

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Revision Date 21.11.2010

Version 3.4

1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Catalogue No.	803544
Product name	Dioctyltin oxide for synthesis
REACH Registration Number	A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Chemical for synthesis For additional information on uses please refer to the Merck Chemicals portal (www.merck-chemicals.com).
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1.3 Details of the supplier of the safety data sheet

Company	Merck KGaA * 64271 Darmstadt * Germany * Phone:+49 6151 72-0
Responsible Department	LS-QHC * e-mail: prodsafe@merckgroup.com

1.4 Emergency telephone number	Please contact the regional company representation in your country.
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2. Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Chronic aquatic toxicity, Category 4, H413

For the full text of the H-Statements mentioned in this Section, see Section 16.

Classification (67/548/EEC or 1999/45/EC)

R53

For the full text of the R-phrases mentioned in this Section, see Section 16.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard statements

H413 May cause long lasting harmful effects to aquatic life.

Precautionary statements

P260 Do not breathe dust.

P262 Do not get in eyes, on skin, or on clothing.

P273 Avoid release to the environment.

Reduced labelling (≤125 ml)

Hazard statements

H413 May cause long lasting harmful effects to aquatic life.

CAS-No. 870-08-6

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Labelling (67/548/EEC or 1999/45/EC)

R-phrases(s)	53	May cause long-term adverse effects in the aquatic environment.
S-phrases(s)	22-24/25-61	Do not breathe dust. Avoid contact with skin and eyes. Avoid release to the environment. Refer to special instructions/ Safety data sheets.

EC-No. 212-791-1

Reduced labelling (≤125 ml)

R-phrases(s)	53	May cause long-term adverse effects in the aquatic environment.
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2.3 Other hazards

None known.

3. Composition/information on ingredients

Formula	C ₁₆ H ₃₄ OSn (Hill)
CAS-No.	870-08-6
EC-No.	212-791-1
Molar mass	361,15 g/mol

4. First aid measures

4.1 Description of first aid measures

After inhalation: fresh air.

After skin contact: wash off with plenty of water. Remove contaminated clothing.

After eye contact: rinse out with plenty of water with the eyelid held wide open. Call in ophthalmologist if necessary.

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The following applies to organic tin compounds in general: systemic effect: CNS disorders (spasms, narcosis, respiratory paralysis).

4.3 Indication of immediate medical attention and special treatment needed

No information available.

5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water, Carbon dioxide (CO₂), Foam, Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Combustible material, Vapours are heavier than air and may spread along floors.

Forms explosive mixtures with air on intense heating.

Development of hazardous combustion gases or vapours possible in the event of fire.

5.3 Advice for firefighters

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Special protective equipment for fire-fighters

In the event of fire, wear self-contained breathing apparatus.

Further information

Prevent fire extinguishing water from contaminating surface water or the ground water system.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid substance contact. Avoid generation of dusts; do not inhale dusts. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

6.2 Environmental precautions

Do not empty into drains.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills.

Observe possible material restrictions (see sections 7.2 and 10.5).

Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

6.4 Reference to other sections

Indications about waste treatment see section 13.

7. Handling and storage

7.1 Precautions for safe handling

Observe label precautions.

7.2 Conditions for safe storage, including any incompatibilities

Tightly closed. Dry.

Store at +15°C to +25°C.

7.3 Specific end uses

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

8. Exposure controls/personal protection

8.1 Control parameters

8.2 Exposure controls

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

Individual protection measures

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Hygiene measures

Change contaminated clothing. Wash hands after working with substance.

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Eye/face protection

Safety glasses

Hand protection

full contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	> 480 min

splash contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	> 480 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 741 Dermatril® L (full contact), KCL 741 Dermatril® L (splash contact).

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

This recommendation applies only to the product stated in the safety data sheet(>,<)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Other protective equipment:

protective clothing

Respiratory protection

required when dusts are generated.

