

1. IDENTIFICATION

Product identifier

Product Name EPIC Part B

Other means of identification

Part Number(s) 210000, 210101, 210202, 210700

Recommended use of the chemical and restrictions on use

Recommended use Intermediate (isolated), Hardener for coating materials for industrial or professional use, Isocyanate used in the manufacturing of polyurethanes

Uses advised against Consumer

Details of the supplier of the safety data sheet

Manufacturer Address

ULTRA DURABLE TECHNOLOGIES
355 6th Ave. North
Waite Park, MN 56387
320-258-2266

Emergency telephone number

Emergency Telephone Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Acute Toxicity	Category 4
Skin Sensitization	Category 1
Specific target organ toxicity (single exposure) (respiratory tract irritation) - category 3	Category 3

Label elements

Pictogram



Signal Word:

Warning

Hazard statements

Harmful if inhaled.
May cause an allergic skin reaction.

May cause respiratory irritation.

Appearance No information available

Physical state Liquid**Odor** No information available**Precautionary Statements - Prevention**

Wear protective gloves.
Use only outdoors or in a well-ventilated area.
Do not breathe mist or vapor.
Contaminated work clothing should not be allowed out of the workplace.

Precautionary Statements - Response

Call a POISON CENTER or physician if you feel unwell.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical attention.
Take off contaminated clothing and wash it before reuse.

Precautionary Statements - Storage

Store in a well-ventilated place. Keep container tightly closed.
Store locked up.

Precautionary Statements - Disposal

Dispose of contents/container in accordance with local regulations

Hazards not otherwise classified (HNOC)

No specific dangers known if the regulations/notes for storage and handling are considered.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS No	Weight-%	Trade Secret
(OLIGOMER) Hexamethylene diisocyanate isocyanurate-type oligomers	28182-81-2	>= 95.0 - <= 100.0%	*
1,6-hexamethylene diisocyanate	822-06-0	>= 0.0 - < 0.1%	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES**Description of first aid measures**

Eye contact	Wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist. Remove contact lenses if present. If symptoms persist, seek medical advice.
Skin Contact	Wash affected areas thoroughly with soap and water. If irritation develops, seek medical attention.
Inhalation	Remove the affected individual into fresh air and keep the person calm. Assist in breathing if necessary. Immediate medical attention required.
Ingestion	Immediately rinse mouth and then drink 200 - 300 ml water, do not induce vomiting, seek medical attention. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions.

Most important symptoms and effects, both acute and delayed

Symptoms	Overexposure may cause: Eye irritation, skin irritation, erythema, nausea, headache, vomiting, dizziness, diarrhea, abdominal cramps.
-----------------	---

Indication of any immediate medical attention and special treatment needed

Note to physicians

Treatment: Inhale corticosteroid dose aerosol. Treat according to symptoms (decontamination, vital functions), no known specific antidote, administer corticosteroid dose aerosol to prevent pulmonary edema.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Use dry powder, foam.

Unsuitable extinguishing media No data available.

Specific hazards arising from the chemical

Harmful vapors. Evolution of fumes/fog. The substances/groups of substances mentioned can be released in case of fire.

Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures**Personal precautions**

Ensure adequate ventilation, especially in confined areas.

Environmental precautions**Environmental precautions**

This product is regulated by CERCLA ('Superfund').

Methods and material for containment and cleaning up**Methods for containment**

Prevent further leakage or spillage if safe to do so.

Methods for cleaning up

Use personal protective equipment as required. Spills should be contained, solidified, and placed in suitable containers for disposal. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling**Advice on safe handling**

Keep away from sources of ignition - No smoking.
Protection against fire and explosion:
Avoid all sources of ignition: heat, sparks, open flame.

Conditions for safe storage, including any incompatibilities**Storage Conditions**

Keep container tightly closed and dry; store in a cool place.

Incompatible materials

None known based on information supplied.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

1,6-hexamethylene diisocyanate ACGIH, US: TWA value 0.005 ppm ;

Advice on system design: Ensure adequate ventilation.

Other Information none.**Appropriate engineering controls**

Engineering Controls

Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Tightly fitting safety goggles (chemical goggles). Wear face shield if splashing hazard exists.

Skin and body protection Chemical resistant protective gloves and impermeable protective clothing.

Respiratory protection Respiratory protection in case of vapor/aerosol release. Combination filter for gases/vapors of organic compounds and solid and liquid particles (f.e. EN 14387 Type A-P2).

