

Chemical Safety Data Sheet MSDS / SDS

1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear SDS

Revision Date:2024-04-25 Revision Number:1

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SECTION 1: Identification of the substance/mixture and of the company/undertaking**Product identifier**

Product name: 1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear

CAS: 68515-50-4

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

Relevant identified uses: For R&D use only. Not for medicinal, household or other use.

Uses advised against: none

Company Identification

Company: Chemicalbook.in

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SECTION 2: Hazards identification**Classification of the substance or mixture**

Reproductive toxicity, Category 1B

GHS label elements, including precautionary statements

Pictogram(s)



Signal word

Danger

Hazard statement(s)

none

Precautionary statement(s)

Prevention

P203 Obtain, read and follow all safety instructions before use.

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...

Response

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.

Other hazards which do not result in classification

no data available

SECTION 3: Composition/information on ingredients

Substance

Chemical name: 1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear

Common names and synonyms: 1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear

CAS number: 68515-50-4
EC number: 271-093-5
Concentration: 100%

SECTION 4: First aid measures

Description of necessary first-aid measures

If inhaled

Move the victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a doctor immediately. Do not use mouth to mouth resuscitation if the victim ingested or inhaled the chemical.

Following skin contact

Take off contaminated clothing immediately. Wash off with soap and plenty of water. Consult a doctor.

Following eye contact

Rinse with pure water for at least 15 minutes. Consult a doctor.

Following ingestion

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.

Most important symptoms/effects, acute and delayed

SYMPTOMS: Symptoms of exposure to this compound may include eye irritation, skin irritation or drying progressing to dermatitis, nausea, vomiting and dizziness. (NTP, 1992)

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

Absorption, Distribution and Excretion

No accumulation of dihexyl phthalate (25 or 250 ppm in the diet) occurred in starlings fed DHP for 30 days.

SECTION 5: Firefighting measures

Suitable extinguishing media

To fight fire use, foam, carbon dioxide, dry chemical.

Specific hazards arising from the chemical

This chemical is combustible. (NTP, 1992)

Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Avoid breathing mist, gas or vapours. Avoid contacting with skin and eye. Use personal protective equipment. Wear chemical impermeable gloves. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Environmental precautions

Prevent further spillage or leakage if it is safe to do so. Do not let the chemical enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

SECTION 7: Handling and storage

Precautions for safe handling

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.

Conditions for safe storage, including any incompatibilities

Store the container tightly closed in a dry, cool and well-ventilated place. Store apart from foodstuff containers or incompatible

materials.

SECTION 8: Exposure controls/personal protection

Control parameters

Occupational Exposure limit values

no data available

Biological limit values

no data available

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.

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

Eye/face protection

Wear tightly fitting safety goggles with side-shields conforming to EN 166(EU) or NIOSH (US).

Skin protection

Wear fire/flame resistant and impervious clothing. Handle with gloves. Gloves must be inspected prior to use. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Respiratory protection

If the exposure limits are exceeded, irritation or other symptoms are experienced, use a full-face respirator.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties and safety characteristics

Physical state:	PHYSICAL DESCRIPTION: Yellow-brown oily viscous liquid with a slight aromatic odor. Insoluble in water. (NTP, 1992)
Colour:	Clear, oily liquid
Odour:	Slightly aromatic
Melting point/freezing point:	-27°C
Boiling point or initial boiling point and boiling range:	341.5°C at 760 mmHg
Flammability:	no data available
Lower and upper explosion limit/flammability limit:	no data available
Flash point:	180°C
Auto-ignition temperature:	no data available
Decomposition temperature:	no data available
pH:	no data available
Kinematic viscosity:	no data available
Solubility:	Insoluble (NTP, 1992)
Partition coefficient n-octanol/water:	log Kow = 6.82
Vapour pressure:	1.4X10 ⁻⁵ mm Hg at 25 deg C
Density and/or relative density:	1.01 g/cm ³
Relative vapour density:	11.5 (NTP, 1992) (Relative to Air)

Particle characteristics:

no data available

SECTION 10: Stability and reactivity

Reactivity

no data available

Chemical stability

no data available

Possibility of hazardous reactions

Combustible DI-N-HEXYL 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. This compound can react with oxidizing materials and strong alkaline materials. (NTP, 1992)

Conditions to avoid

no data available

Incompatible materials

Can react with oxidizing materials.

