

SAFETY DATA SHEET

Version 8.12 Revision Date 08/29/2025 Print Date 08/30/2025

SECTION 1. IDENTIFICATION

1.1 Product identifiers

Product name : Benzyl butyl phthalate

Product Number : 42438

Brand : Sigma-Aldrich Index-No. : 607-430-00-3 CAS-No. : 85-68-7

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Synthesis of substances

Uses advised against : The product is being supplied under the TSCA R&D Exemption

(40 CFR Section 720.36). It is the recipient's responsibility to comply with the requirements of the R&D exemption. The product may not be used for a non-exempt commercial purpose

under TSCA unless appropriate consent is granted in writing by

MilliporeSigma.

1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich Inc.

3050 SPRUCE ST ST. LOUIS MO 63103 UNITED STATES

Telephone : +1 314 771-5765 Fax : +1 800 325-5052

1.4 Emergency telephone number

Emergency Phone # : 800-424-9300 CHEMTREC (USA) +1-703-

527-3887 CHEMTREC (International) 24

Hours/day; 7 Days/week

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Hazards for the product as supplied

Reproductive toxicity : Category 1B

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Short-term (acute) aquatic hazard

: Category 1

Long-term (chronic) aquatic hazard

: Category 1

Other hazards

None known.

GHS label elements

Hazard pictograms





Signal Word : Danger

Hazard Statements : H360 May damage fertility or the unborn child.

H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have

been read and understood.

P273 Avoid release to the environment.

P280 Wear protective gloves/ protective clothing/ eye

protection/ face protection.

Response:

P308 + P313 IF exposed or concerned: Get medical

advice/ attention. P391 Collect spillage.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved

waste disposal plant.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

Components

| Chemical name | CAS No./Unique ID | Concentration (% w/w) | Trade secret |
|------------------------|----------------------|-----------------------|-----------------|
| Benzyl butyl phthalate | 85-68-7* | >= 80 - <= 100 | TSC |

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* Indicates that the identifier is a CAS No.

TSC- the actual concentration or concentration range is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

General advice : Show this safety data sheet to the doctor in

attendance.

If inhaled : After inhalation: fresh air. Call in physician.

In case of skin contact : In case of skin contact: Take off immediately all

contaminated clothing. Rinse skin with water/ shower.

Consult a physician.

In case of eye contact : After eye contact: rinse out with plenty of water.

Call in ophthalmologist. Remove contact lenses.

If swallowed : After swallowing: immediately make victim drink

water (two glasses at most).

Consult a physician.

Most important

symptoms and effects, both acute and delayed

: The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in

section 11

Protection of first-aiders : For personal protection see section 8.

Notes to physician : No data available

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing

media

: Water Foam

Carbon dioxide (CO2)

Dry powder

Unsuitable extinguishing

media

: For this substance/mixture no limitations of

extinguishing agents are given.

Specific hazards during

fire fighting

: Combustible.

Vapours are heavier than air and may spread along

floors.

Forms explosive mixtures with air on intense heating.

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Development of hazardous combustion gases or vapours possible in the event of fire.

Hazardous combustion

products

: Carbon oxides

Specific extinguishing

methods

: No data available

Further information

: Prevent fire extinguishing water from contaminating

surface water or the ground water system.

Special protective equipment for fire-

fighters

: Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Advice for non-emergency personnel: Do not breathe vapours, aerosols.

Avoid substance contact.
Ensure adequate ventilation.

Evacuate the danger area, observe emergency

procedures, consult an expert. Advice for emergency responders: For personal protection see section 8.

Environmental precautions

: Do not let product enter drains.

Methods and materials for containment and

cleaning up

Cover drains. Collect, bind, and pump off spills.Observe possible material restrictions (see sections 7

and 10).

Take up carefully with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected

area.

SECTION 7. HANDLING AND STORAGE

For precautions see section 2.2.

Advice on safe handling : Work under hood. Do not inhale substance/mixture.