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties**

Physical State	Liquid
Appearance	
Color	Clear and Colorless to yellowish
Odor	Almost Odorless
Odor Threshold	Not determined due to potential health hazard by inhalation

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No information available	
Melting point / freezing point	No information available	
Boiling point / boiling range	300 - 355 °C / 176 °F	
Flash point	237.5 °C	
Evaporation rate	No information available	
Flammability (solid, gas)	Not flammable	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	3 mbar (20 °C)	
Vapor density	1.168 g/cm ³ (20 °C)	
Specific Gravity	No information available	
Water solubility	Reacts with water, not soluble	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	

Kinematic viscosity	No information available
Dynamic viscosity	No information available
Explosive properties	No information available

10. STABILITY AND REACTIVITY

Reactivity

Oxidizing properties:
not fire-propagating

Chemical stability

The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions

Reacts with alcohols. Reacts with amines. Reacts with substances which contain active hydrogen.
Reacts with water, with formation of carbon dioxide. The formation of gaseous decomposition products builds up pressure in tightly closed containers

Conditions to avoid

Avoid moisture.

Incompatible materials

water, alcohols, amines

Hazardous decomposition products

Decomposition products:

Hazardous decomposition products:

No hazardous decomposition products if stored and handled as prescribed/indicated.

Thermal decomposition:

140 °C, 2.5 K/min (DSC (DIN 51007))

The indicated value is for inert gas atmosphere.

290 °C, 2.5 K/min (DSC (DIN 51007))

The indicated value is for inert gas atmosphere.

425 °C, 2.5 K/min (DSC (DIN 51007))

The indicated value is for inert gas atmosphere.

20 - 145 °C (Warm storage test)

No exothermic decomposition within the mentioned temperature range. 125 °C, 2.5 K/min (DSC (DIN 51007))

Oxidization on contact with air above the mentioned temperature.

11. TOXICOLOGICAL INFORMATION

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity

Assessment of acute toxicity: Virtually nontoxic after a single ingestion. Virtually nontoxic after a single skin contact. Of moderate toxicity after short-term inhalation.

Information on: (OLIGOMER) Hexamethylene diisocyanate isocyanurate-type oligomers

Assessment of acute toxicity: Virtually nontoxic after a single ingestion. Virtually nontoxic after a single skin contact. Of moderate toxicity after short-term inhalation.

Information on: 1,6-hexamethylene diisocyanate

Assessment of acute toxicity: Of high toxicity after short-term inhalation. In animal studies the substance is virtually nontoxic after a single skin contact. Of moderate toxicity after single ingestion.

Oral

Type of value: LD50

Species: rat (female)

Value: > 2,500 mg/kg (OECD Guideline 423)

Inhalation

Type of value: LC50

Species: rat (male/female)

Value: 0.467 mg/l (OECD Guideline 403)

Exposure time: 4 h

The test result applies only to the substance transferred into respirable aerosol (particles < 20 µm). The substance from the isocyanate substance class has been tested in a form (respirable aerosol) that is different from the forms in which the product is placed on the market and used. Therefore, the test result is not adequate for the purpose of classification and labelling of the product. Based on expert judgement and available data, a modified classification and labeling for acute inhalation toxicity is justified. The generation of a respirable aerosol must be prevented!

Dermal

Type of value: LD50

Species: rat (male/female)

Value: > 2,000 mg/kg (OECD Guideline 402)

Assessment other acute effects

Assessment of STOT single:

Causes temporary irritation of the respiratory tract.

Irritation / corrosion

Assessment of irritating effects: May cause slight irritation to the skin. May cause slight irritation to the eyes.

Information on: (OLIGOMER) Hexamethylene diisocyanate isocyanurate-type oligomers

Assessment of irritating effects: May cause slight irritation to the skin. May cause slight irritation to the eyes.

Information on: 1,6-hexamethylene diisocyanate

Assessment of irritating effects: Irritating to eyes and skin.

Skin

Species: rabbit

Result: Slightly irritating.

Method: OECD Guideline 404

Eye

Species: rabbit

Result: Slightly irritating.

Method: OECD Guideline 405

Sensitization

Assessment of sensitization: Caused skin sensitization in animal studies.

Information on: (OLIGOMER) Hexamethylene diisocyanate isocyanurate-type oligomers

Assessment of sensitization:

Caused skin sensitization in animal studies.

Information on: 1,6-hexamethylene diisocyanate

Assessment of sensitization:

The substance may cause sensitization of the respiratory tract. Sensitization after skin contact possible.

Guinea pig maximization test

Species: guinea pig

Result: sensitizing

sensitizing effect in animal tests

Aspiration Hazard

No aspiration hazard expected.

Chronic Toxicity/Effects

Repeated dose toxicity

Assessment of repeated dose toxicity: After repeated exposure the prominent effect is local irritation.

