: IF IN EYES: Rinse cautiously with water for several minutes. P308+P316: IF exposed or concerned: Get emergency medical help immediately. P316: Get emergency medical help immediately. P317: Get emergency medical help. P319: Get medical help if you feel unwell. P321: Specific treatment (see information on this label and safety datasheet)). P330: Rinse mouth. P332+P317: If skin irritation occurs: Get medical help. P333+P317: If skin irritation or rash occurs: Get medical help. P337+P317: If eye irritation persists: Get medical help. P338: Remove contact lenses, if present and easy to do. Continue rinsing. P362+P364: Take off contaminated clothing and wash it before reuse. P370+P378: In case of fire: Use water spray, dry chemical, carbon dioxide, or appropriate foam to extinguish.
Storage	P403: Store in a well-ventilated place. P403+P233: Store in a well-ventilated place. Keep container tightly closed. P405: Store locked up.
Disposal	P501: P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards

None.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Product name: Benzyl alcohol

CAS Number: 100-51-6

PubChem CID: 244

Molecular formula: C₇H₈O

Molecular weight: 108.14 g/mol

IUPAC name: phenylmethanol

3.2 Mixtures

Not applicable (pure substance).

4. FIRST-AID MEASURES

4.1 Description of first aid measures

Inhalation: Fresh air, rest. Refer for medical attention.

Skin contact: Remove contaminated clothes. First rinse with plenty of water for at least 15 minutes, then remove contaminated clothes and rinse again.

Eye contact: First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

Ingestion: Rinse mouth. Refer for medical attention .

4.2 Most important symptoms and effects, both acute and delayed

See Section 11 (Toxicological Information).

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically. Contact a poison control center or physician for severe exposure.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable: Water spray, dry chemical, carbon dioxide (CO₂), alcohol-resistant foam.

Unsuitable: None known.

5.2 Specific hazards arising from the substance or mixture

Use powder, AFFF, foam, carbon dioxide.

Foam, carbon dioxide, dry chem ...

If material on fire or involved in fire: Use water in flooding quantities as fog. Use "alcohol" foam, dry chemical or carbon dioxide. Cool all affected containers with flooding quantities of water. Apply water from as far a distance as possible. Keep run-off water out of sewers and water sources. /Benzyl alcohol (Combustible liquid, NOS)/

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Advice for firefighters: Wear self contained breathing apparatus for fire fighting if necessary.

Special hazards arising from the substance or mixture: Carbon oxides.

5.3 Advice for firefighters

Wear self-contained breathing apparatus (SCBA) and full protective clothing.

Fight fire from upwind. Cool containers with water spray until fire is extinguished.

Flash point: 213 °F (NTP, 1992)

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear appropriate personal protective equipment (see Section 8).

Avoid breathing dust/vapor. Ensure adequate ventilation.

Evacuate personnel to safe areas. Keep people away from and upwind of spill.

WARNING: Highly toxic — only trained personnel should handle spills.

6.2 Environmental precautions

Prevent product from entering drains, waterways, or soil.

Contain spill with inert absorbent material.

6.3 Methods and materials for containment and cleaning up

Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations. Personal protection: filter respirator for organic gases and vapours adapted to the airborne concentration of the substance.

SRP: Wastewater from contaminant suppression, cleaning of protective clothing/equipment, or contaminated sites should be contained and evaluated for subject chemical or decomposition product concentrations. Concentrations shall be lower than applicable environmental discharge or disposal criteria. Alternatively, pretreatment and/or discharge to a POTW is acceptable only after review by the governing authority. Due consideration shall be given to remediation worker exposure (inhalation, dermal and ingestion) as well as fate during treatment, transfer and disposal. If it is not practicable to manage the chemical in this fashion, it must meet Hazardous Material Criteria for disposal.

Environmental considerations: Land spill: Dig a pit, pond, lagoon, holding area to contain liquid or solid material. Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete. Absorb bulk liquid with fly ash, cement powder, or commercial sorbents. /SRP: If time permits, pits, ponds, lagoons, soak holes, or holding areas should be sealed with an impermeable flexible membrane liner./ /Benzyl alcohol (Combustible liquid, NOS)/

Environmental considerations: Water spill: Use natural barriers or oil spill control booms to limit spill travel. Remove trapped material with suction hoses. /Benzyl alcohol (Combustible liquid, NOS)/

Environmental considerations: Air spill: Apply water spray or mist to knock down vapors. /Benzyl alcohol (Combustible liquid, NOS)/

Accidental Release Measures. Personal precautions, protective equipment and emergency procedures: Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Environmental precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided. Methods and materials for containment and cleaning up: Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

SRP: The most favorable course of action is to use an alternative chemical product with less inherent propensity for occupational harm/injury/toxicity or environmental contamination. Recycle any unused portion of the material for its approved use or return it to the manufacturer or supplier. Ultimate disposal of the chemical must consider: the material's impact on air quality; potential migration in soil or water; effects on animal and plant life; and conformance with environmental and public health regulations.