Avoid generation of vapours/aerosols.

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Further information on

storage conditions

: Tightly closed.

Keep in a well-ventilated place.

Keep locked up or in an area accessible only to

qualified or authorised persons.

Storage class : 6.1C, Combustible, acute toxic Cat.3 / toxic

compounds or compounds which causing chronic

effects

Recommended storage

temperature

: 59 - 77 °F / 15 - 25 °C

Further information on

storage stability

: Moisture sensitive. Store under inert gas.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

Engineering measures : No data available

Personal protective equipment

Respiratory protection : required when vapours/aerosols are generated.

Our recommendations on filtering respiratory

protection are based on the following standards: DIN

EN 143, DIN 14387 and other accompanying

standards relating to the used respiratory protection

system.

Recommended Filter

type:

: Filter type ABEK

The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Hand protection

Material : Nitrile rubber
Break through time : 480 min
Glove thickness : 0.4 mm
Protective index : Full contact

Manufacturer : Camatril® (KCL 730 / Aldrich Z677442, Size M)

Material : Nature latex/chloroprene

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Break through time : 30 min Glove thickness : 0.6 mm

Protective index : Splash contact

Manufacturer : Lapren® (KCL 706 / Aldrich Z677558, Size M)

Manufacturer : data source: KCL GmbH, D-36124 Eichenzell, phone

+49 (0)6659 87300, e-mail sales@kcl.de, test

method: EN374

Remarks : Handle with gloves. Gloves must be inspected prior to

use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good

laboratory practices. Wash and dry hands.

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer

familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Eye protection : Use equipment for eye protection tested and

approved under appropriate government standards

such as NIOSH (US) or EN 166(EU).

Safety glasses

Skin and body protection : protective clothing

Hygiene measures : Immediately change contaminated clothing. Apply

preventive skin protection. Wash hands and face

after working with substance.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : oily, liquid

Color : colourless

Odor : odourless

Odor Threshold : Not applicable

pH : $< 7 (68 \, ^{\circ}\text{F} / 20 \, ^{\circ}\text{C})$

Melting point/freezing : $< -31 \, ^{\circ}\text{F} / < -35 \, ^{\circ}\text{C}$

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Boiling point/boiling range : 455 - 491 °F / 235 - 255 °C (13 hPa)

Flash point : 235.4 °F / 113.0 °C

Method: closed cup

Evaporation rate : No data available

Flammability (solid, gas) : No data available

Flammability (liquids) : No data available

Burning rate : No data available

Self-ignition : 449.6 °F / 232.0 °C

Upper explosion limit / Upper flammability limit

: No data available

Lower explosion limit / : Lower explosion limit

Lower flammability limit 1.2 %(V)

Vapor pressure : 19.2 hPa (482.0 °F / 250.0 °C)

0.3 hPa (302.0 °F / 150.0 °C)

Relative vapour density : No data available

Relative density : No data available

Density : 1.10 g/cm3

Solubility(ies)

Water solubility : 0.00269 g/l slightly soluble (77 °F / 25 °C)

Method: OECD Test Guideline 105

Partition coefficient: n-

octanol/water

: log Pow: 4.91 (68 °F / 20 °C)

Method: OECD Test Guideline 107 Potential bioaccumulation

Autoignition temperature : 450 °F / 232 °C

Decomposition : No

temperature

: No data available

Viscosity

Viscosity, dynamic : 42 mPa.s (77 °F / 25 °C)

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Viscosity, kinematic : No data available

Flow time : No data available

Explosive properties : Not classified as explosive.

Oxidizing properties : none

Molecular weight : 312.37 g/mol

Particle characteristics

Particle size : No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Forms explosive mixtures with air on intense heating.

A range from approx. 15 Kelvin below the flash point

is to be rated as critical.

: The product is chemically stable under standard Chemical stability

ambient conditions (room temperature) .