Genetic toxicity

Assessment of mutagenicity: The substance was not mutagenic in bacteria. The substance was not mutagenic in mammalian cell culture.

Carcinogenicity

Assessment of carcinogenicity: Study scientifically not justified.

Reproductive toxicity

Assessment of reproduction toxicity: Study scientifically not justified.

Teratogenicity

Assessment of teratogenicity: Study scientifically not justified.

12. ECOLOGICAL INFORMATION

Toxicity**Aquatic toxicity****Assessment of aquatic toxicity:**

The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations. There is a high probability that the product is not acutely harmful to aquatic organisms. The product may hydrolyse. The test result maybe partially due to degradation products.

Toxicity to fish

LC0 (96 h) \geq 100 mg/l, Brachydanio rerio (OECD 203; ISO 7346; 92/69/EEC, C.1, static)

The product may hydrolyse. The test result maybe partially due to degradation products. The product has low solubility in the test medium. An eluate has been tested. Nominal concentration.

Aquatic invertebrates

EL50 (48 h) 127 mg/l, Daphnia magna (Directive 92/69/EEC, C.2, static)

Nominal concentration. The product may hydrolyse. The test result maybe partially due to degradation products.

Aquatic plants

EC50 (72 h) $>$ 1,000 mg/l (growth rate), Scenedesmus subspicatus (OECD Guideline 201, static)

Nominal concentration. The product may hydrolyse. The test result maybe partially due to degradation products.

Chronic toxicity to fish

Study not necessary due to exposure considerations.

Chronic toxicity to aquatic invertebrates

Study not necessary due to exposure considerations.

Assessment of terrestrial toxicity

No data available concerning terrestrial toxicity.

Study not necessary due to exposure considerations.

Microorganisms/Effect on activated sludge**Toxicity to microorganisms**

OECD Guideline 209 static activated sludge of a predominantly domestic sewage/EC20 (3 h): 880 mg/l

Nominal concentration. The product may hydrolyse. The test result maybe partially due to degradation products.

Persistence and degradability**Assessment biodegradation and elimination (H2O)**

Poorly biodegradable. The product is unstable in water. The elimination data also refer to products of hydrolysis.

Elimination information

1 % BOD of the ThOD (28 d) (OECD 301D; EEC 92/69, C.4-E) (aerobic, activated sludge, domestic, non-adapted)

Assessment of stability in water

In contact with water the substance will hydrolyse rapidly.

Information on Stability in Water (Hydrolysis)

t1/2 < 1 h, (OECD Guideline 111, pH 4)

t1/2 < 1 h, (OECD Guideline 111, pH 7)

t1/2 < 1 h, (OECD Guideline 111, pH 9)

Bioaccumulative potential**Assessment bioaccumulation potential**

Significant accumulation in organisms is not to be expected.

The product has not been tested. The statement has been derived from the structure of the product.

Bioaccumulation potential

Bioconcentration factor: 367.7, Fish (calculated)

Analogous: Assessment derived from products with similar chemical character.

Mobility in soil**Assessment transport between environmental compartments**

The substance will not evaporate into the atmosphere from the water surface.

No data available.

Additional information

Other ecotoxicological advice:

Do not release untreated into natural waters. The local regulations on waste-water treatment must be followed.

13. DISPOSAL CONSIDERATIONS**Waste disposal of substance**

Dispose of in a licensed facility. Do not discharge into waterways or sewer systems without proper authorization.

Container disposal

Dispose of in a licensed facility. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers.

RCRA

None

14. TRANSPORT INFORMATION**Land transport**

USDOT - Not classified as a dangerous good under transport regulations

Sea transport

IMDG - Not classified as a dangerous good under transport regulations

Air transport

IATA/ICAO - Not classified as a dangerous good under transport regulations

15. REGULATORY INFORMATION**Federal Regulations****Registration status:**

Chemical TSCA, US released / listed

EPCRA 311/312 (Hazard categories): Refer to SDS section 2 for GHS hazard classes applicable for this product.

NFPA Hazard codes:

Health: 2 Fire: 1 Reactivity: -W- Special:

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

Revision Date

28-Dec-2023

Revision Note

General formatting updates

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information, and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. Shipping information may vary based upon container size and shipping destination. Each user of this material needs to evaluate the conditions of use and design the appropriate protective mechanisms to prevent employee exposures, property damage, or

release to the environment. The manufacturer assumes no responsibility for injury to the recipient or third persons, or for any damages to any property resulting from misuse of the product.

End of Safety Data Sheet

End of Safety Data Sheet