



# SAFETY DATA SHEET

## 1. Identification

<b>Product identifier</b>	<b>Benzyl Benzoate</b>	
<b>Other means of identification</b>		
<b>Catalog number</b>	1062008	
<b>CAS number</b>	120-51-4	
<b>Synonyms</b>	Benzoic acid, benzyl ester * Benzylbenzenecarboxylate	
<b>Chemical name</b>	Benzoic acid, phenylmethyl ester	
<b>Recommended use</b>	Specified quality tests and assay use only.	
<b>Recommended restrictions</b>	Not for use as a drug. Not for administration to humans or animals.	
<b>Manufacturer/Importer/Supplier/Distributor information</b>		
<b>Manufacturer</b>		
<b>Company name</b>	U. S. Pharmacopeia	
<b>Address</b>	12601 Twinbrook Parkway Rockville MD 20852-1790 United States	
<b>Telephone</b>	RS Technical Services	301-816-8129
<b>Website</b>	www.usp.org	
<b>E-mail</b>	RSTECH@usp.org	
<b>Emergency phone number</b>	CHEMTREC within US & Canada	1-800-424-9300
	CHEMTREC outside US & Canada	+1 703-527-3887

## 2. Hazard(s) identification

<b>Physical hazards</b>	Not classified.	
<b>Health hazards</b>	Acute toxicity, oral	Category 4
	Serious eye damage/eye irritation	Category 2B
<b>Environmental hazards</b>	Not classified.	
<b>OSHA defined hazards</b>	Not classified.	
<b>Label elements</b>		



<b>Signal word</b>	Warning	
<b>Hazard statement</b>	Harmful if swallowed. Causes eye irritation.	
<b>Precautionary statement</b>		
<b>Prevention</b>	Wash thoroughly after handling.	
<b>Response</b>	If swallowed: Call a poison center/doctor if you feel unwell. Rinse mouth. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.	
<b>Storage</b>	Not available.	
<b>Disposal</b>	Dispose of contents/container in accordance with local/regional/national/international regulations.	
<b>Hazard(s) not otherwise classified (HNOC)</b>	None known.	
<b>Supplemental information</b>	None.	

### 3. Composition/information on ingredients

#### Substance

Chemical name	Common name and synonyms	CAS number	%
Benzyl Benzoate	Benzoic acid, benzyl ester Benzylbenzenecarboxylate	120-51-4	100

### 4. First-aid measures

<b>Inhalation</b>	Move to fresh air. Call a physician if symptoms develop or persist.
<b>Skin contact</b>	Wash off with soap and water. Get medical attention if irritation develops and persists.
<b>Eye contact</b>	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Rinse mouth. Do not use mouth-to-mouth method if substance is ingested. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get medical advice/attention if you feel unwell.
<b>Most important symptoms/effects, acute and delayed</b>	Irritation of eyes.
<b>Indication of immediate medical attention and special treatment needed</b>	Provide general supportive measures and treat symptomatically. Treatment of overdose may include the following: Administer activated charcoal promptly following ingestion. If vomiting has occurred spontaneously following ingestion, a slurry of activated charcoal should be administered as soon as fluids can be retained. Perform gastric lavage if vomiting has not occurred. Use narcotic antagonists, such as naloxone, to treat adverse effects as necessary. Support respiration and provide prolonged and careful monitoring.
<b>General information</b>	Remove from exposure. Remove contaminated clothing. For treatment advice, seek guidance from an occupational health physician or other licensed health-care provider familiar with workplace chemical exposures. In the United States, the national poison control center phone number is 1-800-222-1222. If person is not breathing, give artificial respiration. If breathing is difficult, give oxygen if available. Persons developing serious hypersensitivity (anaphylactic) reactions must receive immediate medical attention.

### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO <sub>2</sub> ).
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.
<b>Specific hazards arising from the chemical</b>	During fire, gases hazardous to health may be formed.
<b>Special protective equipment and precautions for firefighters</b>	Wear suitable protective equipment.
<b>Fire fighting equipment/instructions</b>	Use water spray to cool unopened containers. As with all fires, evacuate personnel to a safe area. Firefighters should use self-contained breathing equipment and protective clothing.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.
<b>General fire hazards</b>	No unusual fire or explosion hazards noted.

### 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. Wear appropriate personal protective equipment. Avoid inhalation of vapors. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. For personal protection, see section 8 of the SDS.
<b>Methods and materials for containment and cleaning up</b>	Absorb spillage with suitable absorbent material. Clean surface thoroughly to remove residual contamination. For waste disposal, see section 13 of the SDS.
<b>Environmental precautions</b>	Avoid discharge into drains, water courses or onto the ground.

### 7. Handling and storage

<b>Precautions for safe handling</b>	As a general rule, when handling USP Reference Standards, avoid all contact and inhalation of dust, mists, and/or vapors associated with the material. Clean equipment and work surfaces with suitable detergent or solvent after use. After removing gloves, wash hands and other exposed skin thoroughly. Select and use containment devices and personal protective equipment based on a risk assessment of material potency and exposure potential.
--------------------------------------	---

**Conditions for safe storage, including any incompatibilities** Store in tight container as defined in the USP-NF. This material should be handled and stored per label instructions to ensure product integrity.

