Chemical Book India

Chemical Safety Data Sheet MSDS / SDS

1,2-Benzenedicarboxylic acid, di-C9-11-branched alkyl esters, C10-rich SDS

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

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

Product identifier

Product name: 1,2-Benzenedicarboxylic acid, di-C9-11-branched alkyl esters, C10-rich

CAS: 68515-49-1

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

Not classified.

GHS label elements, including precautionary statements

Signal word: No signal word

Hazard statement(s)

none

Precautionary statement(s)

Prevention

none

Response

none

Storage

none

Disposal

none

Other hazards which do not result in classification

no data available

SECTION 3: Composition/information on ingredients

Substance

Chemical name:	1,2-Benzenedicarboxylic acid, di-C9-11-branched alkyl esters, C10-rich
Common names and synonyms:	1,2-Benzenedicarboxylic acid, di-C9-11-branched alkyl esters, C10-rich
CAS number:	68515-49-1
EC number:	271-091-4
Concentration:	100%

SECTION 4: First aid measures

Description of necessary first-aid measures

If inhaled

Fresh air, rest.

Following skin contact

Remove contaminated clothes. Rinse skin with plenty of water or shower.

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. Rest.

Most important symptoms/effects, acute and delayed

No symptoms reported for any rate of exposure. (USCG, 1999)

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: Firefighting measures

Suitable extinguishing media

Extinguish with dry chemical, foam or carbon dioxide. Water may be ineffective on fire.

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

Collect leaking and spilled liquid in sealable plastic or metal containers as far as possible. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.

Methods and materials for containment and cleaning up

ACCIDENTAL RELEASE MEASURES Personal precautions, protective equipment and emergency procedures Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. 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 Keep in suitable, closed containers for disposal.

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

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.

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:	Liquid. Liquid at roomtemperature.
Colour:	Clear, colorless liquid.
Odour:	Mild odor

Melting point/freezing point:	-45 °C. Atm. press.: 101 325 Pa.
Boiling point or initial boiling point and boiling range:	463 °C. Atm. press.: 1 013 hPa.
Flammability:	Combustible.
Lower and upper explosion limit/flammability limit:	Lower flammable limit: 0.3% by volume at 508 deg F
Flash point:	244 °C. Atm. press.: 1 013 hPa.
Auto-ignition temperature:	405 °C. Atm. press.: 1 013 hPa.
Decomposition temperature:	no data available
pH:	no data available
Kinematic viscosity:	dynamic viscosity (in mPa s) = 116. Temperature: 20°C.
Solubility:	Insoluble (NTP, 1992)
Partition coefficient n-octanol/water:	log Pow = 8.8. Temperature: 25 °C.
Vapour pressure:	0 Pa. Temperature: 25 °C.
Density and/or relative density:	0.97 g/cm3. Temperature: 20 °C.
Relative vapour density:	15.4 (NTP, 1992) (Relative to Air)
Particle characteristics:	no data available

SECTION 10: Stability and reactivity

Reactivity

Attacks some forms of plastic.

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

CombustibleDIISODECYL 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].

Conditions to avoid

no data available

Incompatible materials

Strong oxidizing agents

Hazardous decomposition products

When heated to decomposition it emits acrid smoke and irritating vapors.

SECTION 11: Toxicological information

Acute toxicity

Oral: LD50 - rat (male) - > 60 000 mg/kg bw.

Inhalation: LC50 - albino rats, mice and guinea pigs (male/female) - > 0.13 mg/L air.

Dermal: LD50 - rabbit - > 3 160 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

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 - Oncorhynchus mykiss (previous name: Salmo gairdneri) - > 0.62 mg/L - 96 h.

Toxicity to daphnia and other aquatic invertebrates: LC50 - Daphnia magna - > 0.02 mg/L - 48 h.

Toxicity to algae: EC50 - Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) - > 0.8 mg/L - 8 d.

Toxicity to microorganisms: EC50 - activated sludge of a predominantly domestic sewage - > 83.3 mg/L - 30 min. Remarks:Respiration rate.

Persistence and degradability

AEROBIC: In a semi-continuous activated sludge test (Soap and Detergent Association biodegradation test method), the mean degradation for diisodecyl phthalate was 68% in 24 hr(1). In a die-away phase of the testing, it took 9 days to achieve 90% degradation(1). Diisodecyl phthalate is confirmed to be degradable in the screening procedure of the Japanese Ministry of Trade and Industry (MITI) which uses a mixed inoculum derived from soil, fresh water and sewage(2). In an acclimated shake flask CO2 evolution test, loss of parent compound (primary degradation) as well as CO2 evolution (ultimate degradation) was measured using an inoculum prepared from soil and sewage, >99% of diisodecyl phthalate was lost and 56% of theoretical CO2 was evolved after 28 days(3). The biodegradation half-life was 9.6 days with a 4.9 day lag(3). Diisodecyl phthalate, present at 100 mg/L, reached 2% of its theoretical BOD in 2 weeks using an activated sludge inoculum at 30 mg/L in the Japanese MITI test(4). Diisodecyl phthalate, present at a concentration of 100 ppm, was degraded 14 and 30% after three days cultivation in water from the Mino River and Akashi Beach, Japan, respectively(5). Diisodecyl biodegraded 67% from an initial concentration of 48 ppm and 100 ppm in 28 days in activated sludge at 22 and 25 deg C, respectively(6). Diisodecyl phthalate degraded 42% in 21 days at 25 deg C from a starting concentration of 100 ppm(6). An aerobic aquatic half-life of 23 days was given for diisodecyl phthalate(7).

Bioaccumulative potential

BCFs of <3.6 and <14.4 were measured for diisodecyl phthalate at chemical concentrations of 1 and 0.1 mg/L, respectively, using carp (Cyprinus carpio) which were exposed over an 8-week period(1). According to a classification scheme(2), these BCFs suggest that bioconcentration in aquatic organisms is low(SRC). The mean log BCF of diisodecyl phthalate in Daphnia magna as determined in a 21 day test using ring-labeled chemical was 2.06(3), corresponding to a BCF of 115(SRC). The mean log BCF in mussels (Mytilus edulis) was 3.54 between 14 and 28 days also using ring-labeled ester(4), corresponding to a BCF of 3467(SRC). However depuration was rapid in mussels, the half-life being 3.5 days(4).

Mobility in soil

Using a structure estimation method based on molecular connectivity indices(1), the log Koc of diisodecyl phthalate can be estimated to be 6.04(SRC). Other estimated log Koc values reported were 5.46 and 5.78(2). According to a classification scheme(3), these estimated log Koc values suggest that diisodecyl phthalate is expected to be immobile in soil. The average Koc of (14)C-diisodecyl phthalate using three standard USEPA sediments (supplied and characterized by the EPA) was measured at 2.86X10+5(4).

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/