



# E1B QSC EPOXY HARDENER

## MATERIAL SAFETY DATA SHEET

Last Revised: 10 December 2024

### Substance/preparation and company identification

Warrior Pte Ltd

Contact address:

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### Composition/Information on Hazardous Ingredients

Chemical Name	%(wt)	Classification	CAS No.	EINECS No.
Triethylenetetramine	<25	C;R21-34-43-52/53	112-24-3	203-950-6

Description: Aliphatic polyamide amine

### Hazard Identification

Flammable Category Not Applicable

**Acute Toxicity** : (Oral) Category 5

**Acute Toxicity** : (Dermal) Category 5

**Dermal Corrosion /Irritation** : Category 2

**Serious Eye Damage/Eye Irritation**: Category 2B

**Skin Irritation**: Category 1

**Aquatic Toxicity (Acute)**: Category Not Applicable

**Aquatic Toxicity (Chronic)**: Category Not Applicable

**Signal Word**: WARNING

#### Hazard Statement:

1. May be harmful if swallowed
2. May be harmful in contact with skin
3. Causes skin irritation
4. Causes eye irritation
5. May cause allergic skin reaction
6. JOINTMINE 905-3S 2

#### Precautionary Statement:

1. Call a poison centre/doctor/physician if you feel unwell.
2. Wear protective gloves/clothing.
3. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
4. Wash with plenty of soap and water. If skin irritation or rash occurs, seek medical advice/attention.



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Chemical Identity	Concentration (%)	CAS No.
Cyclohexanemethanamine, 5-Amino-1,3,3-Trimethyl-, reaction products with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[-	>60	68609-08-5
Benzyl alcohol	>20	100-51-6

### First Aid Measures

- EYES:** Remove contact lenses. Hold eyelids apart. Immediately flush eyes with plenty of low pressure water for at least 15 minutes. Get immediate medical attention.
- SKIN:** Wash thoroughly with soap and water. Remove contaminated clothing. Thoroughly wash clothing before reuse. Render unusable and discard contaminated shoes and leather articles.
- INHALATION:** Remove to fresh air. Give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention.
- INGESTION:** If conscious, drink large quantities of water. Induce vomiting. Call a physician or poison control center immediately.  
NEVER give anything by mouth to an unconscious person. NEVER induce vomiting in an unconscious person.

### Fire Fighting Measures

#### **FIRE FIGHTING PROCEDURES:**

Evacuate area immediately. Do not fight fire.

#### **EXTINGUISHING MEDIA:**

Deluge with large quantities of water as quickly as possible by automatic sprinklers or fire hose from a protected location.

Product is self-oxidizing.

#### **CONDITIONS TO AVOID:**

Avoid impact, friction, heat, sparks, or flame.

#### **HAZARDOUS COMBUSTION PRODUCTS:**

If heated to combustion, the following substances may be formed: carbon monoxide, carbon dioxide, nitrogen, water, hydrogen, nitrogen oxides, methane, aldehydes, carboxylic acids, and hydrogen cyanide.

### Accidental Release Measures

Clean up spills immediately using soft natural bristle brush and conductive rubber or conductive plastic shovel. Use caution; material is sensitive to initiation from sources such as heat, flame, shock, friction, or sparks.



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### Handling and Storage

#### GENERAL MEASURES:

1. Do not pressurize or expose containers to heat, flame, sparks, static electricity, or other sources of ignition.
2. Store in a cool, dry place: approximately 68°F (20°C)
3. Store only in Department of Transportation approved containers.
4. Check old product for deterioration regularly.

#### MATERIALS OR CONDITIONS TO AVOID:

1. Avoid storing product near incompatible materials.
2. Do not store near flammable materials.
3. Do not keep deteriorated or salvaged product.
4. Keep away from heat, flame, sparks, and other ignition sources.
5. Do not store in direct sunlight or expose to UV radiation.

### Exposure Controls/Personal Protection

#### GENERAL HYGIENIC PRACTICES:

1. Avoid contact with eyes, skin, and clothing.
2. Avoid breathing dust, vapour, or mist.
3. Wash thoroughly after handling, and before eating, drinking, or smoking.
4. Avoid contamination of food, beverages, or smoking materials.
5. Remove contaminated clothing promptly and clean thoroughly before reuse.
6. Discard contaminated leather articles.

#### RECOMMENDED EXPOSURE LIMITS:

Hazardous Component Wt. % Limit Basis

TWA STEL

ppm mg/m<sup>3</sup> ppm mg/m<sup>3</sup>

- 1) ACGIH N/E N/E N/E N/E
- 2) ACGIH N/E N/E N/E N/E

#### PERSONAL PROTECTIVE EQUIPMENT:

1. Safety glasses
2. Impervious gloves
3. Appropriate respiratory protection is required when exposure to airborne contaminants may exceed acceptable limits.
4. Respirators should be selected and used in accordance with OSHA, Subpart I (29 CFR 1910.134) and manufacturer's recommendations.
5. Flame retardant clothing
6. Wear conductive safety shoes.



