

Safety Data Sheet according to Regulation (EC) No 1907/2006 (REACH) Classifications according to Regulation (EC) No 1272/2008. Printdate 16 Aug 2022

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product name:

Hexamethylene diisocyanate

1.1. Catalog No.:

685917

1.2. Relevant identified uses of the substance or mixture Identified: Laboratory chemical uses: R&D

uses:

1.3. Uses advised against:

HPC Standards GmbH Am Wieseneck 7

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1.4. Emergency telephone number

HPC Standards Tel. +49 34291 3372-36 This number is only available during office hours.

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture Classification according to Regulation (EC) No 1272/2008 Acute toxicity, Oral (Category 4), H302 Acute toxicity, Inhalation (Category 3), H331 Acute toxicity, Inhalation (Category 1), H330 Skin corrosion (Category 1C), H314 Skin irritation (Category 2), H315 Eye irritation (Category 2), H319 Respiratory sensitisation (Category 1), H334 Skin sensitisation (Category 1), H317 Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335 2.1 Classification of the substance or mixture

2.2. Label elements

2.2.1. Pictogram





2.2.2.

2.2 Label elements Labelling according Regulation (EC) No 1272/2008 Pictogram Signal word Danger Hazard statement(s) H302 Harmful if swallowed. H314 Causes severe skin burns and eye damage. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H330 Fatal if inhaled. H331 Toxic if inhaled. H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. It inhaled. H335 May cause respiratory irritation. Precautionary statement(s) P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. P264 Wash skin thoroughly after handling. P280 Wear protective gloves. P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor. P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor CENTER/doctor. P403 + P233 Store in a well-ventilated place. Keep container tightly closed. Supplemental Hazard Statements none 2.3 Other hazards This substance/mixture contains no components considered to be either persistent. bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher. Lachrymator., Rapidly absorbed through skin.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances Synonyms : 1,6-Diisocyanatohexane Formula : C8H12N2O2 Molecular weight : 168,19 g/mol CAS-No. : 822-06-0 EC-No. : 212-485-8 Index-No. : 615-011-00-1 Component Classification Concentration Hexamethylene diisocyanate Acute Tox. 4; Acute Tox. 3; Acute Tox. 1; 1C; Skin Irrit. 2; Eye Irrit. 2; Resp. Sens. 1; Skin Sens. 1; STOT SE 3; H302, H331, <= 100 % H330, H314, H315, H319, H334, H317, H335 Concentration limits: >= 0,5 %: Resp. Sens. 1, H334; >= 0,5 %: Skin Sens. 1, H317;



3.1.2. Molecular Weight (g/mol)

168.19

3.1.3. CAS-No.

822-06-0

4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. If inhaled If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed No data available

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media Suitable extinguishing media Suitable extinguishing media Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. 5.2 Special hazards arising from the substance or mixture Carbon oxides, Nitrogen oxides (NOx) 5.3 Advice for firefighters Wear self-contained breathing apparenties for firefighting if your Wear self-contained breathing apparatus for firefighting if necessary. 5.4 Further information No data available



6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

For personal protection see section 8.

6.2 Environmental precautions Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in

suitable, closed containers for disposal. 6.4 Reference to other sections

For disposal see section 13

7. HANDLING AND STORAGE

7.1 Precautions for safe handling Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. For precautions see section 2.2. 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. Store in cool place. Store under inert gas. Moisture sensitive. 7.3 Specific end use(s) Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties
a) Appearance Form: liquid
b) Odour No data available
c) Odour Threshold No data available
d) pH No data available
e) Melting
point/freezing point point/freezing point No data available f) Initial boiling point and boiling range 82 - 85 °C at 0,1 hPa g) Flash point 130 °C - DIN 51755 Part 1 h) Evaporation rate No data available i) Flammability (solid, gas) No data available j) Upper/lower flammability or