## 8. Exposure controls/personal protection

**Occupational exposure limits** No exposure limits noted for ingredient(s).  
**Biological limit values** No biological exposure limits noted for the ingredient(s).  
**Appropriate engineering controls** For laboratory operations, use good technique and limit open handling. Control exposures to below the occupational exposure level (if available). Select and use containment devices and personal protective equipment based on a risk assessment of exposure potential. Cover all containers for solutions and slurries while being transferred.

### Individual protection measures, such as personal protective equipment

**Eye/face protection** Wear safety glasses with side shields, chemical splash goggles, or full face shield, if necessary. Base the choice of protection on the job activity and potential for contact with eyes or face. An emergency eye wash station should be available.

**Skin protection**

**Hand protection** Wear nitrile or other impervious gloves if skin contact is possible. When the material is dissolved or suspended in an organic solvent, wear gloves that provide protection against the solvent.

**Other** Wear lab coat. Base the choice of skin protection on the job activity, potential for skin contact and solvents and reagents in use. Do not wear protective garments in common areas (e.g., cafeterias) or out-of-doors.

**Respiratory protection** Respirators are generally not required for laboratory operations. Choose respiratory protection appropriate to the task and the level of existing engineering controls.

**Thermal hazards** Wear appropriate thermal protective clothing, when necessary.

**General hygiene considerations** Handling practices in this SDS are recommendations for laboratory use of reference standards. Procedures for any other uses or quantities should be determined after an appropriate assessment.

## 9. Physical and chemical properties

**Appearance** Appearance descriptions are general information and not specific to any USP lot.

**Physical state** Liquid.

**Form** Oily. Liquid.

**Color** Clear. Colorless.

**Odor** Very faint. Aromatic.

**Odor threshold** Not available.

**pH** Not available.

**Melting point/freezing point** 69.8 °F (21 °C)

**Initial boiling point and boiling range** 613.4 - 615.2 °F (323 - 324 °C)

**Flash point** 298.4 °F (148.0 °C) Closed Cup

**Evaporation rate** Not available.

**Flammability (solid, gas)** Not applicable.

**Upper/lower flammability or explosive limits**

**Flammability limit - lower (%)** Not available.

**Flammability limit - upper (%)** Not available.

**Explosive limit - lower (%)** Not available.

**Explosive limit - upper (%)** Not available.

**Vapor pressure** Not available.

**Vapor density** 7.31

**Relative density** Not available.

**Solubility(ies)**

**Solubility (water)** Insoluble.

**Solubility (other)** Chloroform: Miscible.  
Ether: Miscible.  
Benzene: Soluble.

	Acetone: Soluble. Miscible with oils. Alcohol: Miscible.
<b>Partition coefficient (n-octanol/water)</b>	3.97
<b>Auto-ignition temperature</b>	896 °F (480 °C)
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.
<b>Other information</b>	
<b>Chemical family</b>	Ester.
<b>Dynamic viscosity</b>	10.9 mPa.s
<b>Dynamic viscosity temperature</b>	77 °F (25 °C)
<b>Molecular formula</b>	C14-H12-O2
<b>Molecular weight</b>	212.24 g/mol
<b>Percent volatile</b>	100 %
<b>Specific gravity</b>	1.12 at 25 °C
<b>Surface tension</b>	26.6 mN/m (410.9 °F (210.5 °C))
<b>VOC</b>	100 %

## 10. Stability and reactivity

<b>Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>Conditions to avoid</b>	Contact with incompatible materials.
<b>Incompatible materials</b>	Oxidizing agents. Reducing agents. Acids. Strong bases.
<b>Hazardous decomposition products</b>	Irritating and/or toxic fumes or gases. Emits toxic fumes under fire conditions.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	Knowledge about health hazard is incomplete.
<b>Skin contact</b>	Knowledge about health hazard is incomplete.
<b>Eye contact</b>	Causes eye irritation.
<b>Ingestion</b>	Harmful if swallowed.
<b>Symptoms related to the physical, chemical, and toxicological characteristics</b>	Irritation of eyes. Gastrointestinal disturbances. Frequent, painful, or difficult urination. Urinary retention. Agitation. Incoordination. Seizures. Muscle spasms.

### Information on toxicological effects

**Acute toxicity** Harmful if swallowed.

Product	Species	Test Results
Benzyl Benzoate (CAS 120-51-4)		
<b>Acute</b>		
<b>Dermal</b>		
LD50	Rabbit	4000 mg/kg
<b>Oral</b>		
LD50	Dog	> 22440 mg/kg
	Rat	1700 mg/kg

**Skin corrosion/irritation** Based on available data, the classification criteria are not met.

**Serious eye damage/eye irritation** Causes eye irritation.

## Local effects

Irritation test  
Result: Irritant.  
Species: Human  
Organ: Eye  
Irritation test  
Result: Non-irritant.  
Species: Rabbit  
Organ: Skin  
Irritation test  
Result: Slight: Erythema and edema mean score < 2.0.  
Species: Rabbit  
Organ: Skin  
Irritation test  
Result: Slight: conjunctival injection observed in 1 hour,  
resolved in 24 hours.  
Species: Rabbit  
Organ: Eye

