

**Section 1. Identification**

**Product Name:** EPN-453 Part B  
**Supplier:** CSNRI | 621 Lockhaven Drive. Houston, TX 77073 | +1 281.590.8491  
**Emergency Phone Number:** 800.424.9300 (CHEMTREC)  
+1 703.741.5970 (Outside the US)  
**Product Description:** Hardener for epoxy resin  
**Product Use:** Intended to repair pipes

**Section 2. Hazards Identification****GHS classification**

Acute toxicity / Oral - Category 4  
Acute toxicity / Dermal - Category 4  
Skin corrosion / Irritation - Category 1B  
Eye damage / Irritation - Category 1  
Specific target organ toxicity - repeated exposure (Oral) - Category 2  
Aquatic Acute – Category 1  
Aquatic Chronic - Category 1

**GHS label elements:**

**Signal word:** Danger

**Hazard statements:**

H302 Harmful if swallowed.  
H312 Harmful in contact with skin  
H314 Causes severe skin burns and eye damage.  
H318 Causes serious eye damage  
H373 May cause damage to organs through prolonged or repeated exposure if swallowed.  
H400 Very toxic to aquatic life  
H410 Very toxic to aquatic life with long lasting effects.

**Precautionary statements:**

P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.  
P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.  
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician.  
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.  
P308 + P313 IF exposed or concerned: Get medical advice/ attention.

Other hazards: None known.

### Section 3. Composition/Information on Ingredients

**Substance / Mixture:** Preparation

**Chemical nature:** Epoxy constituents

**Hazardous components**

Chemical Name	CAS No.	Weight %
Diethylmethylenediamine	68479-98-1	30 – 50
1,2-Diaminocyclohexane, mixture of cis and trans	694-83-7	30 – 50
Titanium Dioxide	13463-67-7	1 – 5

### Section 4. First Aid Measures

**Description of first-aid measures:**

**General advice:** Move out of dangerous area. Consult a physician. Show this safety data sheet to the doctor in attendance. Do not leave the victim unattended.

**If inhaled:** If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

**In case of skin contact:** Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty. If on skin, rinse well with water. If on clothes, remove clothes.

**In case of eye contact:** Small amounts splashed into eyes can cause irreversible tissue damage and blindness. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Continue rinsing eyes during transport to hospital. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.

**If swallowed:** Keep respiratory tract clear. Do NOT induce vomiting. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.

**Most important symptoms and effects, both acute and delayed:** Harmful if swallowed. May cause an allergic skin reaction. Causes serious eye damage. Suspected of causing cancer. May cause damage to organs through prolonged or repeated exposure if swallowed. Causes severe burns.

### Section 5. Fire-fighting Measures

**Unsuitable extinguishing media:** High volume water jet

**Specific hazards during firefighting:** Do not allow run-off from fire fighting to enter drains or water courses.

**Further information:** Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

**Special protective equipment for firefighters:** In the event of fire, wear self-contained breathing apparatus.

### Section 6. Accidental Release Measures

**Personal precautions, protective equipment and emergency procedures:** Use personal protective equipment.

**Environmental precautions:** Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.

**Methods and materials for containment and cleaning up:** Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

**Section 7. Handling and Storage**

**Advice on protection against fire and explosion:** Normal measures for preventive fire protection.

**Advice on safe handling:** Do not breathe vapours/dust. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. To avoid spills during handling keep bottle on a metal tray. Dispose of rinse water in accordance with local and national regulations.

**Conditions for safe storage:** 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. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

**Section 8. Exposure Controls/Personal Protection**

**Exposure limits:**

Component	Value type (Form of exposure)	Control parameters / Permissible Concentration	Basis
Titanium Dioxide	TWA (total dust)	15 mg/m <sup>3</sup>	OSHA Z-1
	TWA (total dust)	10 mg/m <sup>3</sup>	OSHA P0
	TWA	10 mg/m <sup>3</sup>	ACGIH

**Appropriate Engineering Controls:** Ventilation must be adequate for most operations.

**Personal protective equipment:**

**Respiratory protection:** In the case of vapour formation use a respirator with an approved filter.

**Hand protection:** The suitability for a specific workplace should be discussed with the producers of the protective gloves.

**Eye protection:** Eye wash bottle with pure water. Tightly fitting safety goggles. Wear face-shield and protective suit for abnormal processing problems.

**Skin and body protection:** impervious clothing. Choose body protection according to the amount and concentration of the dangerous substance at the work place.

