Butyl benzyl phthalate SDS/MSDS (Safety Data Sheet)

1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier

* Product Name: Butyl benzyl phthalate
* Catalog Number: S5822
* CAS Number: 85-68-7
* IUPAC Name: 1,2-Benzenedicarboxylic acid, 1-butyl 2-(phenylmethyl) ester

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):

Acute toxicity (oral): Category 5. H303
Skin irritation: Category 2. H315
Eye irritation: Category 2. H320
Specific target organ toxicity (single exposure): Category 3. H335
Germ cell mutagenicity: Category 2. H341
Reproductive toxicity: Category 1. H360
Not classified. H360D
Specific target organ toxicity (repeated exposure): Category 2. H373
Acute aquatic toxicity: Category 1. H400
Chronic aquatic toxicity: Category 1. H410
Chronic aquatic toxicity: Category 2. H411

2.2 GHS Label elements, including precautionary statements

Hazard Pictogram(s)



Signal Word Danger

Hazard statement(s)	H303: May be harmful if swallowed H315: Causes skin irritation H320: Causes eye irritation H335: May cause respiratory irritation H341: Suspected of causing genetic defects H360: May damage fertility or the unborn child H360D: May damage the unborn child H373: May causes damage to organs through prolonged or repeated exposure H400: Very toxic to aquatic life H410: Very toxic to aquatic life with long lasting effects H411: Toxic to aquatic life with long lasting effects
Precautionary statement(s)	None.
Prevention	P203: Obtain, read and follow all safety instructions before use. 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. P271: Use only outdoors or in a well-ventilated area. 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. P318: if exposed or concerned, get medical advice. P319: Get medical help if you feel unwell. P321: Specific treatment (see information on this label and safety datasheet)). P332+P317: If skin irritation 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. P391: Collect spillage.
Storage	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: Butyl benzyl phthalate

CAS Number: 85-68-7

PubChem CID: 2347

Molecular formula: C19H20O4

Molecular weight: 312.4 g/mol

IUPAC name: 2-O-benzyl 1-O-butyl benzene-1,2-dicarboxylate

3.2 Mixtures

Not applicable (pure substance).

4. FIRST-AID MEASURES

4.1 Description of first aid measures

Inhalation: Fresh air, rest.

Skin contact: Remove contaminated clothes. Rinse and then wash skin with water and soap.

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.

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

Excerpt from ERG Guide 171 [Substances (Low to Moderate Hazard)]:

CAUTION: Fire involving Safety devices (UN3268) and Fire suppressant dispersing devices (UN3559) may have a delayed activation and a risk of hazardous projectiles. Extinguish the fire at a safe distance.

SMALL FIRE: Dry chemical, CO2, water spray or regular foam.

LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high-pressure water streams. If it can be done safely, move undamaged containers away from the area around the fire. Dike runoff from fire control for later disposal.

FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks in direct contact with flames. (ERG, 2024)

Use alcohol-resistant foam, powder, carbon dioxide, water spray.

To fight fire, use spray or mist, carbon dioxide, dry chemical.

Water may cause frothing. Use dry chemical, carbon dioxide, or foam extinguishers.

From a secure, explosion-proof location, use water spray to cool exposed containers. If cooling streams are ineffective (venting sound increases in volume and pitch, tank discolors, or shows any signs of deforming), withdraw immediately to a secure position.

If material involved in fire: Extinguish fire using agent suitable for type of surrounding fire (Material itself does not burn or burns with difficulty.). Use dry chemical or carbon dioxide. Keep run-off water out of sewers and water sources.

For more Fire Fighting Procedures (Complete) data for BUTYL BENZYL PHTHALATE (7 total), please visit the HSDB record page.

Poisonous gases are produced in fire.

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: 390 °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.

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

Excerpt from ERG Guide 171 [Substances (Low to Moderate Hazard)]:

IMMEDIATE PRECAUTIONARY MEASURE: Isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.

SPILL: Increase the immediate precautionary measure distance, in the downwind direction, as necessary.

FIRE: If tank, rail tank car or highway tank is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2024)

Personal protection: filter respirator for organic gases and vapours adapted to the airborne concentration of the substance. Do NOT let this chemical enter the environment. 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.

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./

Environmental considerations-water spill: Use natural barriers or oil spill control booms to limit spill travel. Remove trapped material with suction hoses.

