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ISO 9001: 2015

MATERIAL SAFETY DATA SHEET

1. Identification

1.1 GHS Product identifier

Diisooctyl phthalate

Code D 1900

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

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

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

P273 Avoid release to the environment.

Response

P308+P313 IF exposed or concerned: Get medical advice/attention.

Storage

P405 Store locked up.

Disposal

P501 Dispose of contents/container to ...

2.3 Other hazards which do not result in classification

none

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	none	100%

4. First-aid measures

4.1 Description of necessary first-aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

Fresh air, rest.

In case of skin contact

Rinse and then wash skin with water and soap.

In case of eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

If swallowed

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.

5. Fire-fighting measures

5.1 Extinguishing media

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

Wear self-contained breathing apparatus for firefighting if necessary.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

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

Pick up and arrange disposal. Sweep up and shovel. Keep in suitable, closed containers for disposal.

7. Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Avoid exposure - obtain special instructions before use. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Separated from strong oxidants.

8. Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure limit values

no data available

Biological limit values

no data available

8.2 Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Wear impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. 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

Wear dust mask when handling large quantities.

Thermal hazards

no data available

9. Physical and chemical properties

Physical state Colourless liquid

Colour Nearly colorless, viscous liquid

Odour Mild odour

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°C

Solubility ... compatible with vinyl chloride resins and some cellulosic resins

Partition coefficient n-octanol/water (log value) log Kow = 8.39 (est)

Vapour pressure 1 mm Hg (20 °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

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

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.

11. Toxicological information

Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Toxicity to Animals:

Oral LD50 Rat: 1500 mg/kg; Dermal LD50 Rabbit: 2000mg/kg

Inhalation LC50 Rat: > 50mg/L.

Chronic Effects on Humans: CARCINOGENIC EFFECTS: Classified None. by NTP, None. by OSHA, None. by NIOSH.

Other Toxic Effects on Humans: Hazardous in case of skin contact (irritant), of inhalation (lung irritant).

Special Remarks on Toxicity

to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans: Not available.

12. Ecological information

12.1 Toxicity

Toxicity to fish: LC50; Species: *Lepomis macrochirus* (Bluegill, juvenile, length 29-40 mm); Conditions: freshwater, static, 22°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°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°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°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 1.6X10⁴(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

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.

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 Annex II of MARPOL 73/78 and the IBC Code

no data available

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	none
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			Not Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed.

Section 16: Other Information

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.