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Product Name: THER-O-BOND 1600 HARDENER

MSDS No.: 21-000047

Date Revised: 03/29/2001

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# RESIN TECHNOLOGY GROUP, LLC

## MATERIAL SAFETY DATA SHEET

### 1. MATERIAL IDENTIFICATION

Product Name:

**THER-O-BOND 1600 HARDENER**

EMERGENCY PHONE: For product emergency involving spill, leak, fire, exposure, or accident call CHEMTREC at (800) 424-9300. For all other inquiries please call Resin Technology Group, LLC. at (508) 230-8070.

### 2. COMPOSITION

HAZARDOUS COMPONENTS	CAS NO.	PERCENT	Exposure Limits	
			ACGIH TLV-TWA	OSHA PEL
Tetraethylenepentamine (TEPA)	112-57-2	<92	N.E.	N.E.
Triethylenetetramine (TETA)	112-24-3	<5	N.E.	N.F.
Polyethylenepolyamine mixture	29320-38-5	<5	N.E.	N.F.

Abbreviations: N.E.: Not Established.

### 3. HEALTH HAZARDS IDENTIFICATION

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

**Eye Contact:** Corrosive. Contact can cause severe irritation. Contact may result in severe damage and blindness.

**Skin Contact:** Corrosive. Contact can cause severe damage. May cause skin sensitization. May be toxic if absorbed through skin.

**Inhalation:** Vapors/mists may be corrosive to upper respiratory tract. Repeated or prolonged exposure can result in lung damage. May cause respiratory tract sensitization.

**Ingestion:** Not expected to be a relevant route of exposure, however, corrosive and may cause severe and permanent damage to mouth, stomach and throat.

### 4. FIRST AID MEASURES

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

**Skin:** Remove contaminated clothing and shoes. Wipe excess from skin. Flush skin with water. Follow by washing area thoroughly with soap and water. If irritation occurs, seek medical attention. Do not reuse clothing until laundered.

**Inhalation:** Remove to fresh air, and provide oxygen if breathing is difficult. Seek medical attention promptly.

**Ingestion:** DO NOT induce vomiting. Give one glass of water unless victim is drowsy, convulsing or unconscious. Seek medical attention promptly.

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## 5. FIRE FIGHTING MEASURES

### FLAMMABLE PROPERTIES

Flashpoint:	320 °F (PMCC)
Explosive Limits:	Not available.
Auto - Ignition Temperature:	Not available.
Hazardous Combustion Products:	Nitrogen oxides, carbon monoxide and unidentified organic compounds may be formed during combustion.

**Fire Fighting Instructions:** Material will not burn unless preheated. Firefighters should be equipped with full protective gear, including a positive pressure NIOSH approve self-contained breathing apparatus.

**Extinguishing Media:** Use water fog, alcohol foam, dry chemical or carbon dioxide.

## 6. ACCIDENTAL RELEASE MEASURES

Danger, Corrosive. Prevent all bodily contact with spilled material. Wear respirator and protective clothing as appropriate. Eliminate potential fire hazards. Soak up residue with an absorbent such as clay, sand or other suitable material; place in non-leaking containers for proper disposal. Flush area with water to remove last traces of residue.

## 7. HANDLING AND STORAGE

Store in a cool, dry place. Keep away from open flames and high temperatures. Avoid all ignition sources and reactive materials. Avoid contact with eyes. Wear safety goggles as appropriate. Avoid contact with skin. Wear chemical-resistant gloves and other protective clothing as required to minimize contact.

## 8. EXPOSURE CONTROLS and PERSONNEL 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.

**Respiratory Protection:** Where exposure exceeds established airborne limits, use a NIOSH approved respirator, or a self-contained breathing apparatus, or a supplied air respirator as necessary to control exposure.

**Skin Protection:** Wear impervious gloves and protective clothing as necessary to prevent skin contact.

**Eye Protection:** Wear chemical splash goggles or safety glasses with side shields.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear amber liquid
Odor:	Amine
Boiling Point:	605 °F
Specific Gravity:	0.98
Vapor Pressure (mm Hg):	<1.0 @ 20 °C
Vapor Density (air=1):	Not available
Evaporation Rate:	Not available
Solubility in Water:	Partial

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**10. STABILITY AND REACTIVITY**

Chemical Stability:	Stable under normal conditions and use.
Conditions to avoid:	Avoid heat, flame and contact with strong oxidizing agents.
Hazardous Combustion Products:	Nitrogen oxides, carbon monoxide and unidentified organic compounds may be formed during combustion
Hazardous Polymerization:	Will not occur.

**11. TOXICOLOGICAL INFORMATION**

This section provides toxicological information with regard to the pure form of the components indicated. This information can be subject to misinterpretation. It is therefore suggested that persons trained in its evaluation interpret this information.

LD <sub>50</sub> Acute Oral Rat:	3.99 g/kg
LD <sub>50</sub> Acute Dermal Rabbit:	0.66 g/kg
LC <sub>50</sub> Acute Inhalation Mouse:	300 mg/m <sup>3</sup>

**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 general public or environment occurs or is likely to occur. Place in an appropriate disposal facility in compliance with applicable governmental regulations.

**14. TRANSPORT INFORMATION**

D.O.T. Classification: Tetraethylenepentamine				
Hazard Class: 8	UN #: UN2320	PG: III	ERG #: 153	Hazard Labels: Corrosive
I.A.T.A. Classification: Tetraethylenepentamine				
Hazard Class: 8	UN #: UN2320	PG: III	ERG #: 153	Hazard Labels: Corrosive

**15. REGULATORY INFORMATION**

US FEDERAL REGULATIONS

**TSCA:**

The chemical components of this product are contained on section 8(B) of the chemical substance inventory list (40 CFR 710)

**SARA Title III Information**

Section 313 - Toxic Chemicals:

This product contains the following chemicals subject to reporting requirements: None.

Section 311/312 - Hazard Categories:

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

STATE REGULATIONS / RIGHT TO KNOW

California Proposition 65: This product does not contain a chemical or chemicals known to the State of California to cause birth defects or other reproductive harm.

Pennsylvania: All of the materials in this product requiring identification by the Commonwealth of Pennsylvania are listed in section 2.

**16. OTHER INFORMATION**

HIMIS 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 Technology Group, 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.

The information contained herein is based on the data available to us and is believed to be correct. However, Resin Technology Group, LLC makes no warranty, expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof. Resin Technology Group, LLC assumes no responsibility for injury from the use of the product described herein.