Recommended Filter type: Filter P 2 (acc. to DIN 3181) for solid and liquid particles of harmful substances

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Environmental exposure controls

Do not empty into drains.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	powder
Colour	white
Odour	odourless
Odour Threshold	No information available.
pH	No information available.
Melting point	No information available.
Boiling point/boiling range	230 °C at 1.013 hPa

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Flash point	70 °C Method: open cup
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapour pressure	< 0,01 hPa at 20 °C
Relative vapour density	No information available.
Relative density	No information available.
Water solubility	at 20 °C practically insoluble
Partition coefficient: n-octanol/water	log Pow: 9,26 Method: (calculated) A remarkable bioaccumulation potential is expected (log Po/w >3). (Lit.)
Autoignition temperature	No information available.
Decomposition temperature	> 150 °C
Viscosity, dynamic	No information available.
Explosive properties	No information available.
Oxidizing properties	No information available.

9.2 Other data

Ignition temperature	> 100 °C
Bulk density	700 kg/m ³

10. Stability and reactivity

10.1 Reactivity

Forms explosive mixtures with air on intense heating.

The following applies in general to flammable organic substances and preparations: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions

Violent reactions possible with:

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Strong oxidizing agents

10.4 Conditions to avoid

Strong heating (decomposition).

A range from approx. 15 Kelvin below the flash point is to be rated as critical.

10.5 Incompatible materials

no information available

10.6 Hazardous decomposition products

no information available

11. Toxicological information

11.1 Information on toxicological effects

Acute oral toxicity

LD50 rat

Dose: 2.500 mg/kg

(RTECS)

Specific target organ toxicity - single exposure

The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific target organ toxicity - repeated exposure

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard

No aspiration toxicity classification

11.2 Further information

Further information

Hazardous properties cannot be excluded but are unlikely when the product is handled appropriately.

Other information

The following applies to organic tin compounds in general: systemic effect: CNS disorders (spasms, narcosis, respiratory paralysis).

Further data:

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

12. Ecological information

12.1 Toxicity

Toxicity to fish

LC50

Species: fish

Dose: 13 mg/l

(External MSDS)

Toxicity to daphnia and other aquatic invertebrates.

EC50

Species: Daphnia

Dose: 6,9 mg/l

(External MSDS)

12.2 Persistence and degradability

No information available.

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12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water

log Pow: 9,26

Method: (calculated)

A remarkable bioaccumulation potential is expected (log Po/w >3). (Lit.)

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6 Other adverse effects

Additional ecological information

Do not allow to run into surface waters, wastewater, or soil.

13. Disposal considerations

Waste treatment methods

See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

14. Transport information

ADR/RID

UN 3146 ORGANOTIN COMPOUND, SOLID, N.O.S. (DIOCTYLTIN OXIDE), 6.1, III

IATA

UN 3146 ORGANOTIN COMPOUND, SOLID, N.O.S. (DIOCTYLTIN OXIDE), 6.1, III

IMDG

UN 3146 ORGANOTIN COMPOUND, SOLID, N.O.S. (DIOCTYLTIN OXIDE), 6.1, III

EmS F-A S-A

The transport regulations are cited according to international regulations and in the form applicable in Germany. Possible national deviations in other countries are not considered.

15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulations

Major Accident Hazard 96/82/EC

Legislation Directive 96/82/EC does not apply

Occupational restrictions Take note of Dir 94/33/EC on the protection of young people at work.

National legislation

Storage class VCI 10 - 13 Other liquids and solids

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out.

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16. Other information

Full text of H-Statements referred to under sections 2 and 3.

H413	May cause long lasting harmful effects to aquatic life.
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Full text of R-phrases referred to under sections 2 and 3

R53	May cause long-term adverse effects in the aquatic environment.
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Training advice

Provide adequate information, instruction and training for operators.

Regional representation:	This information is given on the authorised Safety Data Sheet for your country.
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Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.