Environmental considerations-air spill: Apply water spray or mist to knock down vapors.

ACCIDENTAL RELEASE MEASURES Personal precautions, protective equipment and emergency procedures Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. For personal protection see section 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: 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 air, soil or water; effects on animal, aquatic and plant life; and conformance with environmental and public health regulations. If it is possible or reasonable use an alternative chemical product with less inherent propensity for occupational harm/injury/toxicity or environmental contamination.

Incineration: It should be atomized into an incinerator and combustion may be improved by mixing with a more flammable solvent (acetone or benzene).

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.

If material not involved in fire: Keep material out of water sources and sewers. Build dikes to contain flow as necessary.

Personnel protection: Keep upwind. Avoid breathing vapors.

SRP: Contaminated protective clothing should be segregated in a manner such that there is no direct personal contact by personnel who handle, dispose, or clean the clothing. The completeness of the cleaning procedures should be considered before the decontaminated protective clothing is returned for reuse by the workers. Contaminated clothing should not be taken home at the end of shift, but should remain at employee's place of work for cleaning.

For more Preventive Measures (Complete) data for BUTYL BENZYL PHTHALATE (8 total), please visit the HSDB record page.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Excerpt from ERG Guide 171 [Substances (Low to Moderate Hazard)]:

Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. For Asbestos, avoid inhalation of dust. Cover spill with plastic sheet or tarp to minimize spreading. Do not clean up or dispose of, except under supervision of a specialist.

SMALL DRY SPILL: With clean shovel, place material into clean, dry container and cover loosely; move containers from spill area.

SMALL SPILL: Pick up with sand or other non-combustible absorbent material and place into containers for later disposal.

LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2024)

Store in an area without drain or sewer access. Separated from strong oxidants.

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Storage class (TRGS 510): Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effects

Store in tightly closed containers in a cool, well-ventilated area away from incompatible materials. Metal containers involving the transfer of this chemical should be grounded and bonded. Drums must be equipped with self-closing valves, pressure vacuum bungs, and flame arresters. Use only nonsparkling tools and equipment, especially when opening and closing containers of this chemical. Sources of ignition such as smoking and open flames are

prohibited this chemical is used, handled, or stored in a manner that could create a potential fire or explosion hazard.

7.2 Conditions for safe storage, including any incompatibilities

Store in an area without drain or sewer access. Separated from strong oxidants.

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Storage class (TRGS 510): Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effects

Store in tightly closed containers in a cool, well-ventilated area away from incompatible materials. Metal containers involving the transfer of this chemical should be grounded and bonded. Drums must be equipped with self-closing valves, pressure vacuum bungs, and flame arresters. Use only nonsparkling tools and equipment, especially when opening and closing containers of this chemical. Sources of ignition such as smoking and open flames are prohibited this chemical is used, handled, or stored in a manner that could create a potential fire or explosion hazard.

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)

(inhalable fraction): 20 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

Use NIOSH-approved dust/mist respirator (N95 or higher) if ventilation is inadequate.

8.2.4 Thermal hazards

Not applicable.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a) Appearance: Butyl benzyl phthalate appears as a clear colorless liquid with a mild odor. Primary hazard is to the environment. Immediate steps should be taken to limit spread to the environment. Easily penetrates the soil to contaminate groundwater and nearby waterways.

b) Odor: Slight odor

c) Odor threshold: No data available
d) pH: No data available
e) Melting point/freezing point: less than -31 °F (NTP, 1992)
f) Initial boiling point and boiling range: 698 °F at 760 mmHg (NTP, 1992)
g) Flash point: 390 °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: 8.6e-06 mmHg at 68 °F ; 1.9 mmHg at 392 °F (NTP, 1992)
l) Vapor density: No data available
m) Relative density: 1.12 at 68 °F (USCG, 1999) - Denser than water; will sink
n) Water solubility: less than 0.1 mg/mL at 72.5 °F (NTP, 1992)
o) Partition coefficient: n-octanol/water: Log P (n-octanol/water): 4.9
p) Auto-ignition temperature: 451 °F (NTP, 1992)
q) Decomposition temperature: No data available
r) Viscosity: No data available
s) Explosive properties: No data available
t) Oxidizing properties: No data available

9.2 Other information

Topological Polar Surface Area (TPSA): 52.6 Å²
Complexity: 374

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

Incompatible with strong acids, nitrates, oxidizers.
Destructive to rubber and paint.
Strong oxidizing agents, Strong bases

10.6 Hazardous decomposition products

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

No data available.