Possibility of hazardous

reactions

: Violent reactions possible with:

Strong oxidizing agents

Strong bases

Conditions to avoid : Strong heating.

: No data available Incompatible materials

products

Hazardous decomposition : In the event of fire: see section 5

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - male and female - 2,330 mg/kg

(OECD Test Guideline 401) Inhalation: No data available

LD50 Dermal - Rabbit - > 10,000 mg/kg

Remarks: (RTECS)

Skin corrosion/irritation

Skin - In vitro study Result: No skin irritation

Remarks: (ECHA)

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Serious eye damage/eye irritation

Eyes - Rabbit

Result: No eye irritation - 24 h

Remarks: (ECHA)

Respiratory or skin sensitization

Sensitisation test: - Guinea pig

Result: negative Remarks: (ECHA)

Germ cell mutagenicity

Test Type: Ames test

Test system: S. typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Test system: mouse lymphoma cells

Metabolic activation: with and without metabolic activation

Method: US-EPA Result: negative

Test Type: Chromosome aberration test in vitro Test system: Chinese hamster ovary cells

Metabolic activation: with and without metabolic activation

Method: US-EPA Result: negative

Test Type: sister chromatid exchange assay Test system: Chinese hamster ovary cells

Metabolic activation: with and without metabolic activation

Method: US-EPA Result: negative

Test Type: In vitro mammalian cell gene mutation test

Test system: mouse lymphoma cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

Test Type: Chromosome aberration test

Species: Mouse

Cell type: Bone marrow

Application Route: Intraperitoneal

Method: US-EPA

Result: Positive results were obtained in some in vivo tests.

Test Type: sister chromatid exchange assay

Species: Mouse

Cell type: Bone marrow

Application Route: Intraperitoneal

Method: US-EPA Result: positive

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is

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identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No component of this product present at levels greater than or equal to 0.1% is

identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is

on OSHA's list of regulated carcinogens.

Reproductive toxicity

May damage the unborn child. Suspected of damaging fertility.

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

11.2 Additional Information

Repeated dose toxicity - Rat - male - Oral - 104 Weeks - No observed adverse effect level - 240 mg/kg

RTECS: TH9990000

May cause endocrine disruption.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

This substance should be handled with particular care.

pancreas -

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Benzyl butyl phthalate:

Toxicity to fish : LC50 (Fish): 0.51 mg/l

End point: mortality Exposure time: 96 h

Test Type: flow-through test Analytical monitoring: yes

Remarks: (ECHA)

Toxicity to daphnia and

other aquatic invertebrates

: LC50 (Americamysis bahia (Mysid)): > 0.74 mg/l

Exposure time: 48 h

Test Type: flow-through test Analytical monitoring: yes

Method: US-EPA

GLP: yes

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Toxicity to algae/aquatic

plants

: ErC50 (Desmodesmus subspicatus (green algae)): 1.5

mg/l

Exposure time: 72 h
Test Type: static test
Analytical monitoring: yes

Method: OECD Test Guideline 201

GLP: yes

M-Factor (Acute aquatic

toxicity)

: 1

Toxicity to fish (Chronic

toxicity)

: NOEC (Pimephales promelas (fathead minnow)):

0.064 - 0.067 mg/l

Exposure time: 126 Days Test Type: flow-through test Analytical monitoring: yes

Method: US-EPA

GLP: yes

Toxicity to daphnia and

other aquatic

invertebrates (Chronic

toxicity)

: NOEC (Daphnia magna (Water flea)): 0.28 mg/l

End point: reproduction rate

Exposure time: 21 d

Test Type: flow-through test Analytical monitoring: yes

Remarks: (ECHA)

Ecotoxicology Assessment

Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

Persistence and degradability

Components:

Benzyl butyl phthalate:

Biodegradability : aerobic

Inoculum: activated sludge Concentration: 100 mg/l Result: Readily biodegradable.