Waste treatment methods. Product: Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Contaminated packaging: Dispose of as unused product.

SRP: The scientific literature for the use of contact lenses by industrial workers is inconsistent. The benefits or detrimental effects of wearing contact lenses depend not only upon the substance, but also on factors including the form of the substance, characteristics and duration of the exposure, the uses of other eye protection equipment, and the hygiene of the lenses. However, there may be individual substances whose irritating or corrosive properties are such that the wearing of contact lenses would be harmful to the eye. In those specific cases, contact lenses should not be worn. In any event, the usual eye protection equipment should be worn even when contact lenses are in place.

SRP: Local exhaust ventilation should be applied wherever there is an incidence of point source emissions or dispersion of regulated contaminants in the work area. Ventilation control of the contaminant as close to its point of generation is both the most economical and safest method to minimize personnel exposure to airborne contaminants. Ensure that the local ventilation moves the contaminant away from the worker.

Ventilation control: the basic ventilation methods are local exhaust ventilation and dilution or general ventilation.

... Substitution of less irritating substances ... Redesign of operations ... Prevent contact, provision of a physical barrier against contact, proper washing facilities, work clothing and storage facilities, protective clothing, and barrier creams. Medical control ...

For more Preventive Measures (Complete) data for BENZYL ALCOHOL (9 total), please visit the HSDB record page.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Separated from strong oxidants.

Benzyl alcohol is stored in stainless steel tanks. Because benzyl alcohol oxidizes readily, it is advisable to cover the surface of the liquid with nitrogen.

... Store in places that are cool ... Provide adequate ventilation ... Locate the storage area ... away from areas of fire hazard. Highly flammable materials must be kept apart from powerful oxidizing agents, materials susceptible to spontaneous heating, explosives ...

Store at a temp not exceeding 40 °C in airtight containers. Protect from light.

Conditions for safe storage, including any incompatibilities: Keep container tightly closed in a dry and well-ventilated place. Handle and store under inert gas. Hygroscopic.

7.2 Conditions for safe storage, including any incompatibilities

Separated from strong oxidants.

Benzyl alcohol is stored in stainless steel tanks. Because benzyl alcohol oxidizes readily, it is advisable to cover the surface of the liquid with nitrogen.

... Store in places that are cool ... Provide adequate ventilation ... Locate the storage area ... away from areas of fire hazard. Highly flammable materials must be kept apart from powerful oxidizing agents, materials susceptible to spontaneous heating, explosives ...

Store at a temp not exceeding 40 °C in airtight containers. Protect from light.

Conditions for safe storage, including any incompatibilities: Keep container tightly closed in a dry and well-ventilated place. Handle and store under inert gas. Hygroscopic.

Store away from incompatible materials (see Section 10).

[Note: Specific storage temperature not available in public databases. Refer to supplier Certificate of Analysis (COA) for exact storage conditions.]

Store in original container. Keep upright to prevent leakage.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Exposure controls

8.1.1 Occupational exposure limits (OEL)

22 mg/m

8.1.2 Appropriate engineering controls

Use only in a chemical fume hood or with local exhaust ventilation.

Ensure adequate ventilation to keep airborne concentrations below exposure limits.

8.2 Individual protection measures

8.2.1 Eye/face protection

Wear chemical safety goggles.

8.2.2 Skin protection

Wear protective gloves. Recommended material: Nitrile rubber.

Wear suitable protective clothing (lab coat).

8.2.3 Respiratory protection

Wear NIOSH-approved respirator with appropriate cartridges. SCBA for high concentrations.

