Chemical Safety Data Sheet MSDS / SDS

Dioctyl adipate

Revision Date:2025-05-17 Revision Number:1

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

Product identifier

Product name	: Dioctyl adipate
CBnumber	: CB4512383
CAS	: 123-79-5
EINECS Number	: 204-652-9
Synonyms	: Dioctyl adipate, Dioctyl Hexanedioate
Relevant identified uses of the s	ubstance 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
Address	: Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing
Telephone	: 010-86108875

SECTION 2: Hazards identification

Classification of the substance or mixture

Skin irritation, Category 2 Eye irritation, Category 2

Label elements

Pictogram(s)

Signal word

Warning

Hazard statement(s)

H315 Causes skin irritation

H319 Causes serious eye irritation

Precautionary statement(s)

Prevention

P264 Wash ... thoroughly after handling.

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

Response

P302+P352 IF ON SKIN: Wash with plenty of water/...

P321 Specific treatment (see ... on this label).

P332+P317 If skin irritation occurs: Get medical help.

P362+P364 Take off contaminated clothing and wash it before reuse.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage

none

Disposal

none

Other hazards

no data available

SECTION 3: Composition/information on ingredients

Substance

Product name	: Dioctyl adipate
Synonyms	: Dioctyl adipate, Dioctyl Hexanedioate
CAS	: 123-79-5
EC number	: 204-652-9
MF	: C22H42O4
MW	: 370.57

SECTION 4: First aid measures

Description of first aid measures

lf inhaled

Fresh air, rest.

Following skin contact

Remove contaminated clothes. Rinse and then wash skin with water and soap.

Following eye contact

Rinse with plenty of water (remove contact lenses if easily possible).

Following ingestion

Rinse mouth. Give one or two glasses of water to drink.

Most important symptoms and effects, both acute and delayed

no data available

Indication of any immediate medical attention and special treatment needed

Basic Treatment: Establish a patent airway. Suction if necessary. Watch for signs of respiratory insufficiency and assist ventilations if

necessary. Administer oxygen by nonrebreather mask at 10 to 15 L/min. Monitor for pulmonary edema and treat if necessary . Monitor for

shock and treat if necessary. For eye contamination, flush eyes immediately with water. Irrigate each eye continuously with normal saline during transport. Do not use emetics. For ingestion, rinse mouth and administer 5 ml/kg up to 200 ml of water for dilution if the patient can swallow, has a strong gag reflex, and does not drool. Administer activated charcoal. Esters and related compounds

SECTION 5: Firefighting measures

Extinguishing media

Foam, carbon dioxide, dry chemical ...

Specific Hazards Arising from the Chemical

no data available

Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

NFPA 704



	HEALTH	0	Poses no health hazard, no precautions necessary and would offer no hazard beyond that of ordinary combustible materials
	FIRE	1	Materials that require considerable preheating, under all ambient temperature conditions, before ignition and combustion can occur. Includes some finely divided suspended solids that do not require heating before ignition can occur. Flash point at or above 93.3 °C (200 °F). (e.g. mineral oil, ammonia)
	REACT	0	Normally stable, even under fire exposure conditions, and is not reactive with water (e.g. helium, $N2$)
	SPEC.		
	HAZ.		

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

Personal protection: filter respirator for organic gases and vapours adapted to the airborne concentration of the substance. Do NOT let this

chemical enter the environment. Collect leaking liquid in sealable containers. Carefully collect remainder. 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 sparkproof 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

Separated from strong oxidants and strong acids. Provision to contain effluent from fire extinguishing. Store in an area without drain or sewer access.

SECTION 8: Exposure controls/personal protection

Control parameters

Occupational Exposure limit values

no data available

Biological limit values

no data available

Exposure controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the riskelimination area.

Individual protection measures

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

Information on basic physicochemical properties

Physical state	Liquid
Colour	COLORLESS OR VERY PALE AMBER LIQUID
Odour	SLIGHT, AROMATIC SMELL
Melting point/freezing point	-60°C
Boiling point or initial boiling point and	398.2°C at 760 mmHg
boiling range	
Flammability	Combustible.
Lower and upper explosion	no data available
limit/flammability limit	
Flash point	178.6°C
Auto-ignition temperature	340°C
Decomposition temperature	no data available
рН	no data available
Kinematic viscosity	1.89X10-2 Pa sec @ 7.49 deg C (280.65 K)
Solubility	INSOL IN WATER @ 25 DEG C; INSOL OR VERY SLIGHTLY SOL IN GLYCERINE & GLYCOLS; SOL
	IN MOST ORGANIC SOLVENTS
Partition coefficient n-octanol/water	8.1 (calculated)
Vapour pressure	8.50X10-7 mm Hg @ 20 deg C
Density and/or relative density	0.929 g/cm3
Relative vapour density	(air = 1): 12.8
Particle characteristics	no data available

SECTION 10: Stability and reactivity

Reactivity

Reacts with strong oxidants and strong acids. This generates fire hazard.

Chemical stability

no data available

Possibility of hazardous reactions

no data available

Conditions to avoid

no data available

Incompatible materials

Can react with oxidizing materials.

Hazardous decomposition products

SECTION 11: Toxicological information

Acute toxicity

- Oral: LD50 Rat oral 9110 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: no data available

Toxicity to daphnia and other aquatic invertebrates: no data available

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

Persistence and degradability

AEROBIC: In a semi-continuous activated sludge method used to simulate sewage treatment plant biodegradation, di-n-octyl adipate was observed to undergo primary degradation of 65-96% (at concns of 5 and 20 mg/l added/24 hr)(1); in a CO2 evolution study, di-n-octyl adipate was observed to biodegrade 94% over a 35-day incubation period which corresponds to a first-order half-life of 2.7 days(1).

Bioaccumulative potential

A whole-fish BCF of 27 was observed for blue-gill fish exposed di-n-octyl adipate levels of 250 ug/l for a 28-day period(1). According to a classification scheme(2), this BCF suggests the potential for bioconcentration in aquatic organisms is low.

Mobility in soil

Using a structure estimation method based on molecular connectivity indices(1), the Koc for di-n-octyl adipate can be estimated to be 57,000(SRC). According to a classification scheme(2), this estimated Koc value suggests that di-n-octyl adipate 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

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

ChemlDplus, 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 information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.