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1. MATERIAL IDENTIFICATION

Product Name: **Therobond 1600 Hardener**

2. COMPOSITION

HAZARDOUS COMPONENTS	CAS NO.	PERCENT	Exposure Limits	
			ACGIH TLV-TWA	OSHA PEL
Tetraethylenepentamine (TEPA)	112-57-2	>90	NE	NE
Abbreviations: N.E. = Not Established				

3. HEALTH HAZARDS IDENTIFICATION

Routes of Exposure: Eyes: Yes Skin: Yes Inhalation: Yes

Eye Contact: Corrosive. May cause severe irritation including blindness.

Skin Contact: Corrosive. May cause irritation and sensitization and tissue damage. Skin contact with liquid may result in dermatitis and deep burns.

Inhalation: May be corrosive to upper respiratory tract. May cause irritation to the nose, throat and lungs.

Ingestion: Corrosive. May cause severe and permanent damage to mouth, throat and stomach.

4. FIRST AID MEASURES

Eyes: Flush eyes thoroughly with water for at least 15 minutes while holding eyelids open. Seek medical attention.

Skin: Remove contaminated clothing and wipe from skin. Flush the affected area with water. Follow by washing with soap and water. Wash contaminated clothing thoroughly before reuse. If irritation persists, obtain medical attention.

Inhalation: Remove to fresh air, and provide oxygen or artificial respiration if needed. Obtain medical attention.

Ingestion: Do not induce vomiting. Give two glasses of milk or water unless the victim is drowsy, convulsing, or unconscious. If vomiting occurs, give fluids again. Obtain medical attention.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

Flashpoint:	>200F
Explosive Limits:	Not determined
Auto - Ignition Temperature:	Not determined
Hazardous Decomposition Products:	Carbon monoxide, carbon dioxide, aldehydes, acids, and other organic substances

Fire Fighting Instructions: Firefighters should be equipped with full bunker gear, including a positive pressure, NIOSH approved, self-contained breathing apparatus. Fire-exposed containers may be cooled with water.

Extinguishing Media: Use water fog, carbon dioxide, dry chemical, or an appropriate foam. Use water spray to cool fire exposed containers.

6. ACCIDENTAL RELEASE MEASURES

Ventilate the spill area, and evacuate if necessary. Absorb with clay, sand, or another suitable material, and dispose of properly. Clean-up personnel should use adequate protective equipment, including respiratory protection.

7. HANDLING AND STORAGE

Store in a cool, dry place away from ignition sources and temperatures above 300 °F. Avoid contact with incompatible materials. Some applications of this curing agent, if present in sufficiently large quantities, can cause exothermic reactions and runaway polymerization, yielding fumes, which vary widely in composition and toxicity. Do not breathe fumes. Wear chemical-resistant gloves.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Engineering/Ventilation Controls: General ventilation and local exhaust may be required to maintain airborne concentrations below the established exposure limits exposure when generating vapors or mists. An eye wash facility should be readily available.

Respiratory Protection: When local ventilation is unavailable and airborne limits are exceeded, a NIOSH-approved respirator, a supplied-air respirator, or a self-contained breathing apparatus is required.

Skin Protection: Impervious gloves and protective clothing should be worn as necessary.

Eye Protection: Chemical splash goggles or safety glasses with side shields should be worn as appropriate.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear to Amber liquid
Boiling Point:	Not determined
Specific Gravity	1.00
Vapor Pressure (mmHg):	Not determined
Vapor Density (air=1):	Not determined
Evaporation Rate:	Not determined
Solubility in Water:	Negligible

10. STABILITY AND REACTIVITY

Chemical Stability:	Stable under normal conditions and use.
Conditions and Materials to Avoid:	Keep away from ignition sources and temperatures above 300 °F. Reacts with strong oxidizing agents, acids, and strong bases.
Hazardous Decomposition Products:	Carbon monoxide, carbon dioxide, aldehydes, acids, and other organic substances.
Hazardous Polymerization:	Will not occur.

11. TOXICOLOGICAL INFORMATION

Tetraethylenepentamine:

LD50 Acute Oral Rat: 3.99 g/kg

LD50 Acute Dermal Rabbit: 0.66 g/kg

LD50 Acute Inhalation Mouse 300 mg/m³

Note: This material is corrosive to body tissues. Skin contact may result in dermatitis and deep burns. Eye contact may result in burns and permanent injury. Ingestion may result in severe gastric disturbances and corrosive damage.

Note: Due to this product's physical composition, the release or generation of dust is not expected to occur under normal conditions of use.

12. ECOLOGICAL INFORMATION

No data found.

13. DISPOSAL CONSIDERATIONS

Keep out of surface waters, sewers, and waterways entering or leading to surface waters. Notify authorities if any exposure to the environment occurs or is likely to occur. Utilize an appropriate disposal facility, in compliance with applicable federal, state, and local environmental control regulations.

14. TRANSPORT INFORMATION

CFR Classification: Amines, liquid, corrosive, n.o.s. (Tetraethylenepentamine)

Class 8

UN2320

Packing Group III

I.A.T.A. Classification: Amines, liquid, corrosive, n.o.s. (Tetrarthylenepentamine)

Class 8

UN 2320

Packing Group III

15. REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA:

The chemical components of this product are contained on section 8(B) of the chemical substance inventory list (40CFR710).

SARA Title III Information

Section 313 - Toxic Chemicals:

Pursuant to section 313 of SARA Title III, this product does not contain a toxic chemical in a concentration in excess of 1 percent of the mixture, or 0.1 percent if a carcinogen.

Section 311 / 312 - Hazard Categories

Pursuant to section 311/312 of SARA title III, the physical and health hazard categories for this product are identified as follows:

Fire Hazard:	No
Sudden Release of Pressure Hazard:	No
Reactivity Hazard:	No
Immediate (Acute) Health Hazard:	Yes
Delayed (Chronic) Health Hazard:	No

STATE REGULATIONS / RIGHT TO KNOW

California Proposition 65: This product is not known to contain any chemicals, which are recognized by the State of California to cause cancer, birth defects, or other reproductive harm.

16. OTHER INFORMATION

HMIS Hazards:	Health: 3	Flammability: 1	Reactivity: 0
NFPA Hazards:	Health: 3	Flammability: 1	Reactivity: 0

This information is intended solely for the use of individuals trained in the use of this particular system.

Resin Designs LLC. urges each customer or recipient of this MSDS to study it carefully in order to become aware of and understand the hazards associated with the product. The reader should consider consulting reference works or individuals that are experts in ventilation, toxicology, and fire prevention, as necessary or appropriate in order to use and understand the data contained in this MSDS.

To promote safe handling, each customer or recipient should: 1 - notify its employees, agents, contractors, and others whom it knows or believes will use this material or the information in this MSDS and any other information regarding hazards or safety. 2 - furnish this same information to each of its customers for the product. 3 - request its customers to notify their employees, customers, and other users of the product of this information.

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