



SIGMA-ALDRICH

Material Safety Data Sheet

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Version 1.30

Section 1 - Product and Company Information

Product Name Benzyl butyl phthalate, 98%
Product Number 308501
Brand Aldrich Chemical

Company Sigma-Aldrich
Street Address 3050 Spruce Street
City, State, Zip, Country SAINT LOUIS, MO 63103 US
Technical Phone: 800-325-5832
Fax: 800-325-5052

Emergency Phone: 314-776-6555

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313	EC no	Annex I Index Number
BENZYL BUTYL PHTHALATE	85-68-7	Yes	201-622-7	607-430-00-3

Formula C19H20O4
Synonyms A13-14777, BBP, 1,2-Benzenedicarboxylic acid, butyl phenylmethyl ester, Benzylbutylester kyseliny ftalove (Czech), Benzyl butyl phthalate, Benzyl nbutyl phthalate, Butyl benzyl phthalate, nButyl benzyl phthalate, Butyl phenylmethyl 1,2-benzenedicarboxylate, NCI-C54375, Palatinol BB, Santicizer 160, Sicol 160, Unimoll BBBBP

Section 3 - Hazards Identification

Emergency Overview
 Toxic. Dangerous for the environment. May cause harm to the unborn child. Possible risk of impaired fertility. Very toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment. Possible Carcinogen (US), Liver, Pancreas.

HMS Rating
 Health: 1* Flammability: 1 Reactivity: 0

NFPA Rating
 Health: 1 Flammability: 1 Reactivity: 0

*additional chronic hazards present.
 For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

Oral Exposure
 If swallowed, wash out mouth with water provided person is conscious. Call physician immediately.

Inhalation Exposure
 If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

Dermal Exposure
 In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

Eye Exposure
 In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

Flash Point: 235 °F 113 °C

Autoignition Temp: 232 °C

Extinguishing Media Suitable
 Water spray, Carbon dioxide, dry chemical powder, or appropriate foam.

Firefighting Protective Equipment
 Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Specific Hazard(s)
 Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

Procedure to be Followed in Case of Leak or Spill
 Evacuate area.

Procedure(s) of Personal Precaution(s)
 Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves. Wear disposable coveralls and discard them after use.

Methods for Cleaning Up
 Cover with dry lime or soda ash, pick up, keep in a closed container, and hold for waste disposal. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

Handling User Exposure
 Do not breathe vapor. Do not breathe mist. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

Storage Suitable
 Keep tightly closed.

Section 8 - Exposure Controls / PPE

Engineering Controls
 Use only in a chemical fume hood, Safety shower and eye bath.

Personal Protective Equipment Respiratory
 Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate, use a fullface respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a fullface supplied air respirator.

Hand
 Compatible chemical-resistant gloves.

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Eye

Chemical safety goggles.

General Hygiene Measures

Wash contaminated clothing before reuse. Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties**Appearance****Physical State**

Liquid

Molecular Weight 312.37 AMU**pH** N/A**BP/BP Range** N/A**MP/MP Range** N/A**Freezing Point** N/A**Vapor Pressure** 0.16 mmHg 150 °C**Vapor Density** 10.8 g/l**Saturated Vapor Conc.** N/A**SG/Density** 1.1 g/cm³**Bulk Density** N/A**Odor Threshold** N/A**Volatile%** N/A**VOC Content** N/A**Water Content** N/A**Solvent Content** N/A**Evaporation Rate** N/A**Viscosity** N/A**Partition Coefficient** N/A**Decomposition Temp.** N/A**Flash Point °F** 235 °F**Flash Point °C** 113 °C

Method: closed cup

Method: closed cup

Explosion Limits N/A**Flammability** N/A**Autoignition Temp** 232 °C**Refractive Index** 1.54**Solubility** N/A

N/A = not available

Section 10 - Stability and Reactivity**Stability****Stable**

Stable.

Materials to Avoid

Strong oxidizing agents, Strong bases

Hazardous Decomposition Products**Hazardous Decomposition Products**

Carbon monoxide, Carbon dioxide

Hazardous Polymerization**Hazardous Polymerization**

Will not occur.

Section 11 - Toxicological Information**Route of Exposure****Skin Contact**

May cause skin irritation.

Skin Absorption

May be harmful if absorbed through the skin.

Eye Contact

May cause eye irritation.

Inhalation

May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.

Ingestion

May be harmful if swallowed.

Target Organ(s) or System(s)

Liver, Pancreas.

RTECS Number: TH9990000**Toxicity Data**

Oral - Rat: 2330 mg/kg (LD50)

Skin - Rat: 6700 mg/kg (LD50)

Oral - Mouse: 4170 mg/kg (LD50)

Skin - Mouse: 6700 mg/kg (LD50)

Intraperitoneal - Mouse: 3160 MG/KG (LD50)

Skin - Rabbit: > 10000 mg/kg (LD50)

Oral - Guinea pig: 13750 mg/kg (LD50)

Remarks: Behavioral: Somnolence (general depressed activity).

Behavioral: Withdrawal.

Nutritional and Gross Metabolic: Weight loss or decreased weight gain.

Chronic Exposure - Carcinogen

Result: This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or EPA classification.