Hazardous decomposition products

no data available

SECTION 11: Toxicological information

Acute toxicity

Oral: LD50 Rat oral 29600 mg/kg

Inhalation: no data available

Dermal: no data available

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

no data available

Reproductive toxicity

no data available

STOT-single exposure

no data available

STOT-repeated exposure

no data available

Aspiration hazard

no data available

SECTION 12: Ecological information

Toxicity

Toxicity to fish: LC50; Species: *Lepomis macrochirus* (Bluegill, juvenile, length 29-40 mm); Conditions: freshwater, static, 22 deg C, pH 7.6-7.9, hardness 25-50 mg/L CaCO₃, alkalinity 25-50 mg/L CaCO₃; Concentration: 110 ug/L for 96 hr /> or = 95% purity

Toxicity to daphnia and other aquatic invertebrates: EC50; Species: *Daphnia magna* (Water flea, age < or = 24 hr); Conditions: freshwater, static, 20 deg C, pH 7.6-7.9, hardness 25-50 mg/L CaCO₃, alkalinity 25-50 mg/L CaCO₃; Concentration: 180 ug/L for 48 hr; Effect: intoxication, immobilization /> or = 95% purity

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

Persistence and degradability

AEROBIC: In a shake flask carbon dioxide evolution screening test, loss of the parent compound (primary degradation) as well as carbon dioxide evolution (ultimate degradation) was measured using an acclimated inoculum of soil, sewage and activated sludge; >99% of dihexyl phthalate was lost and 77% of theoretical carbon dioxide was evolved after 28 days(1). Dihexyl phthalate had a half-life of 2.9 days with a 1.6 day lag(1). Dihexyl phthalate was degraded by activated sludge; although the units of the first order rate constant were omitted(2). In a semi-continuous activated sludge test (Soap and Detergent Association procedure), the mean percentage degradation for dihexyl phthalate was >92.8% in 24 hr(3). In the die-away phase of the testing, it took 1 day to achieve 90% degradation(3). An initial concentration of dihexyl phthalate of 25 mg/L was degraded 30 to 95% in fresh water after a 14 day incubation(4). Dihexyl phthalate at a starting concentration of 35 mg/L was biodegraded 80% after a 28 day incubation at 22 deg C(4). Dihexyl phthalate had an average aerobic biodegradation half-life of 9.7 days calculated in 6 river sediment samples taken from Taiwan rivers(5).

Bioaccumulative potential

An estimated BCF of 1,100 was calculated in fish for dihexyl phthalate(SRC), using a log Kow of 6.82(1) and a regression-derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is very high(SRC). However, bioconcentration studies on compounds which are structurally similar suggest that bioconcentration may be lower than that indicated by the regression-derived equations due to the ability of aquatic organisms to readily metabolize this class of compounds(4).

Mobility in soil

The average Koc of (14)C-dihexyl phthalate using three standard USEPA sediments (supplied and characterized by the EPA) was measured at 5.26X10⁺⁵(1). According to a classification scheme(2), this Koc value suggests that dihexyl phthalate is expected to be immobile in soil.

Other adverse effects

no data available

SECTION 13: Disposal considerations

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

UN Number

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

UN Proper Shipping Name

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

Transport hazard class(es)

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

Packing group, if applicable

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)
IATA: Not dangerous goods. (For reference only, please check.)

Environmental hazards

ADR/RID: No
IMDG: No
IATA: No

Special precautions for user

no data available

Transport in bulk according to IMO instruments

no data available

SECTION 15: Regulatory information

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

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.

(PICCS)

Listed.

Vietnam National Chemical Inventory

Listed.

IECSC)

Listed.

Korea Existing Chemicals List (KECL)

Listed.

SECTION 16: Other information

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/>

Disclaimer: 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. We as supplier shall not be held liable for any