CATO Research Chemicals Inc.
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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 Di-N-Octyl Phthalate

1.2 Other means of identification

Product number CIM-201907
Other names -

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

Not classified.

2.2 GHS label elements, including precautionary statements

Pictogram(s) No symbol.
Signal word No signal word
Hazard statement(s) none
Precautionary statement(s)
Prevention none
Response none
Storage none
Disposal none

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
Di-N-Octyl Phthalate	Dioctyl phthalate	117-84-0	204-214-7	100%

SECTION 4: First-aid measures

4.1 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.

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

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: Fire-fighting measures

5.1 Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Specific hazards arising from the chemical

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

5.3 Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6: Accidental release measures

6.1 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.

6.2 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.

6.3 Methods and materials for containment and cleaning up

Environmental precautions: Do not let product enter drains.

SECTION 7: Handling and storage

7.1 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.

7.2 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

8.1 Control parameters

Occupational Exposure limit values

Component	Dioctyl phthalate			
CAS No.	117-84-0			
	Limit value - Eight hours		**Limit value - Short term**	
	ppm	**mg/m^3**	**ppm**	**mg/m^3**
Austria		5		
Singapore		5		
Sweden		3 (1)(2)		5 (1)(2)(3)
	Remarks			
Sweden	(1) The same limit value, expressed in mg/m³, shall also be applied to phthalates for which no limit values have been defined. (2) There are a number and variety of dioctyl phthalates (DOPs). Di-(2-ethylhexyl) phthalate (DEHP) is the commonest industrial octyl phthalate and, like other octyl phthalates, is also rather vaguely termed DOP. The designation disec-octyl phthalate often refers to DEHP, which from a chemical viewpoint is not entirely correct. (3) 15 minutes average value			

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 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	Di-n-octyl phthalate is a clear liquid with a mild odor. Slightly less dense than water and insoluble in water. Hence floats on water. Flash point 430°F. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. As a liquid, can easily penetrate the soil and contaminate groundwater and nearby streams. Eye contact may produce severe irritation and direct skin contact may produce mild irritation. Used in the manufacture of a variety of plastics and coating products.
Colour	Clear, oily liquid
Odour	no data available
Melting point/freezing point	25°C
Boiling point or initial boiling point and boiling range	386.9°C
Flammability	no data available
Lower and upper explosion limit/flammability limit	no data available
Flash point	217°C
Auto-ignition temperature	735 deg F (390 deg C)
Decomposition temperature	no data available
pH	no data available
Kinematic viscosity	39 mPa.s at 20 deg C
Solubility	less than 1 mg/mL at 66° F (NTP, 1992)
Partition coefficient n-octanol/water	log Kow = 8.10
Vapour pressure	less than 0.2 mm Hg at 302° F (NTP, 1992)
Density and/or relative density	0.986
Relative vapour density	no data available
Particle characteristics	no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Combustible.DI-N-OCTYL PHTHALATE reacts 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 with caustic solutions. Flammable hydrogen may be generated by mixing with alkali metals and hydrides. Can generate electrostatic charges by swirling or pouring [Handling Chemicals Safely, 1980. p. 250].

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

Incompatible materials: Strong oxidizing agents

10.6 Hazardous decomposition products

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

SECTION 11: Toxicological information

Acute toxicity

- Oral: LD50 Rat (male) oral 53700 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

12.1 Toxicity

- Toxicity to fish: LC50; Species: Micropterus salmoides (Large mouth bass); Concentration: 32,900 ug/L for 7-8 days /Conditions of bioassay not specified/ /From table
- Toxicity to daphnia and other aquatic invertebrates: no data available
- Toxicity to algae: no data available
- Toxicity to microorganisms: no data available