Rat - Oral: 433 GM/KG 2Y C

Result: Tumorigenic: Carcinogenic by RTECS criteria. Blood: Leukemia Blood: Lymphomas including Hodgkin's disease.

Rat - Oral: 437 GM/KG 2Y C

Result: Tumorigenic: Carcinogenic by RTECS criteria. Blood: Leukemia

Rat - Oral: 364 GM/KG 2Y C

Result: Tumorigenic: Carcinogenic by RTECS criteria. Gastrointestinal: Tumors.

IARC Carcinogen List**Rating**

Group 3

NTP Carcinogen List

<u>Rating</u>	<u>Species</u>	<u>Route</u>
Clear evidence.	Rat	Feed
Some evidence.	Rat	Feed
No evidence.	Mouse	Feed

IRIS/EPA Carcinogen List

Rating
Group C

Chronic Exposure- Teratogen

<u>Species</u>	<u>Dose</u>	<u>Route of Application</u>	<u>Exposure Time</u>
Rat	16400 MG/KG	Oral	(6-15D PREG)

Result: May cause congenital malformation in the fetus.
 Result: Effects on Embryo or Fetus: Other effects to embryo.
 Specific Developmental Abnormalities: Musculoskeletal system.

Chronic Exposure- Mutagen

<u>Species</u>	<u>Dose</u>	<u>Cell Type</u>	<u>Mutation test</u>
Hamster	2 MG/L	Embryo	Morphological transformation.

Chronic Exposure- Reproductive Hazard

<u>Species</u>	<u>Dose</u>	<u>Route of Application</u>	<u>Exposure Time</u>
Rat	21 GM/KG	Oral	(14D MALE)
Rat	16400 MG/KG	Oral	(6-15D PREG)
Rat	4900 MG/KG	Oral	(1-7D PREG)
Rat	154 GM/KG	Oral	(10W MALE)
Rat	4500 MG/KG	Oral	(0-8D PREG)
Rat	1500 MG/KG	Oral	(6D PREG)
Mouse	9100 MG/KG	Oral	(6-15D PREG)
Mouse	23300 MG/KG	Oral	(6-15D PREG)

Result: Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.
 Result: Paternal Effects: Testes, epididymis, sperm duct Paternal Effects: Prostate, seminal vesicle, Cowper's gland, accessory glands.
 Result: Maternal Effects: Uterus, cervix, vagina. Maternal Effects: Other effects. Effects on Embryo or Fetus: Fetal death.
 Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants). Specific Developmental Abnormalities: Craniofacia (including nose and tongue). Specific Developmental Abnormalities: Musculoskeletal system.
 Result: Paternal Effects: Spermatogenesis (including genetic material, sperm morphology, motility, and count) Paternal Effects: Testes, epididymis, sperm duct Effects on Fertility: Male fertility index (e.g., # males impregnating females per # males exposed to fertile nonpregnant females).
 Result: Maternal Effects: Other effects. Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).
 Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants). Effects on Fertility: Litter size (e.g., # fetuses per litter; measured before birth) Effects on Embryo or Fetus: Other effects to embryo.
 Result: Maternal Effects: Other effects.

Section 12 - Ecological Information**Acute Ecotoxicity Tests**

Test Type
LC50 Fish
Species
Lepomis macrochirus (Bluegill)
Time: 96.0 h
Value: 1.7 mg/l

Test Type
EC50 Daphnia
Species
Daphnia magna
Time: 48.0 h
Value: 1.7 mg/l

Elimination

<u>Method</u>	<u>Classification</u>
Biotic/Aerobic	Substantially biodegradable.
Elimination: 88 %	

Additional Results/Data from Relevant Scientific Experiments

Avoid contamination of the environment

Section 13 - Disposal Considerations**Appropriate Method of Disposal of Substance or Preparation**

Contact a licensed professional waste disposal service to dispose of this material. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information**DOT**

Proper Shipping Name: Environmentally hazardous substances, liquid, n.o.s.
UN#: 3082
Class: 9
Packing Group: Packing Group III
Hazard Label: Class 9
PIH: Not PIH

IATA

Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s.
IATA UN Number: 3082
Hazard Class: 9
Packing Group: III

Section 15 - Regulatory Information**EU Directives Classification**

Symbol of Danger: T N

Indication of Danger

Toxic. Dangerous for the environment.

Risk Statements R: 61 62 50/53

May cause harm to the unborn child. Possible risk of impaired fertility. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Statements S: 53 45 60 61

Restricted to professional users. Attention- Avoid exposure - obtain special instructions before use. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/safety data sheets.

US Classification and Label Text**Indication of Danger**

Toxic. Dangerous for the environment.

Risk Statements

May cause harm to the unborn child. Possible risk of impaired fertility. Very toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Safety Statements

Restricted to professional users. Attention- Avoid exposure - obtain special instructions before use. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/safety data sheets.

US Statements

Possible Carcinogen (US) Liver, Pancreas.

United States Regulatory Information

SARA Listed: Yes

Deminimis: 1 %

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Notes: This product is subject to SARA section 313 reporting requirements.

TSCA Inventory Item: Yes

Canada Regulatory Information

WHMIS Classification

This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: Yes

NDSL: No

Section 16 - Other Information

Disclaimer

For R&D use only. Not for drug, household or other uses.

Warranty

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. SigmaAldrich Inc. shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2008 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.