Respiratory or skin sensitization:

No data available.

Germ cell mutagenicity:

Suspected of causing genetic defects (H341).

Carcinogenicity:

No data available.

Reproductive toxicity:

May damage fertility or the unborn child (H360).

Specific target organ toxicity (single exposure):

H373

Specific target organ toxicity (repeated exposure):

No data available.

Aspiration hazard:

No data available.

11.2 Additional information

Carcinogen classification:

Butyl benzyl phthalate

Group 2B: Possibly carcinogenic to humans

Volume Sup 7: Overall Evaluations of Carcinogenicity: An Updating of IARC Monographs Volumes 1 to 42, 1987; 440 pages; ISBN 92-832-1411-0 (out of print)

Volume 73: (1999) Some Chemicals that Cause Tumours of the Kidney or Urinary Bladder in Rodents and Some Other Substances

Volume 142

In prep.

2026

Butyl Benzyl Phthalate

TR-458: Toxicology and Carcinogenesis Studies of Butyl Benzyl Phthalate (CASRN 85-68-7) in F344 Rats (Feed Studi

Exposure routes:

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

Oral (L1208) ; inhalation (L1208) ; dermal (L1208)

Signs and symptoms of exposure:

Phthalate esters are endocrine disruptors and can cause a number of developmental malformations termed 'phthalate syndrome'. (A2883)

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

12. ECOLOGICAL INFORMATION

12.1 Toxicity

EC50; Species: Selenastrum capricornutum (alga); Concentration: 110 ug/L for 96 hr; toxic effect: chlorophyll a /Conditions of bioassay not specified in source examined/

EC50; Species: Selenastrum capricornutum (alga); Concentration: 130 ug/L for 96 hr; toxic effect: cell number /Conditions of bioassay not specified in source examined/

EC50; Species: Skeletonema costatum (alga); Concentration: 170 ug/L for 96 hr; toxic effect: chlorophyll a /Conditions of bioassay not specified in source examined/

EC50; Species: Skeletonema costatum (alga); Concentration: 190 ug/L for 96 hr; toxic effect: cell number /Conditions of bioassay not specified in source examined/

For more Ecotoxicity Values (Complete) data for BUTYL BENZYL PHTHALATE (42 total), please visit the HSDB record page.

/BIRDS and MAMMALS/ ... The effect of endocrine disrupting chemicals (EDCs) ... on 3,3',5-L-(125I)triiodothyronine ((125I)T3) binding to purified Japanese quail transthyretin (qTTR), a major thyroid hormone-binding protein in plasma, and to the ligand-binding domain of thyroid hormone receptor beta (qTR LBD). Scatchard plots of T3 binding to qTTR and qTR LBD revealed two classes of binding sites, with Kd values of 6.9 and 185 nM, and a single class of binding sites, with Kd value of 0.31 nM, respectively. ... Although ... n-butylbenzyl phthalate /was an effective inhibitor of (125I)T3 binding to qTTR, its/ potency was two orders of magnitude less than that of T3. All test chemicals except for diethylstilbes

12.2 Persistence and degradability

No data available.

12.3 Bioaccumulative potential

Log P (n-octanol/water): 4.9

Potential for bioaccumulation exists (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)

Class 9

DOT label: Class 9

14.4 Packing group

Packing group III

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 under REACH

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

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: 1,2-Benzenedicarboxylic acid, 1-butyl 2-(phenylmethyl) ester Specific Information Requirement: Obligations to provide information apply. These obligations are: 1. A person introducing this c

- California Safe Cosmetics Program (CSCP) Reportable Ingredient: Hazard Traits - Developmental Toxicity; Endocrine Toxicity; Hepatotoxicity and Digestive System Toxicity; Immunotoxicity; Neurotoxicity; Reproductive Toxicity; Respiratory Toxicity Authoritative List

- EFSA Legal Basis: Regulation (EC) No 178/2002 (amended)

- New Jersey Worker and Community Right to Know Act: The New Jersey Worker and Community Right to Know Act requires public and private employers to provide information about hazardous substances at their workplaces. (N.J.S.A. 34:5A-1 et. seq.)

- State Drinking Water Guidelines: (MN) MINNESOTA 100 ug/L

(FL) FLORIDA 140 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.