12.2 Persistence and degradability

AEROBIC: Di-n-octyl phthalate, present at 100 mg/L, reached 67% of its theoretical BOD in 4 weeks using an activated sludge inoculum at 30 mg/L in the Japanese MITI test(1). Di-n-octyl phthalate was degraded 92-94% in 7 days in a static degradation test utilizing a sewage seed that had been subcultured three times(2). In a model terrestrial-aquatic ecosystem, di-n-octyl phthalate was rapidly degraded by organisms in the system, having a half-life of 5 days(3). The degradation products of di-n-octyl phthalate are the monoester and phthalic acid(3); hydrolysis is believed to be accomplished by specific esterases only(4). Respirometric measurements of soil amended with di-n-octyl phthalate shows that when acclimated, there is some microbial utilization, although this is marginal at 4 and 10 deg C(4). When subjected to high-rate composting in an artificial compost mixture, 69% and 92% were removed after 7 and 30 days, respectively(5). Di-n-octyl phthalate was degraded 68.8% in model waste stabilization ponds(6). Di-n-octyl phthalate was biodegraded 85% after 10 days incubation in Rhine river water at 20 deg C; at 4 deg C, biodegradation was negligible(7). Di-n-octyl phthalate was biodegraded 61% in 42 days and 83% in 63 days in sandy soil and sandy soil mixed with gravel/till taken from a plasticizer manufacturing site(8). Di-n-octyl phthalate, at a starting concentration of 10-100 mg/L, had a half-life of 498.6 hours in acclimated activated sludge(9).

12.3 Bioaccumulative potential

After 24 hr exposure in a 3-day model ecosystem, mosquito fish (Gambusia affinis), Daphnia magna and snails (Physa) had BCFs of 1.16, 9426 and 438, respectively. However, in a 33-day model ecosystem, mosquito fish placed in the system on day 30 had a BCF of 9400. This discrepancy in the BCF for the 33 and 3 day ecosystem is most likely due to the fact that a final water concentration in the 33 day experiment was used in determining bioconcentration and due to the degradation of the di-n-octyl phthalate, this water concentration was low(1). According to a classification scheme(2), these BCFs suggest that bioconcentration in aquatic organisms is low to very high(SRC). Bioaccumulation factors of 28,500 and 6800 were determined in the algae, Oedogonium cardiacum, after 33 and 3 days exposure to di-n-octyl phthalate, respectively(3). Bioaccumulation factors of 2600 and 9300 were measured in brine shrimp after 33 and 3 days exposure to di-n-octyl phthalate, respectively(3). A BCF of 1606 was measured in algae exposed to di-n-octyl phthalate in a model waste stabilization pond(4). BCFs of 0-8.43 were reported for di-n-octyl phthalate in water spinach (Ipomoea aquatica) grown under different conditions on sludge from waste water treatment plants in China(5).

12.4 Mobility in soil

Log Koc values of 6.3(1), 4.38(2) and 5.22(3) were reported for di-n-octyl phthalate in soil. A mean sediment log Koc value of >5.0 was calculated from the mean di-n-octyl concentration in water and suspended particulate matter from Lake Yssel, The Netherlands(4). According to a classification scheme(5), these Koc values suggest that di-n-octyl phthalate is expected to be immobile in soil. Sedimentation accounted for 19.5% of the di-n-octyl phthalate loss from a model waste environmental pond(6).

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: UN3082 (For reference only, please check.) IMDG: UN3082 (For reference only, please check.) IATA: UN3082 (For reference only, please check.)

14.2 UN Proper Shipping Name

ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (For reference only, please check.) IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (For reference only, please check.) IATA: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (For reference only, please check.)

14.3 Transport hazard class(es)

ADR/RID: 9 (For reference only, please check.) IMDG: 9 (For reference only, please check.) IATA: 9 (For reference only, please check.)

14.4 Packing group, if applicable

ADR/RID: III (For reference only, please check.) IMDG: III (For reference only, please check.) IATA: III (For reference only, please check.)

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
Dioctyl phthalate	Dioctyl phthalate	117-84-0	204-214-7
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

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Information on revision

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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/

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

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