CATO Research Chemicals Inc.
3/F,Building B,No.179 BASIGO, Guangpu Rd East,Huangpu Dist,Guangzhou
Web: www.cato-chem.com
Tel: +86-20-81960175 Fax: +86-20-81717260 E-mail: info@cato-chem.com

SAFETY DATA SHEETS

According to the UN GHS revision 9

Version: 1.2
Creation Date: July 15, 2019
Revision Date: August 08, 2025

SECTION 1: Identification

1.1 GHS Product identifier

Product name Benzyl butyl phthalate

1.2 Other means of identification

Product number CPAE111702
Other names -

1.3 Recommended use of the chemical and restrictions on use

Identified uses For laboratory and Industrial use only.
Uses advised against no data available

1.4 Supplier's details

Company CATO Research Chemicals Inc.
Address 3/F,Building B,No.179 BASIGO, Guangpu Rd East,Huangpu Dist,Guangzhou
Telephone +86-20-81960175

1.5 Emergency phone number

Emergency phone number +86-20-81960175
Service hours 'Monday to Friday, 9am-5pm (Standard time zone: UTC/GMT +8 hours).

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

Hazardous to the aquatic environment, short-term (Acute) - Category Acute 1
Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 1
Reproductive toxicity, Category 1B

2.2 GHS label elements, including precautionary statements

Pictogram(s)



Signal word Danger
Hazard statement(s) H410 Very toxic to aquatic life with long lasting effects
Precautionary statement(s)
Prevention P273 Avoid release to the environment.
P203 Obtain, read and follow all safety instructions before use.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...
Response P391 Collect spillage.
P318 IF exposed or concerned, get medical advice.
Storage P405 Store locked up.
Disposal P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

2.3 Other hazards which do not result in classification

no data available

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
Benzyl butyl phthalate	Benzyl butyl phthalate	85-68-7	201-622-7	100%

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

If inhaled

Fresh air, rest.

Following skin contact

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

Following eye contact

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

Following ingestion

Rinse mouth.

4.2 Most important symptoms/effects, acute and delayed

Prolonged contact with liquid causes some irritation of eyes and skin. (USCG, 1999)

4.3 Indication of immediate medical attention and special treatment needed, if necessary

Immediate first aid: Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand-valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR as necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Obtain medical attention. Esters and related compounds

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media

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

5.2 Specific hazards arising from the chemical

Special Hazards of Combustion Products: Irritating vapors of unburned chemical may form in fires. (USCG, 1999)

5.3 Special protective actions for fire-fighters

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

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

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.

6.2 Environmental precautions

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.

6.3 Methods and materials for containment and cleaning up

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.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

NO open flames. Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

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

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure limit values

MAK: (inhalable fraction): 20 mg/m3; peak limitation category: II(2); pregnancy risk group: C

Biological limit values

no data available

8.2 Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Wear safety spectacles.

Skin protection

Protective gloves.

Respiratory protection

Use ventilation, local exhaust or breathing protection.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties and safety characteristics

Physical state	Liquid. Oily liquid.
Colour	Colourless.
Odour	Slight odor
Melting point/freezing point	< -35 °C. Remarks:No further information given, so decomposition and sublimation data unknown.
Boiling point or initial boiling point and boiling range	370 °C. Remarks:No further information, standard parameters assumed.
Flammability	Combustible. Gives off irritating or toxic fumes (or gases) in a fire.
Lower and upper explosion limit/flammability limit	no data available
Flash point	198 °C. Atm. press.:101.3 kPa.
Auto-ignition temperature	425 °C. Remarks:No further information available.
Decomposition temperature	no data available
pH	no data available
Kinematic viscosity	dynamic viscosity (in mPa s) = 42. Temperature:25.0°C.
Solubility	less than 0.1 mg/mL at 72.5° F (NTP, 1992)
Partition coefficient n-octanol/water	log Pow = 4.91. Temperature:20 °C. Remarks:No pH given.
Vapour pressure	1.1 Pa. Temperature:25 °C.
Density and/or relative density	1.119 g/cm³. Temperature:25 °C.
Relative vapour density	10.8 (vs air)
Particle characteristics	no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

Decomposes on burning. This produces toxic fumes. Reacts with oxidants.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

CombustibleBUTYL BENZYL PHTHALATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. Can generate electrostatic charges. [Handling Chemicals Safely 1980. p. 250].

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

Incompatible with strong acids, nitrates, oxidizers.

10.6 Hazardous decomposition products

When heated to decomposition, it emits acrid smoke and irritating fumes.

SECTION 11: Toxicological information

Acute toxicity

- Oral: LD50 - rat (male/female) - 2 330 mg/kg bw.
- Inhalation: No significant adverse effects reported - rat (male) - saturated atmosphere.
- Dermal: LD50 - rabbit (male/female) - > 10 000 mg/kg bw.

Skin corrosion/irritation

no data available

Serious eye damage/irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

CLASSIFICATION: C; possible human carcinogen. BASIS FOR CLASSIFICATION: Based on statistically significant increase in mononuclear cell leukemia in female rats; the response in male rats was inconclusive and there was no such response in mice. HUMAN CARCINOGENICITY DATA: None. ANIMAL CARCINOGENICITY DATA: Limited.

Reproductive toxicity

no data available

STOT-single exposure

no data available

STOT-repeated exposure

Animal tests show that this substance possibly causes toxicity to human reproduction or development.

Aspiration hazard

Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly on spraying.

