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|---|---|---------------------------------|
| Product name: (2-Hydroxypropyl)-β-cyclodextrin | Product code: CY-2005.2, 27 | Revised date: 24.07.2024 |
|  | Safety Information CYCLOLAB R&D. Ltd., Budapest, Hungary | Version: 2.4 Page: 1/4 |

1. Identification of the Substance/Preparation and Company

Name of substance/preparation:

Chemical name: (2-Hydroxypropyl)- β -cyclodextrin
Abbreviation: HPBCD

Use of substance/preparation:

Industrial, laboratory chemicals, solubilizer, chiral separator

Information about Manufacturer:

Cyclolab R&D. Ltd., Budapest, Hungary
H-1097 Budapest, IX. Illatos út 7, Hungary

Tel: (36-1)-347-60-70; e-mail: cyclolab@cyclolab.hu

2. Hazards Identification

Classification and labelling according to EC 1272/2008

| | | |
|----------|---|---|
| H-pharse | - | - |
| P-pharse | - | - |

Not a dangerous substance according to GHS.

Further information:

Risk of dust explosion.

3. Composition/Information on ingredients

Chemical characterization (preparation):

| EC-No. | CAS No. | Chemical characteristics |
|-----------|-------------|--|
| 420-920-1 | 128446-35-5 | (2-Hydroxypropyl)- β -cyclodextrin |

4. First-Aid Measures

General information

In case of accident or if you feel unwell seek medical advice (show label or MSDS where possible)

If inhaled

Provide fresh air.

In case of skin contact

Wash off with plenty of water and soap.

In case of eye contact

Rinse thoroughly with plenty of water.

If swallowed

Rinse mouth with water. Drink several small portions of water. Do not induce vomiting. Never give anything by mouth to an unconscious person.

5. Fire Fighting Measures

Suitable extinguishing media:

Water, extinguishing powder, alcohol-resistant foam, carbon dioxide

Extinguishing media which must not be used for safety reasons:


n.d.

Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases:

At low oxygen level: carbon monoxide

Special protective equipment for fire fighters:

Use respiratory protection independent of recirculated air.

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6. Accidental Release Measures

Personal precautions:

Wear personal protection equipment. Avoid dust formation. Do not breathe dust.

Environmental precautions:

Cover any spilled material in accordance with regulations to prevent dispersal by wind. Observe local/state/federal regulations.

Methods for cleaning up:

Take up mechanically and dispose of according to local/state/federal regulations. Avoid formation of dust and dust deposition. Dispose of cleansing water in accordance with local/state/federal regulations.

7. Handling and Storage

Handling

Precaution for safe handling: Avoid dust formation.

Precautions against fire and explosion: Observe the general rules for fire prevention. Avoid dust deposit, remove dust regularly. Take precautionary measures against electrostatic charging. Take precautionary measures against dust explosion.

Storage

Conditions for storage rooms and vessels: Observe precautionary measures against dust explosion.

Advice for storage of incompatible materials: none known

Further information for storage: Keep container tightly closed. Protect from direct light and source of heat. Store under dry conditions below 30 °C, in well-ventilated place.

8. Exposure Control and Personal Protection Equipment

Exposure limits

n.d.

Exposure limited and controlled

Exposure in the workplace limited and controlled:

General protection and hygiene measures: Observe standard industrial hygiene practices for the handling of chemical substances.

Personal protection equipment:

Respiratory protection: In case of dust formation: fine dust mask without protection rating.

Hand protection: rubber gloves

Eye protection: tight fitting protective goggles

Exposure to the environment limited and controlled:

Prevent material from entering surface waters and soil

Further information for system design and engineering measures

Observe information in section 7.


9. Physical and Chemical Properties

General information

| | |
|----------------------------|----------------|
| Physical state/form | solid - powder |
| Colour | white |
| Odour | odourless |

Important information about the protection of health, safety, and the environment

| | |
|------------------------------------|---------------------|
| Melting point/range | 120-160°C |
| Flash point | n.d. |
| Ignition temperature | 420°C |
| Auto-ignition temperature | n.d. |
| Oxidizing properties | no |
| Lower explosion limit (LEL) | 60 g/m ³ |
| Upper explosion limit (UEL) | n.d. |

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| | |
|---------------------------------------|--------------------------------|
| Bulk density | approx. 0.4 kg/dm ³ |
| Water solubility / miscibility | > 33 g/100 ml at RT |
| pH- value | n.d. |

Other information

See Product Information Sheet.

10. Stability and Reactivity

General information:

If stored and handled in accordance with standard industrial practices no hazardous reactions are known.

Conditions to avoid:

none known

Materials to avoid:

Decomposes in strongly acidic and basic solutions

Hazardous decomposition products:

none known

11. Toxicological Information

General information:

According to our present state of knowledge no damaging effect expected when treated in accordance with standard industrial practices and local regulations where applicable.

Toxicological tests:

Acute toxicity (LD50/LC50-values relevant to classification):

LD 50 (oral, rat): > 2243 mg/kg

LD 50 (dermal, rat): > 2000 mg/kg

Based on the available data acute toxic effects are not expected after single oral exposure. Based on the available data acute toxic effects are not expected after single dermal exposure.

Primary irritation:

To skin (rabbit): not irritating

To eyes (rabbit): not irritating

Sensitization:

To skin (guinea-pig): not sensitizing

Substance to chronic toxicity:

NOAEL (rat, repeated dose 90-day oral toxicity study) > 4400 mg/kg/d

NOAEL (spray/dust; rat, repeated dose inhalation toxicity study) 0.01 mg/l/6h/d

Reference points for mutagenic potential:

Bacterial reverse mutation test: not mutagenic

In vitro mammalian chromosomal aberration test: not mutagenic

Experience with man:-

12. Ecological Information

Ecotoxicity

LC 50 (Brachydanio rerio, acute, 96 h exp. time): >1131 mg/l

EC 50 (Daphnia magna, acute, 48 h exp. time): > 1084 mg/l

IC 50 (Selenastrum capricornutum, acute, 72 h exp. time) > 1182 mg/l

No expected damaging effects to aquatic organisms.

According to current knowledge adverse effects on water purification plants are not expected

Mobility

n.d.

Persistence and degradability


Biodegradation / further information: not readily biodegradable.

Bio-accumulation potential

Bio-accumulation is not expected to occur. $\log P_{OW} \leq 3.0$

Additional information

Prevent material from entering surface waters and soil. Only introduce into water purification plants in diluted state.

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No environmental problems expected if handled and treated in accordance with standard industrial practices and local regulations where applicable

13. Disposal Considerations

Material

Recommendation:

Observe local/state/federal regulations.

Uncleaned packaging

Recommendation:

Completely discharge containers (no powder rest, scraped carefully). Containers may be recycled or re-used. Observe local/state/federal regulations.

14. Transport Regulations

Land transport ADR and RID:

Road ADR:

Not regulated for transport.

Railway RID:

Not regulated for transport

Transport by sea IMDG-Code:

Sea IMDG-Code:

Not regulated for transport

Air transport ICAO-TI/IATA-DGR:

Air transport ICAO-TI/IATA-DGR:

Not regulated for transport

15. Regulatory Information

National and local regulations must be observed.

16. Other Information

Material

The above information describes exclusively the safety requirements of the product(s) and is based on our present-day knowledge. It does not represent a guarantee for the properties of the product(s) described in terms of the legal warranty regulations. Properties of the product are to be found in the respective product leaflet (if applicable).

Further information

This version supersedes all previous versions.