

## SAFETY DATA SHEET

### 1: IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING

Product Name: **Estofill - Hardener**  
Application: Hardener component of two part epoxy grout system  
Company: **Denka Construction Solutions Malaysia Sdn Bhd**  
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### 2: HAZARDS IDENTIFICATION

Type of product: Substance or mixture

#### A. Hazard Risk Classification

Skin Corrosion : Category 1B  
Skin Sensitization : Category 1  
Acute Aquatic Toxicity : Category 1  
Chronic Aquatic Toxicity : Category 1, 2  
Serious Eye Damage : Category 1

#### B. Label elements including precaution statements.

- Symbol:



- Signal word: Danger
- Hazard Risk Statement  
H314 Causes severe skin burns and eye damage  
H317 May cause allergic skin reaction  
H410 Very toxic to aquatic life with long lasting effects  
H411 Toxic to aquatic life with long lasting effects

- Precautionary Statement

(Prevention)

P201 Obtain special instruction before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray  
P273 Avoid release to the environment  
P280 Wear protective gloves/protective clothing/eye protection/face protection.

(Response)

P310 Immediately call a POISON CENTER / doctor  
 P314 Get medical advice / attention if you feel unwell  
 P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower  
 P305 + P351 + P338 IN ON EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing

- Storage

P405 + P403 + P233 Store locked up. Store in a well-ventilated place. Keep container tightly closed.

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### 3: COMPOSITION/INFORMATION ON INGREDIENTS

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| Ingredients                                  | CAS No.    | Content, % |
|--|------------|------------|
| 3,6,9-Triazaundecamethylenediamine           | 112-57-2   | 45 – 55    |
| Fatty acid, tall-oil: tetraethylenepentamine | 68953-36-6 | 45 – 55    |

All constituents of this product are listed in EINECS (European Inventory of Existing Commercial Chemical Substances) or EILINCS (European List of New Chemical Substances) or are exempt. Refer to Section 8 for Occupational Exposure Limits.

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### 4: FIRST AID MEASURES

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Description of first aid measure,

General Advice: Move out the dangerous area. Consults a physician. Show this safety data sheet to the doctor in attendance

Eyes: Rinse eyes thoroughly with water for at least 15 minutes. Hold eyelids apart, initiate and maintain gentle and continuous irrigation until the patient received medical care. If medical care is not promptly available, continue to irrigate for one hour.

Skin: Wash off immediately with soap and plenty of water. Immediately remove contaminated clothing, and any extraneous chemical, if possible to do so without delay

Inhalation: Move victim to fresh clean air. If breathing has stopped or is labored, give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately.

Ingestion: Prevent aspiration of vomit. Turn victim's head to the side. If a person vomits when lying on his back, place in the recovery position. Do not induce vomiting without medical advice.

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### 5: FIRE FIGHTING MEASURES

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Suitable Extinguishing Media: Carbon dioxide, dry chemical, dry sand, limestone powder Alcohol-resistant foam

Special Exposure Hazards: May generate ammonia gas, carbon monoxide and toxic nitrogen oxide gases

Special Protective Equipment: Use PPE. Wear self-contained breathing apparatus for firefighting if necessary. Avoid contact with skin. A face shield should be worn. Do not allow run-off from firefighting to enter drains or water courses

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## 6: ACCIDENTAL RELEASE MEASURES

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|---------------------------------------|--|
| Personal Precautions:                 | Wear suitable protective clothing, gloves and eye/face protection.<br>Evacuate personnel to safe area. Use self-contained breathing apparatus and chemically protective clothing |
| Environmental Precautions:            | Construct a dike to prevent spreading  |
| Methods and material for containment: | Place in appropriate chemical waste container. If possible, stop flow of product. Open enclosed spaces to outside atmosphere.  |

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## 7: HANDLING AND STORAGE

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|-----------|--|
| Handling: | Avoid skin and eye contact. Maintain good standards of personal hygiene. Do not eat, drink or smoke whilst using this product. Ensure adequate ventilation. Avoid breathing vapors and/or aerosols.<br>Do not use sodium nitrite or other nitrosating agent in formulations containing this product. |
| Storage:  | Store in steel containers preferably located outdoors, above ground and surrounded by dikes to contain spills or leaks. Do not store near acids. Do not store in reactive metal containers. Keep container tightly closed in a dry, cool and well-ventilated place.                                  |

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## 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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|                               |   |
|-------------------------------|---|
| Occupational Exposure Limits: | None assigned.  |
| Engineering Control Measures: | Provide readily accessible eye wash stations and safety showers<br>Provide natural or explosion-proof ventilation adequate to ensure concentration are kept below exposure limits.      |
| Eye protection:               | Full face shield with goggles underneath.   |
| Hand protection:              | Chemical resistant, impervious gloves complying with and approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary |
| Body protection:              | No specific recommendation. Impervious clothing   |
| Respiratory protection:       | Not required for properly ventilated areas. Wear appropriate respirator when ventilation is inadequate  |