SECTION 12: Ecological information

12.1 Toxicity

- Toxicity to fish: LC50 - Cymatogaster aggregata - 0.51 mg/L - 96 h.
- Toxicity to daphnia and other aquatic invertebrates: LC50 - Americamysis bahia (previous name: Mysidopsis bahia) - > 3 ppm - 24 h.
- Toxicity to algae: EC50 - Desmodesmus subspicatus (previous name: Scenedesmus subspicatus) - 1.5 mg/L - 72 h.
- Toxicity to microorganisms: no data available

12.2 Persistence and degradability

AEROBIC: Butyl benzyl phthalate was degraded 74-79% in 10-50 days at 25 deg C from an initial concentration of 100 mg/L, using 30 mg/L activated sludge(1). Butyl benzyl phthalate was completely biodegraded in Rhine River water over a 6 day incubation period(2). Butyl benzyl phthalate incubated in a lake water/sediment microcosm biodegraded to intermediates with a half-life of 5 days and was completely biodegraded with a half-life of about 13 days, when incubated in river water a half-life of 2 days was reported for the degradation to intermediates(3). Butyl benzyl phthalate was biodegraded 93 and >99% using a semi-continuous activated sludge with starting concentrations of 3.3 and 133.3 mg/L, respectively(4). Butyl benzyl phthalate had half-lives of 1.5 and 0.32 days in river die-away tests with a starting concentration of 1 mg/L and 1 ug/L, and a half-life of 1.4 days using a lake microcosm(5). Butyl benzyl phthalate, at a concentration of 20 ppm, digested for 28 days had 87% degradation(6). Using a fresh water inoculum, butyl benzyl phthalate was degraded 100% in 7 days from a starting concentration of 1 ppm(6). Butyl benzyl phthalate, present at 100 mg/L, reached 80.9% of its theoretical BOD in 2 weeks using an activated sludge inoculum at 30 mg/L in the Japanese MITI test(7).

12.3 Bioaccumulative potential

Bluegill sunfish (Lepomis macrochirus) exposed to 9.73 ug/L of C14 labeled butyl benzyl phthalate for 21 days had a measured BCF values of 663 and 772(1). However, these studies used total radioactive residues in whole fish to calculate the BCF; the metabolism of butyl benzyl phthalate in the fish was not considered(1). Bluegill sunfish exposed to uniformly ring labeled butyl benzyl phthalate for 3.27 days had a BCF of 9.4(1). According to a classification scheme(2), BCF values of zero to 30 are low and from 100 to 1,000 are high. Biota-sediment accumulation factors for butyl benzyl phthalate were 4.3, 4.6 and 2.8 in roach (Rutilus rutilus), chub (Leuciscus cephalus) and perch (Perca fluviatilis), respectively; fish were collected from the Orge River, France from Jul 2009 to Apr 2010(3). BCFs of 0.13-45 were reported for butyl benzyl phthalate in water spinach (Ipomoea aquatica) grown under different conditions on sludge from waste water treatment plants in China(4).

12.4 Mobility in soil

A log Koc value of 3.3 was measured from unsaturated soil columns at pH 4.8(1). Other experimental log Koc values given are 3.21(2) and 3.997(3). According to a classification scheme(4), these Koc values suggest that butyl benzyl phthalate is expected to have low to no mobility in soil. An experimental log Koc of >4.7 was determined from sediment samples from Lake Yssel, the Netherlands(5).

12.5 Other adverse effects

no data available

SECTION 13: Disposal considerations

13.1 Disposal methods

Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

SECTION 14: Transport information

14.1 UN Number

ADR/RID: UN3082 (For reference only, please check.) IMDG: UN3082 (For reference only, please check.) IATA: UN3082 (For reference only, please check.)

14.2 UN Proper Shipping Name

ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (For reference only, please check.) IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (For reference only, please check.) IATA: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (For reference only, please check.)

14.3 Transport hazard class(es)

ADR/RID: 9 (For reference only, please check.) IMDG: 9 (For reference only, please check.) IATA: 9 (For reference only, please check.)

14.4 Packing group, if applicable

ADR/RID: III (For reference only, please check.) IMDG: III (For reference only, please check.) IATA: III (For reference only, please check.)

14.5 Environmental hazards

ADR/RID: Yes IMDG: Yes IATA: Yes

14.6 Special precautions for user

no data available

14.7 Transport in bulk according to IMO instruments

no data available

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and synonyms	CAS number	EC number
Benzyl butyl phthalate	Benzyl butyl phthalate	85-68-7	201-622-7
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
China Catalog of Hazardous chemicals 2015			Not Listed.
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed.
Korea Existing Chemicals List (KECL)			Listed.

SECTION 16: Other information

Information on revision

Creation Date	July 15, 2019
Revision Date	August 08, 2025

Abbreviations and acronyms

- CAS: Chemical Abstracts Service

- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

References

- IPCS - The International Chemical Safety Cards (ICSC), website: http://www.ilo.org/dyn/icsc/showcard.home
- HSDB - Hazardous Substances Data Bank, website: https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm
- IARC - International Agency for Research on Cancer, website: http://www.iarc.fr/
- eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en
- CAMEO Chemicals, website: http://cameochemicals.noaa.gov/search/simple
- ChemIDplus, website: http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp
- ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: http://www.phmsa.dot.gov/hazmat/library/erg
- Germany GESTIS-database on hazard substance, website: http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp
- ECHA - European Chemicals Agency, website: https://echa.europa.eu/

Any questions regarding this SDS, Please send your inquiry to info@cato-chem.com

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