8.2.4 Thermal hazards

Not applicable.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a) Appearance: Benzyl alcohol appears as a clear colorless liquid with a pleasant odor. Slightly denser than water. Flash point 194 °F. Boiling point 401 °F. Contact may irritate skin, eyes, and mucous membranes. May be slightly toxic by ingestion. Used to make other chemicals.

b) Odor: Faint aromatic odor

c) Odor threshold: No data available

d) pH: A solution in water is neutral to litmus

e) Melting point/freezing point: 4.5 °F (NTP, 1992)

f) Initial boiling point and boiling range: 401 °F at 760 mmHg (NTP, 1992)

g) Flash point: 213 °F (NTP, 1992)

h) Evaporation rate: No data available

i) Flammability (solid, gas): No data available

j) Upper/lower flammability or explosive limits: No data available

k) Vapor pressure: 0.1 mmHg at 68 °F ; 1 mmHg at 136 °F (NTP, 1992)

l) Vapor density: No data available

m) Relative density: 1.05 at 1515 °F (USCG, 1999) - Denser than water; will sink

n) Water solubility: 10 to 50 mg/mL at 70 °F (NTP, 1992)

o) Partition coefficient: n-octanol/water: Log P (n-octanol/water): 1.1

p) Auto-ignition temperature: 817 °F (USCG, 1999)

q) Decomposition temperature: No data available

r) Viscosity: 5.474 cP at 25 °C; 2.760 cP at 50 °C; 1.618 cP at 75 °C; 1.055 cP at 100 °C

s) Explosive properties: No data available

t) Oxidizing properties: No data available

9.2 Other information

Topological Polar Surface Area (TPSA): 20.2 Å²

Complexity: 55

10. STABILITY AND REACTIVITY

10.1 Reactivity

No specific reactivity hazards identified under normal handling conditions.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No hazardous reactions under normal conditions.

10.4 Conditions to avoid

Avoid heat, sparks, open flames, direct sunlight, and moisture.

10.5 Incompatible materials

Mixtures with sulfuric acid decompose explosively at 180 °C.

... Incompatible with oxidizing agents.

Possible problems ... may occur when polystyrene syringes are used with certain types of drug products that contain paraaldehyde, benzaldehyde, and benzyl alcohol since these agents can extract and dissolve the plastic. At times the rubber tip of the plunger may release a constituent to the drug product.

Benzyl alcohol containing acidic constituents and dissolved iron was found to polymerize with a rapid temperature increase when heated in excess of 100 °C. Amines, pyridene, and alkali hydroxides act as inhibitors and prevent polymerization.

Incompatible materials: Strong oxidizing agents

10.6 Hazardous decomposition products

Thermal decomposition may produce: Carbon monoxide (CO), Carbon dioxide (CO₂).

See also Section 5 (Fire-fighting measures) for combustion products.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity:

No acute toxicity data available.

Skin corrosion/irritation:

Causes skin irritation (H315).

Serious eye damage/eye irritation:

Causes serious eye irritation (H319).

Respiratory or skin sensitization:

May cause an allergic skin reaction (H317).

Germ cell mutagenicity:

No data available.

Carcinogenicity:

No data available.

Reproductive toxicity:

No data available.

Specific target organ toxicity (single exposure):

H370, H372

Specific target organ toxicity (repeated exposure):

No data available.

Aspiration hazard:

No data available.

11.2 Additional information

Carcinogen classification:

Benzyl Alcohol

TR-343: Toxicology and Carcinogenesis Studies of Benzyl Alcohol (CASRN 100-51-6) in F344/N Rats and B6C3F1 Mice (Gavage Studies) (1989)

11/06/87

No Evidence

No Evidence

No Evidence

No Evidence

Under the conditions of these 2-year gavage studies, there was no evidence of carcinogenic activity of benzyl alcohol for male or female F344/N rats dosed with 200 or 400 mg/kg. Survival in both dose groups of female rats was 50% that of vehicle controls, primarily due to an increased numb

Exposure routes:

The substance can be absorbed into the body by inhalation of its vapour and by ingestion.

Signs and symptoms of exposure:

Cough. Dizziness. Headache.

Redness.

Redness.

Abdominal pain. Diarrhoea. Drowsiness. Nausea. Vomiting.

Data source: Hazardous Substances Data Bank (HSDB) via PubChem.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

EC50; Species: Haematococcus pluvialis (Algae); Concentration: 2600mg/L for 24 hr; Effect: inhibition of photosynthesis /Conditions of bioassay not specified in source examined/

EC50; Species: Chlorella pyrenoidosa (Algae); Concentration: 95 mg/L for 3 hr, Effect: inhibition of photosynthesis /Conditions of bioassay not specified in source examined/

LC50; Species: Petromyzon marinus /lamprey/; Conditions: static bioassay; Concentration: >=5 mg/L for 24 hr

LC50; Species: *Leuciscus idus* /Ide, silver or golden orfe/; Conditions: static bioassay; Concentration: 646 mg/L for 48 hr

For more Ecotoxicity Values (Complete) data for BENZYL ALCOHOL (15 total), please visit the HSDB record page.