explosive limits Upper explosion limit: 9,5 %(V) Lower explosion limit: 0,9 %(V) k) Vapour pressure No data available I) Vapour density No data available m) Relative density 1,047 g/mL at 20 °C n) Water solubility No data available o) Partition coefficient: n-octanol/water No data available p) Auto-ignition temperature No data available q) Decomposition temperature No data available r) Viscosity No data available s) Explosive properties No data available t) Oxidizing properties No data available 9.2 Other safety information 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 No data available 10.4 Conditions to avoid Heat Avoid moisture. 10.5 Incompatible materials No data available 10.6 Hazardous decomposition products Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NOX) Other decomposition products - No data available In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects Acute toxicity LD50 Oral - Rat - male - 746 mg/kg (OECD Test Guideline 401) LC50 Inhalation - Rat - male and female - 4 h - 0,124 mg/l (OECD Test Guideline 403) LD50 Dermal - Rat - male and female - > 7.000 mg/kg (OECD Test Guideline 402) Skin corrosion/irritation Skin - Rabbit Result: Corrosive - 4 h (OECD Test Guideline 404) Serious eye damage/eye irritation Eyes - Rabbit Result: Causes serious eye damage. (OECD Test Guideline 405) Respiratory or skin sensitisation Maximisation Test - Guinea pig



Result: positive (OECD Test Guideline 406) Germ cell mutagenicity Ames test Salmonella typhimurium Result: negative (IUCLID) Mutagenicity (mammal cell test): Chinese hamster ovary cells Result: negative (Lit.) OECD Test Guideline 474 Mouse - male and female - Bone marrow Result: negative Carcinogenicity - Did not show carcinogenic effects in animal experiments. IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. Reproductive toxicity Specific target organ toxicity - single exposure May cause respiratory irritation. - Respiratory system Specific target organ toxicity - repeated exposure Aspiration hazard Additional Information RTECS: MO1740000 burning sensation, Cough, wheezing, laryngitis, Shortness of breath, spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., To the best of our knowledge, the chemical, shuries and toxicely a properties have not been thoroughly investigated.

12. ECOLOGICAL INFORMATION

12.1 Toxicity Toxicity to algae Growth inhibition ErC50 - Desmodesmus subspicatus (green algae) -> 77,4 mg/l - 72 h (OECD Test Guideline 201) Growth inhibition NOEC - Desmodesmus subspicatus (green algae) -11,7 mg/l - 72 h (OECD Test Guideline 201) Toxicity to bacteria Remarks: (IUCLID)(Hexamethylene diisocyanate) 12.2 Persistence and degradability Biodegradability Result: 0 % - Not readily eliminated from water. (OECD Test Guideline 302C) aerobic - Exposure time 28 d Result: 42 % - Not readily biodegradable. (OECD Test Guideline 301F) 12.3 Bioaccumulative potential 12.4 Mobility in soil 12.5 Results of PBT and vPvB assessment This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher. 12.6 Other adverse effects Harmful to aquatic life. Stability in water - 5 - 10 min at 20 °C Remarks: Hydrolyses on contact with water

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods Product Offer surplus and non-recyclable solutions to a licensed disposal company. Waste material



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must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself. Contaminated packaging Dispose of as unused product

14. TRANSPORT INFORMATION

14.1 UN number ADR/RID: 2281 IMDG: 2281 IATA: 2281 14.2 UN proper shipping name ADR/RID: HEXAMETHYLENE DIISOCYANATE IMDG: HEXAMETHYLENE DIISOCYANATE IATA: Hexamethylene diisocyanate 14.3 Transport hazard class(es) ADR/RID: 6.1 IMDG: 6.1 IATA: 6.1 14.4 Packaging group ADR/RID: 11 IMDG: 11 IATA: 11 14.5 Environmental hazards ADR/RID: no IMDG Marine pollutant: no IATA: no 14.6 Special precautions for user No data available

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006. 15.2 Chemical safety assessment For this product a chemical safety assessment was not carried out

16. OTHER INFORMATION

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. For lab use only!