

Chemical Safety Data Sheet MSDS / SDS

Diisooctyl phthalate 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: Diisooctyl phthalate

CAS: 27554-26-3

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

Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 4

GHS label elements, including precautionary statements

Pictogram(s)



Signal word

Danger

Hazard statement(s)

H360 May damage fertility or the unborn child

H413 May cause long lasting harmful effects to aquatic life

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/...

P273 Avoid release to the environment.

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: Diisooctyl phthalate

Common names and synonyms:	Diisooctyl phthalate
CAS number:	27554-26-3
EC number:	248-523-5
Concentration:	100%

SECTION 4: First aid measures

Description of necessary first-aid measures

If inhaled

Fresh air, rest.

Following skin contact

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.

Most important symptoms/effects, acute and delayed

Produces no ill effects at normal temperatures but may give off irritating vapor at high temperature. (USCG, 1999)

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

Absorption, Distribution and Excretion

In rats, dogs and miniature pigs, 50 mg/kg was administered 21-28 days before oral administration of single dose of same compound labeled with (14)C in carbonyl group. Approximately 1/2 of (14)C was excreted in rat urine and 1/2 in feces, while dogs showed 69-80% in feces, and pigs 65-86% in urine.

SECTION 5: Firefighting measures

Suitable extinguishing media

Water or foam may cause frothing.

Specific hazards arising from the chemical

Special Hazards of Combustion Products: None (USCG, 1999)

Special protective actions for fire-fighters

Use water spray, foam, powder, carbon dioxide.

SECTION 6: Accidental release measures**Personal precautions, protective equipment and emergency procedures**

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

Environmental precautions

Collect leaking liquid in sealable metal containers. 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

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**

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.

Conditions for safe storage, including any incompatibilities

Separated from strong oxidants.

SECTION 8: Exposure controls/personal protection

Control parameters

Occupational Exposure limit values

Component	Diisooctyl phthalate			
CAS No.	27554-26-3			
	Limit value - Eight hours		Limit value - Short term	
	ppm	mg/m ³	ppm	mg/m ³
Denmark	?	3	?	6
Ireland	?	5	?	?
New Zealand	?	5	?	?
United Kingdom	?	5	?	?
	Remarks			

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 safety spectacles.

Skin protection

Protective gloves.

Respiratory protection

Use ventilation.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties and safety characteristics

Physical state:	Di-isooctyl phthalate is an oily colorless liquid with a slight ester odor. Denser than water. Insoluble in water. (USCG, 1999)
Colour:	Nearly colorless, viscous liquid
Odour:	Mild odor
Melting point/freezing point:	-43 °C
Boiling point or initial boiling point and boiling range:	384.9 °C at 760 mmHg
Flammability:	Combustible.
Lower and upper explosion limit/flammability limit:	no data available
Flash point:	204.5 °C
Auto-ignition temperature:	393 °C
Decomposition temperature:	no data available
pH:	no data available
Kinematic viscosity:	83 cP at 20 deg C
Solubility:	... compatible with vinyl chloride resins and some cellulosic resins
Partition coefficient n-octanol/water:	log Kow = 8.39 (est)
Vapour pressure:	1 mm Hg (200 °C)

Density and/or relative density:	0.983 g/mL at 25°C(lit.)
Relative vapour density:	13.5 (Air = 1)
Particle characteristics:	no data available

SECTION 10: Stability and reactivity

Reactivity

Reacts with strong oxidants. Decomposes on burning. This produces irritating fumes.

Chemical stability

no data available

Possibility of hazardous reactions

DI-ISOOCTYL PHTHALATE reacts exothermically with acids to generate isooctyl alcohol and phthalic acid. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by interaction with caustic solutions. Flammable hydrogen is generated by mixing with alkali metals and hydrides. Can generate electrostatic charges. [Handling Chemicals Safely, 1980. p. 250].

Conditions to avoid

no data available

Incompatible materials

no data available

Hazardous decomposition products

When heated to decomp it emits acrid smoke and irritating fumes.

SECTION 11: Toxicological information

Acute toxicity

Oral: LD50 Mouse oral > 26000 mg/kg bw

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

A harmful contamination of the air will not or will only very slowly be reached on evaporation of this substance at 20°C.

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: >130 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: >160 ug/L for 48 hr; Effect: intoxication, immobilization /> or =95% purity

Toxicity to algae: EC50; Species: *Pseudokirchneriella subcapitata* (Green algae); Conditions: freshwater, static, 22-24 deg C, pH 7.6-7.9, hardness 25-50 mg/L CaCO₃, alkalinity 25-50 mg/L CaCO₃; Concentration: >130 ug/L for 96 hr; Effect: decreased population abundance /> or =95% purity

Toxicity to microorganisms: no data available

Persistence and degradability

AEROBIC: Microorganisms isolated from raw sewage and sludge were capable of utilizing diisooctyl phthalate as a growth medium(1,2). Enriched microbial cultures obtained from sewage degraded 75% diisooctyl phthalate in 96 hours(2). A shake flask experiment employing an acclimated inoculum of soil, sewage and activated sludge degraded 99% of diisooctyl phthalate initially present over a 28 day incubation period(3). In a semi-continuous activated sludge test (Soap and Detergent Association procedure), the mean percentage degradation for diisooctyl phthalate was 84.5% in 24 hours(4). Diisooctyl phthalate incubated for 28 days in fresh water/sediment degraded 2, <1-10, and 4% at 12, 22, and 28 deg C, respectively(5).

Bioaccumulative potential

A measured BCF value of 207 was reported for Mosquito fish exposed to 6.4 mg/L of diisooctyl phthalate over an unspecified exposure period(1). According to a classification scheme(2), this BCF value suggests that bioconcentration in aquatic organisms is high, assuming the compound is not metabolized by the organism(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(3).

Mobility in soil

The Koc of diisooctyl phthalate is estimated as 1.6×10^4 (SRC), using a water solubility of 0.09 mg/L(1) and a regression-derived equation(2). According to a classification scheme(3), this estimated Koc value suggests that diisooctyl 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: no data available

IMDG: no data available

IATA: no data available

UN Proper Shipping Name

ADR/RID: no data available

IMDG: no data available

IATA: no data available

Transport hazard class(es)

ADR/RID: no data available

IMDG: no data available

IATA: no data available

Packing group, if applicable

ADR/RID: no data available

IMDG: no data available

IATA: no data available

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