## Respiratory or skin sensitization

**Respiratory sensitization** Knowledge about health hazard is incomplete.

**Skin sensitization** Knowledge about health hazard is incomplete.

Guinea pig maximization test  
Result: Not sensitizing.  
Human skin patch test  
Result: Generally negative.  
Local Lymph Node Assay  
Result: Negative.  
Species: Mouse

**Germ cell mutagenicity** Knowledge about mutagenicity is incomplete.

### Mutagenicity

Ames test (Salmonella typhimurium)  
Result: Negative  
Mutagenicity: Bacillus subtilis recombination assay.  
Result: Negative

**Carcinogenicity** Knowledge about carcinogenicity is incomplete.

### IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

### US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

**Reproductive toxicity** Based on available data, the classification criteria are not met.

### Reproductivity

Reproductivity and development studies, Retrospective study  
in women exposed to this material during pregnancy.  
Result: No difference from matched controls in pregnancy  
outcomes.  
Species: Human  
Reproductivity and development studies, administered as  
0.04% to 1.0% of diet during gestation.  
Result: No evidence of teratogenicity noted.  
Species: Rat

**Specific target organ toxicity -  
single exposure** Knowledge about health hazard is incomplete.

**Specific target organ toxicity -  
repeated exposure** Knowledge about health hazard is incomplete.

**Aspiration hazard** Knowledge about health hazard is incomplete.

## 12. Ecological information

**Ecotoxicity** Expected to be toxic to aquatic organisms. May cause long-term adverse effects in the environment.

Product	Species	Test Results
Benzyl Benzoate (CAS 120-51-4)		
<b>Aquatic</b>		
<i>Acute</i>		
Algae	EC50	Algae 0.475 mg/l, 72 hours
Crustacea	EC50	Daphnia magna 3.09 mg/l, 48 hours
	LC50	Scud (Gammarus fasciatus) 4.8 mg/l, 96 hours
Fish	LC50	Zebra danio (Danio rerio) 2.32 mg/l, 96 hours

**Persistence and degradability** Readily biodegradable.

**Bioaccumulative potential**

**Mobility in soil** No data available.

**Other adverse effects** The product contains volatile organic compounds which have a photochemical ozone creation potential.

### 13. Disposal considerations

**Disposal instructions** Dispose in accordance with all applicable regulations. Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste.

**Local disposal regulations** Dispose in accordance with all applicable regulations.

**Hazardous waste code** The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

**Waste from residues / unused products** Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

**Contaminated packaging** Since emptied containers may retain product residue, follow label warnings even after container is emptied.

### 14. Transport information

**DOT**

**UN number** UN3082

**UN proper shipping name** Environmentally hazardous substance, liquid, n.o.s. (Benzyl Benzoate)

**Transport hazard class(es)**

**Class** 9

**Subsidiary risk** -

**Packing group** III

**IATA**

**UN number** UN3082

**UN proper shipping name** Environmentally hazardous substance, liquid, n.o.s. (Benzyl Benzoate)

**Transport hazard class(es)**

**Class** 9

**Subsidiary risk** -

**Packing group** III

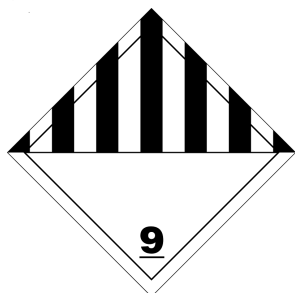
**Other information**

**Passenger and cargo aircraft** Allowed with restrictions.

**Cargo aircraft only** Allowed with restrictions.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not established.

DOT; IATA



**General information** It is the shipper's responsibility to determine the correct transport classification at the time of shipment.

## 15. Regulatory information

**US federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

Not listed.

**SARA 304 Emergency release notification**

Not regulated.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)**

Not regulated.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous chemical** Yes

**Classified hazard categories** Acute toxicity (any route of exposure)  
Serious eye damage or eye irritation

**SARA 313 (TRI reporting)**

Not regulated.

**Other federal regulations**

**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Not regulated.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.

**US state regulations**

**California Proposition 65**

California Safe Drinking Water and Toxic Enforcement Act of 2016 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

**International Inventories**

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

## 16. Other information, including date of preparation or last revision

**Issue date** 04-04-2005

**Revision date** 07-11-2019

**Version #** 05

**Disclaimer** USP Reference Standards are sold for chemical test and assay purposes only, and NOT for human consumption. The information contained herein is applicable solely to the chemical substance when used as a USP Reference Standard and does not necessarily relate to any other use of the substance described, (i.e. at different concentrations, in drug dosage forms, or in bulk quantities). USP Reference Standards are intended for use by persons having technical skill and at their own discretion and risk. This information has been developed by USP staff from sources considered reliable but has not been independently verified by the USP. Therefore, the USP Convention cannot guarantee the accuracy of the information in these sources nor should the statements contained herein be considered an official expression. NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE is made with respect to the information contained herein.