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### WORK PRACTICES AND ENGINEERING CONTROLS:

1. Do NOT smoke in areas where powder is stored or used.
2. Material is shock sensitive. Use care in handling.
3. Keep away from ignition sources. Friction can cause ignition.
4. Eyewash fountains and safety showers should be easily accessible.
5. Prevent build-up of static electric charges.
6. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

### PROTECTIVE MEASURES DURING REPAIR AND MAINTENANCE:

1. Eliminate ignition sources and prevent build-up of static electric charges.
2. Use spark-proof tools and explosion-proof equipment.
3. Wetting work area with water will greatly reduce hazards.
4. Completely remove product from area, and thoroughly clean all equipment, piping, or vessels before beginning maintenance or repairs.
5. A work permit system is recommended for any preparation and clean-up.

### Physical/Chemical Properties

1. Appearance: Clear liquid
2. Colour: Transparent colour
3. Odour: Ammonia like odour
4. Relative Density:  $1.04 \pm 0.03$  (approximate)
5. Solubility in water: not miscible
6. Flash Point : 105°C (C.O.C.)
7. Volatile (Wt.) %: negligible at 20°C
8. Vapour Pressure: negligible at 20°C

### Stability and Reactivity

#### GENERAL STABILITY CONSIDERATIONS:

Stable under recommended handling and storage conditions.

#### INCOMPATIBLE MATERIALS:

Incompatible with: acids, oxidizing agents, alkalis and amines and strong sunlight or ultraviolet light.

#### HAZARDOUS DECOMPOSITION PRODUCTS:

None anticipated under normal or recommended handling and storage conditions.

#### HAZARDOUS POLYMERIZATION:

Not anticipated under normal or recommended handling and storage conditions.



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### Toxicological Information

**REPORTED HUMAN EFFECTS:**

No human toxicity studies have been carried out with this product.

**REPORTED ANIMAL EFFECTS:**

Acute Toxicity oral (rat) LD50 >1000mg/kg

inhalation (rat) LD50 not determined

skin (rabbit) LD50 not determined

**SKIN IRRITATION:** May cause irritation to skin

**EYE IRRITATION:** May cause irritation to eyes

**CHRONIC TOXICITY:** No information

**SENSITIZING:** May cause sensitization by skin contact

**CARCINOGENICITY INFORMATION:** IARC : Group 4 ACHIH : A5

**REPRODUCTIVE EFFECTS:** No studies on reproductive effects have been carried out with this product.

**MUTAGENICITY/GENOTOXICITY INFORMATION:** No mutagenicity studies have been carried out with this product.

### Ecological Information

**ECOTOXICITY:** No ecological studies have been carried out with this product.

### Disposal Considerations

**WASTE DISPOSAL METHODS:**

Send to the incinerator to burn and break down the waste product.

Disposal of waste and resin should be carried out under the direct supervision of a qualified person. For industrial disposal, federal hazardous waste regulations allow open burning of wastes in permitted facilities. Burn in the open in an isolated location in small, shallow piles not over one inch deep. Stay upwind. Do not breathe products of combustion. State or local regulations may be more stringent than federal regulations.

For disposal of small quantities, contact state or local environmental agencies for options.

### Transportation Information

**ADR/RID**

UN 2289 Class: 8 Packing Group: III

Proper Shipping Name: Isophoronediamine solution

**IMDG**

UN 2289 Class: 8 Packing Group: III

Proper Shipping Name: Isophoronediamine solution

**IATA**

UN 2289 Class: 8 Packing Group: III

Proper Shipping Name: Isophoronediamine solution



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### Regulatory Information

Applicable Laws and Regulations:

1. Labor Safety and Sanitation Rules. 5. Hazards and hazardous materials of General Rules.
2. Organic Solvent Poisoning Prevention Rules 6. Workers operating in ambient air standards for allowable
3. Highway Traffic Safety Rules concentration of hazardous substances.
4. Public hazardous substances and flammable high-pressure 7. Industrial waste treatment and storage facilities for clearance gas is set and Security Management Regulations standards.

### Other Information

EEC Directive Labelling

Symbol(s) : C (Corrosive)

R-Phrase(s) : R21/22 Harmful in contact with skin and if swallowed

- Any other intended applications should be discussed with the manufacturer.
- If you have any queries relating to this MSDS, its contents or any other product safety related questions, please write to the following e-mail address: war99@singnet.com.sg
- The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. The data do not describe the product's properties (product specification). Neither should any agreed property nor the suitability of the product for any specific purpose be deduced from the data contained in the safety data sheet. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.