

SAFETY DATA SHEETS

According to the UN GHS revision 9

Version: 1.2
Creation Date: July 15, 2019
Revision Date: August 08, 2025

SECTION 1: Identification

1.1 GHS Product identifier

Product name Diisooctyl Phthalate

1.2 Other means of identification

Product number LPAE111714
Other names Diisooctyl phthalate; Bis(6-methylheptyl) phthalate

1.3 Recommended use of the chemical and restrictions on use

Identified uses For laboratory and Industrial use only.
Uses advised against no data available

1.4 Supplier's details

Company CATO Research Chemicals Inc.
Address 3/F,Building B,No.179 BASIGO, Guangpu Rd East,Huangpu Dist,Guangzhou
Telephone +86-20-81960175

1.5 Emergency phone number

Emergency phone number +86-20-81960175
Service hours 'Monday to Friday, 9am-5pm (Standard time zone: UTC/GMT +8 hours).

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

Reproductive toxicity, Category 1B
Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 4

2.2 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.

2.3 Other hazards which do not result in classification

no data available

SECTION 3: Composition/information on ingredients

3.1 Substances

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

SECTION 4: First-aid measures

4.1 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.

4.2 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)

4.3 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: Fire-fighting measures

5.1 Suitable extinguishing media

Water or foam may cause frothing.

5.2 Specific hazards arising from the chemical

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

5.3 Special protective actions for fire-fighters

Use water spray, foam, powder, carbon dioxide.

SECTION 6: Accidental release measures

6.1 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.

6.2 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.

6.3 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

7.1 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.

7.2 Conditions for safe storage, including any incompatibilities

Separated from strong oxidants.

SECTION 8: Exposure controls/personal protection

8.1 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

Component	Diisooctyl phthalate			
CAS No.	27554-26-3			
Denmark		3		6
Ireland		5		
New Zealand		5		
United Kingdom		5		
	Remarks			

Biological limit values

no data available

8.2 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.

8.3 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

10.1 Reactivity

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

10.2 Chemical stability

no data available

10.3 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].

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

no data available

10.6 Hazardous decomposition products

When heated to decompose 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

12.1 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

12.2 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).

12.3 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).

12.4 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.

12.5 Other adverse effects

no data available

SECTION 13: Disposal considerations

13.1 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

14.1 UN Number

ADR/RID: no data available

IMDG: no data available

IATA: no data available

14.2 UN Proper Shipping Name

ADR/RID: no data available

IMDG: no data available

IATA: no data available

14.3 Transport hazard class(es)

ADR/RID: no data available

IMDG: no data available

IATA: no data available

14.4 Packing group, if applicable

ADR/RID: no data available

IMDG: no data available

IATA: no data available

14.5 Environmental hazards

ADR/RID: No

IMDG: No

IATA: No

14.6 Special precautions for user

no data available

14.7 Transport in bulk according to IMO instruments

no data available

SECTION 15: Regulatory information

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

Chemical name	Common names and synonyms	CAS number	EC number
Diisooctyl phthalate	Diisooctyl phthalate	27554-26-3	248-523-5
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.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed.
Korea Existing Chemicals List (KECL)			Listed.

SECTION 16: Other information

Information on revision

Creation Date

July 15, 2019

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August 08, 2025

Abbreviations and acronyms



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- 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/>

Any questions regarding this SDS, Please send your inquiry to info@cato-chem.com

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