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## 9: PHYSICAL AND CHEMICAL PROPERTIES

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|                                |             |
|--------------------------------|-------------|
| Physical State:                | Liquid      |
| Colour:                        | Straw       |
| Odour:                         | Sharp       |
| pH(concentrate):               | No data     |
| Boiling Point/Range (°C):      | No data     |
| Flash Point (closed, °C):      | >200        |
| Explosive Properties (%):      | No data     |
| Vapour Pressure (kPa at 20°C): | No data     |
| Relative density (at 20 °C):   | 0.92 – 0.98 |
| Water Solubility:              | Insoluble.  |

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## 10: STABILITY AND REACTIVITY

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|------------------------------------|---|
| Stability:                         | Stable under normal conditions.   |
| Possibility of hazardous reaction: | No data available   |
| Conditions to Avoid:               | No data available   |
| Incompatible materials:            | Sodium hypochlorite, organic acid, mineral acid, product slowly corrodes copper, aluminum, zinc and galvanized surfaces. Nitrous acid and other nitro sating agents. Oxidizing agents |
| Hazardous Decomposition Products:  | Nitric acid, ammonia, nitrogen oxides, carbon monoxide, carbon dioxide, nitrosamine   |

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## 11: TOXICOLOGICAL INFORMATION

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The following toxicological assessment is based on a knowledge of the toxicity of the product's components.

### 3,6,9-Triazaundecamethylenediamine:

|                                    |   |
|------------------------------------|---|
| Acute toxicity (oral):             | LD50. Species: Rat<br>Dose: 2800 mg/kg                      |
| Acute toxicity (inhalation):       | No data available   |
| Acute toxicity (dermal):           | No data available   |
| Irritation/corrosion of the skin:  | No data available   |
| Serious eye damage/eye irritation: | No data available   |
| Respiratory/skin sensitization:    | Has occurred in laboratory animals after repeated exposures |
| Repeated dose toxicity:            | No data available   |

### Fatty acid, tall-oil: tetraethylenepentamine:

|                                    |   |
|------------------------------------|---|
| Acute toxicity (oral):             | LD50. Species: Rat<br>Dose: 3300 mg/kg                      |
| Acute toxicity (inhalation):       | No data available   |
| Acute toxicity (dermal):           | No data available   |
| Irritation/corrosion of the skin:  | No data available   |
| Serious eye damage/eye irritation: | No data available   |
| Respiratory/skin sensitization:    | Has occurred in laboratory animals after repeated exposures |
| Repeated dose toxicity:            | No data available   |

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## 12: ECOLOGICAL INFORMATION

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|                               |   |
|-------------------------------|---|
| Ecotoxicology                 | No data available                                       |
| Toxicity                      | No data available                                       |
| Persistence and degradability | No data available                                       |
| Bio accumulative potential    | No data available                                       |
| Mobility in soil              | No data available                                       |
| Result of PBT and vPvB        | No data available                                       |
| Other adverse effect          | Do not allow enter soil, waterways or waste water canal |

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## 13: DISPOSAL CONSIDERATIONS

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Disposal must be in accordance with local and national legislation.

Unused / Used Product: Dispose of through authorised waste contractor to a licensed site.  
Contaminated Product: As for unused product.  
Packaging: Must be disposed of through an authorised waste contractor.

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## 14: TRANSPORT INFORMATION

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|                  | <u>UN number</u> | <u>Class</u> | <u>Packaging</u> |
|------------------|------------------|--------------|------------------|
| ADR/RID          | 2320             | Class 8      | III              |
| IATA-DGR         | 2320             | Class 8      | III              |
| IMDG-code        | 2320             | Class 8      | III              |
| Marine pollutant | Yes              |              |                  |

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## 15: REGULATORY INFORMATION

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### Hazard Label Data:-

Risk Phrases: Irritating to eyes and skin.  
May cause sensitization by skin contact.

Safety Phrases: Do not breathe gas/fumes/vapor/spray (appropriate wording to be specified by the manufacturer)  
Avoid contact with skin  
Wear suitable gloves and eye/face protection  
Use appropriate container to avoid environmental contamination

EC Directive Regulation (EC) No. 1272/2008 [CLP]

## 16: OTHER INFORMATION

Also refer to the Safety Data Sheet (s) for information on other components of this product.

The data and advice given apply when the product is used for the stated application or applications. The product is not sold as suitable for any other application. Use of the product for applications other than as stated in this sheet may give rise to risks not mentioned in this sheet. The product should not be used than for the stated application or applications without seeking advice from Denka Construction Solutions Malaysia Sdn Bhd.

If this product has been purchased to a third party for use at work, it is the purchaser's duty to take all necessary steps to secure that any person handling or using the product is provided with information in this sheet.

It is the responsibility and duty of the employer to inform employees and others who may be affected of any hazards described to this sheet and of any precautions which should be taken. This sheet does not constitute or substitute for the users own assessment of workplace risk, as required by other health and safety legislation.

**SDS:** Estofill - Hardener  
**Date Issued:** 03/07/2024  
**Revision:** 04



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