**Hygiene measures:** When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

**Section 9. Physical and Chemical Properties**

<b>Physical State:</b>	Liquid (Viscous)
<b>Colour:</b>	White
<b>Odour:</b>	Ammoniacal
<b>pH:</b>	No data available
<b>Melting Point/ Freezing Point:</b>	No data available
<b>Boiling point:</b>	No data available
<b>Flash Point:</b>	No data available
<b>Evaporation rate (ether=1):</b>	No data available

Flammability (solid, gas):	No data available
Lower and Upper Explosion limits/ Flammability Limits:	No data available
Vapour Pressure:	No data available
Relative Vapour Density:	No data available
Relative Density:	No data available
Solubilities:	No data available
Partition coefficient (n-octanol/water):	No data available
Auto-ignition temperature:	No data available
Decomposition Temperature:	No data available
Viscosity:	No data available
Explosive properties:	No data available
Oxidizing properties:	No data available

### Section 10. Stability and Reactivity

**Reactivity:** No decomposition if stored and applied as directed.

**Chemical stability:** No decomposition if stored and applied as directed.

**Possibility of hazardous reactions:** No decomposition if stored and applied as directed.

**Conditions to avoid:** No data available.

**Incompatible Materials / Chemicals:** No data available.

**Hazardous Decomposition Products:** No data available.

### Section 11. Toxicological Information

**Acute toxicity:** Harmful if swallowed.

**Oral toxicity:** Acute toxicity estimate: 1,002 mg/kg  
Method: Calculation method

**Dermal toxicity:** Acute toxicity estimate: 2,204 mg/kg  
Method: Calculation method

**Skin corrosion/irritation:** Causes severe burns. Extremely corrosive and destructive to tissue.

**Serious eye damage/eye irritation:** Causes serious eye damage. May cause irreversible eye damage.

**Skin sensitization:** Not classified based on available information.

**Respiratory sensitisation:** Not classified based on available information.

**Germ cell mutagenicity:** Not classified based on available information.

**Carcinogenicity:** Suspected of causing cancer.

**IARC** Group 2B: Possibly carcinogenic to humans.  
Titanium Dioxide

**OSHA** No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**NTP** No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

**Reproductive Toxicity:** Not classified based on available information.

**STOT - single exposure:** Not classified based on available information.

**STOT - repeated exposure:** May cause damage to organs through prolonged or repeated exposure if swallowed.

**Aspiration Toxicity:** Not classified based on available information.

**Section 12. Ecological Information**

**Ecotoxicity:** No data available

**Persistence and degradability:** No data available

**Bioaccumulative potential:** No data available

**Mobility in soil:** No data available

**Other adverse effects:** Ozone-Depletion Potential: Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances. Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B). Additional ecological information: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life with long lasting effects.

**Section 13. Disposal Considerations**

**Waste treatment methods:** Do not dump to ground, sewers or watercourses. Dispose of at a licensed waste disposal facility utilizing methods that are in compliance with all applicable federal, state and local laws regulations. Waste characterization and compliance with applicable laws are the responsibility solely of the waste generator.

**Uncleaned packaging:** Empty containers should be taken to an approved waste handling site for recycling or disposal.

**Section 14. Transport Information****International Regulation****IATA-DGR**

UN/ID No.: UN2735

Proper shipping name: Polyamines, liquid, corrosive, n.o.s. (1,2-Diaminocyclohexane, mixture of cis and trans)

Class: 8

Packing group: III

Labels: Corrosive

Packing instruction (cargo aircraft): 856

Packing instruction (passenger aircraft): 852

**IMDG-CODE**

UN/ID No.: UN2735

Proper shipping name: Polyamines, liquid, corrosive, n.o.s. (1,2-Diaminocyclohexane, mixture of cis and trans)

Class: 8

Packing group: III

Labels: 8

EmS Code: F-A, S-B

Marine pollutant: No

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:** Not applicable for product as supplied.

**National Regulations**

**49 CFR**

UN/ID No.: UN2735

Proper shipping name: Polyamines, liquid, corrosive, n.o.s. (1,2-Diaminocyclohexane, mixture of cis and trans)

Class: 8

Packing group: III

Labels: Corrosive

ERG Code: 154

Marine pollutant: No

## Section 15. Regulatory Information

### EPCRA - Emergency Planning and Community Right - to - Know Act

**CERCLA Reportable Quantity:** This material does not contain any components with a CERCLA RQ.

**SARA 304 Extremely Hazardous Substances Reportable Quantity:** This material does not contain any components with a section 304 EHS RQ.

**SARA 311/312 Hazards:** Chronic Health Hazard. Acute Health Hazard.

**SARA 302:** No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313:** This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**Clean Air Act:** This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B). This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61). This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F). This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489).

**Clean Water Act:** This product does not contain any Hazardous Substances listed under the U.S. Clean Water Act, Section 311, Table 116.4A. This product does not contain any Hazardous Chemicals listed under the U.S. Clean Water Act, Section 311, Table 117.3. This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307.

**California Prop 65:** WARNING! This product contains a chemical known to the State of California to cause cancer.

Titanium Dioxide

13463-67-7

## Section 16. Other Information

The information contained herein is based on the data available to us and is believed to be accurate. The data is offered in good faith as typical values and not as product specification. The information in this data sheet was compiled from information supplied by the vendors of the components of this compound. CSNRI makes no warranty either expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. The recommended industrial hygiene and safe handling procedures are believed to be genuinely applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate. CSNRI assumes no responsibility for injury from the use of the product described herein. The information is intended only to assist in the safe handling of this material. CSNRI DISCLAIMS ALL EXPRESS AND IMPLIED WARRANTIES INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR FREEDOM FROM PATENT INFRINGEMENT. CSNRI WILL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES.

Date of issue: 01/26/2016

Revision date: 08/31/2021

Supersedes: 10/01/2016

Version: 3.0