6.30e+03

8.20e+04

2.00e+03

5.00e+00

4.80e-01

1.00e-01

Volatile

Mutagen

1

0.1

1.90e+04

2.50e+05

5.90e+03

5.00e+00

1.00e-01

Volatile

Mutagen

1

0.1

The substance is toxic to aquatic organisms.

Benzyl alcohol's production and use as a solvent and chemical intermediate, in perfumery and flavoring, in textiles and sheet plastics, inks, cosmetics, and pharmaceutical aid may result in its release to the environment through various waste streams. Benzyl alcohol's natural occurrence in flower oils and tree exudates may result in its direct release to the environment. If released to air, a vapor pressure of 9.4×10^{-2} mm Hg at 25 °C indicates benzyl alcohol will exist solely as a vapor in the atmosphere. Vapor-phase benzyl alcohol will be degraded in the atmosphere by reaction with photochemically-produced hy

12.2 Persistence and degradability

No data available.

12.3 Bioaccumulative potential

Log P (n-octanol/water): 1.1

Low potential for bioaccumulation (Log P < 3).

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available.

12.6 Other adverse effects

This substance is classified as hazardous to the aquatic environment.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Waste Treatment Methods: Waste material must be disposed of in accordance with national and local regulations. Leave chemicals in original containers and do not mix with other waste. Handle uncleaned containers in the same manner as the product itself.

14. TRANSPORT INFORMATION

14.1 UN number

Not regulated as dangerous goods (research quantities typically exempt).

14.2 UN proper shipping name

Not subject to transport regulations (small quantities for research use).

14.3 Transport hazard class(es)

Not classified as dangerous goods for transport (research quantities).

14.4 Packing group

Not applicable (not regulated as dangerous goods in typical research quantities).

14.5 Environmental hazards

Marine pollutant: Yes (classified as environmentally hazardous per GHS).

14.6 Special precautions for user

Transport in original packaging. Ensure containers are tightly sealed.

For bulk or commercial quantities, consult applicable transport regulations (DOT, IATA, IMDG).

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable.

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

US EPA / TSCA: Subject to EPA TSCA regulations

EU ECHA / REACH: Registered (REACH Active)

SARA 302 Components:

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components:

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards:

Acute (short-term) health hazard

Chronic (long-term) health hazard

Environmental hazard

Fire hazard

Massachusetts Right To Know Components:

This material contains components subject to the Massachusetts Right to Know Act. See Section 2 for hazard classification.

Pennsylvania Right To Know Components:

This material contains components subject to the Pennsylvania Right to Know Act. See Section 2 for hazard classification.

New Jersey Right To Know Components:

This material contains components subject to the New Jersey Right to Know Act. See Section 2 for hazard classification.

California Prop. 65 Components:

This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Other regulatory listings:

- The Australian Inventory of Industrial Chemicals: Chemical: Benzenemethanol
- California Safe Cosmetics Program (CSCP) Reportable Ingredient: Hazard Traits - Fragrance Allergen Authoritative List - Annex III of the EU Cosmetics Regulation No. 1223/2009 - Fragrance Allergens Report - if present in a rinse-off cosmetic product at a concentrat
- EFSA Legal Basis: Regulation (EC) No 1333/2008 (amended)
- Atmospheric Standards: This action promulgates standards of performance for equipment leaks of Volatile Organic Compounds (VOC) in the Synthetic Organic Chemical Manufacturing Industry (SOCMI). The intended effect of these standards is to require all newly constructed, modified, and reconstructed SOCMI process units to us
- State Drinking Water Guidelines: (FL) FLORIDA 2,100 ug/L

15.2 Chemical safety assessment

A chemical safety assessment has not been carried out for this substance.

For research-use-only compounds, no CSA is required under REACH Annex I.

16. OTHER INFORMATION

Revision Date: 2026/09/09

Further Information: The information provided is believed to be correct but is not exhaustive and should be used only as a guideline based on current knowledge. It does not represent a guarantee of the properties of the product.

Selleck Chemicals Corporation and its Affiliates shall not be held liable for any damage resulting from handling or contact with the product.