Biodegradation: 81 % Exposure time: 14 d

Method: OECD Test Guideline 301C

Bioaccumulative potential

Components:

Benzyl butyl phthalate:

Bioaccumulation : Species: Lepomis macrochirus

Bioconcentration factor (BCF): 9.4

Exposure time: 3.27 Days Temperature: 72 °F / 22 °C

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MilliPORE

Method: OECD Test Guideline 305

Partition coefficient: n-

octanol/water

: log Pow: 4.91 (68 °F / 20 °C) Method: OECD Test Guideline 107 Remarks: Potential bioaccumulation

Mobility in soil

No data available

Other adverse effects

Product:

Ozone-Depletion Potential: Regulation: 40 CFR Protection of Environment; Part

82 Protection of Stratospheric Ozone - CAA Section

602 Class I Substances

Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR

82, Subpt. A, App.A + B).

Components:

Benzyl butyl phthalate:

Additional ecological

information

: Avoid release to the environment.

Discharge into the environment must be avoided.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Waste material must be disposed of in accordance

with the national and local regulations. Leave

chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product

itself.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

UN/ID No. : UN 3082

Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.

(Benzyl butyl phthalate)

Class : 9 Packing group : III

Labels : Class 9 - Miscellaneous dangerous substances and

articles

Packing instruction (cargo: 964

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aircraft)

Packing instruction : 964

(passenger aircraft)

IMDG-Code

UN number : UN 3082

Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE,

LIQUID, N.O.S.

(Benzyl butyl phthalate)

Class : 9
Packing group : III
Labels : 9
EmS Code : F-A, S-F
Marine pollutant : yes

Transport in bulk according to IMO instruments

Not applicable for product as supplied.

National Regulations

49 CFR Road

UN/ID/NA number : UN 3082

Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.

(Benzyl butyl phthalate)

Class : 9 Packing group : III

Labels : Class 9 - Miscellaneous dangerous substances and

articles

ERG Code : 171 Marine pollutant : yes

Poison Inhalation Hazard : No

Special precautions for user

Remarks : EHS-Mark required (ADR 2.2.9.1.10, IMDG code

2.10.3) for single packagings and combination packagings containing inner packagings with

Dangerous Goods > 5L for liquids or > 5kg for solids.

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

CERCLA Reportable Quantity

| Components | CAS-No. | Component | Calculated product |
|------------------------|---------|-----------|--------------------|
| | | RQ (lbs) | RQ (lbs) |
| Benzyl butyl phthalate | 85-68-7 | 100 | 100 |

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

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SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 : Chronic Health Hazard

Hazards

SARA 313 : 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.

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B). This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product contains the following toxic pollutants listed under the U.S. Clean Water Act Section 307

Benzyl butyl phthalate 85-68-7 >= 90 - <= 100 %

This product contains the following priority pollutants related to the U.S. Clean Water Act:

Benzyl butyl phthalate 85-68-7 >= 90 - <= 100 %

US State Regulations

Massachusetts Right To Know

Benzyl butyl phthalate 85-68-7

Pennsylvania Right To Know

Benzyl butyl phthalate 85-68-7

Maine Chemicals of High Concern

Product does not contain any listed chemicals

Vermont Chemicals of High Concern

Benzyl butyl phthalate 85-68-7

Washington Chemicals of High Concern

Benzyl butyl phthalate 85-68-7

California Prop. 65

WARNING: This product can expose you to chemicals including Benzyl butyl phthalate, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

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The components of this product are reported in the following inventories:

TSCA : All substances listed as active on the TSCA inventory

TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN -Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx -Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonised System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA -International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO -International Maritime Organisation; ISHL - Industrial Safety and Health Law (Japan); ISO -International Organisation for Standardisation; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organisation for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA -Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Decomposition Temperature; SARA - Superfund Amendments Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

The information is believed to be correct but is not exhaustive and will be used solely as a guideline, which is based on current knowledge of the chemical substance or mixture and is Sigma-Aldrich - 42438

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