

**Performance  
Polymers**

4917 Dawn Avenue  
East Lansing, MI 48823-5691

8am to 4:30pm Phone: (517) 351-5900  
24-Hour Health/Environmental Emergency Phone: 1-800-873-1138



Value beyond chemistry

Effective Date: 6/26/98

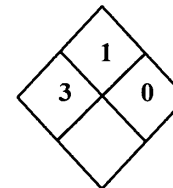
**Material Safety Data Sheet**

MSDS No: 6175

**1. PRODUCT IDENTIFICATION**

Trade Name: TDR 1100-11 HARDENER

Chemical Family: Amine



NFPA RATING

HEALTH	3
FLAMMABILITY	1
REACTIVITY	0
PROTECTIVE EQUIPMENT	

HMIS RATING

Intended Use or Product Type: Epoxy adhesive hardener

**2. COMPOSITION / INFORMATION ON INGREDIENTS**

O S H A	CAS#	CHEMICAL IDENTITY	EXPOSURE LIMITS					CARCINOGEN STATUS		
			ACGIH		OSHA		MFR.	IARC	NTP	OSHA
TWA	STEL	PEL	STEL							
*	111-40-0	1,2-Ethanediamine, N-(2-aminoethyl)-  Common Name: Diethylenetriamine	1 ppm	NE	1 ppm	NE	NE	NR	NR	NR
*	68410-23-1	Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines  Common Name: Polyamide Resin	NE	NE	NE	NE	NE	NR	NR	NR

### 3. HAZARDS IDENTIFICATION

**Emergency Overview:** Danger! Corrosive - Causes skin and eye burns. May cause allergic skin and respiratory reactions.

**Primary Route(s) of Entry:** Dermal; heated product may produce inhalable vapors.

**Acute Exposure:** Danger! Corrosive. Causes skin and eye burns.

### 4. FIRST AID MEASURES

**Ingestion:** If conscious, give plenty of water to drink. Do not induce vomiting. Call a physician.

**Skin:** Wash with soap and water. Remove contaminated clothing and launder before re-use .

**Inhalation:** Remove to fresh air. Give oxygen and/or artificial respiration, if needed. Call a physician.

**Eyes:** Immediately flush eyes with water for at least 15 minutes. Call a physician.

**Overexposure Effects:** Danger! Corrosive. Causes skin and eye burns. Causes allergic skin and respiratory reactions.

**Medical Conditions Aggravated by Exposure:** Skin and eye conditions.

**Additional Information:** Referral to a physician is recommended if there is any question about the seriousness of any injury.

### 5. FIRE FIGHTING MEASURES

<b>Flash Point:</b>	> 210°F (> 99 °C)
<b>Flash Point Method Used:</b>	Estimated
<b>Flammable Limits in Air (Lower - % by volume):</b>	Not established
<b>Flammable Limits in Air (Upper - % by volume):</b>	Not established

**Fire Fighting Extinguishing Media:** Carbon dioxide, dry chemical, foam, water.

**Fire Fighting Equipment:** Use self-contained breathing apparatus.

**Fire and Explosion Hazards:** Decomposition and combustion products may be toxic.

### 6. ACCIDENTAL RELEASE MEASURES

**Accidental Release Measures:** Remove spillage by absorbing in absorbent material. Avoid contact.

### 7. HANDLING AND STORAGE

**Precautions:** Danger! Corrosive. Causes skin and eye burns. May cause allergic skin and respiratory reactions. Do not get in eyes, on skin, on clothing. Avoid breathing vapor or mist. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling.

**Other Handling Information:** Nuisance dust may be generated when sanding or sawing cured material.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Skin Protection:** Impermeable gloves and protective clothing.

**Respiratory Protection:** Use NIOSH approved organic vapor cartridge respirator when vapor/mist exposure is likely.

**Eye Protection:** Full face shield.

**Engineering Controls:** General mechanical and local exhaust in accordance with ACGIH recommendations.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Color:</b>	Amber
<b>Odor:</b>	Ammoniacal
<b>Physical State:</b>	Liquid
<b>Solubility in Water:</b>	Slight
<b>Vapor Pressure:</b>	< 1 mm Hg
<b>Specific Gravity:</b>	0.98 (water = 1)
<b>Boiling Point:</b>	Not Determined
<b>Evaporation Rate:</b>	Not Determined
<b>Vapor Density:</b>	Not Determined
<b>pH:</b>	Not Determined

**Percent Volatile:** Less than 1%.

**10. STABILITY AND REACTIVITY**

**Conditions to Avoid:** Excessive heat for prolonged periods of time.

**Stability:** Stable.

**Incompatibility:** Strong oxidizing agents, acids, metal-organic compounds.

**Hazardous Decomposition Products:** Combustion may form toxic materials, such as carbon dioxide, carbon monoxide.

**Hazardous Polymerization:** Will not occur.

**11. TOXICOLOGICAL INFORMATION**

**Sensitization:** Possible in susceptible individuals.

**Skin Irritation:** Corrosive. Causes burns.

**Eye Irritation:** Corrosive. Causes burns.

**12. ECOLOGICAL INFORMATION****13. DISPOSAL CONSIDERATIONS**

**Waste Disposal Method:** Consult qualified local or corporate personnel for method that will comply with local, state and federal health and environmental regulations.

**14. TRANSPORT INFORMATION****DOT: Non-Bulk**

<b>Proper Shipping Name:</b>	Diethylenetriamine mixture
<b>Hazard Class:</b>	8
<b>ID Number:</b>	UN 2079
<b>Packing Group:</b>	PG II
<b>Label:</b>	Corrosive

**15. REGULATORY INFORMATION**

**Occupational Safety and Health Act (OSHA):** This Material Safety Data Sheet (MSDS) has been prepared in compliance with the federal OSHA Hazard Communication Standard 29 CFR 1910.1200. This product is considered to be a hazardous chemical under that standard.

**Resource Conservation and Recovery Act (RCRA):** Not a hazardous waste under RCRA (40 CFR 261).

**SARA Title III: Section 313 - Toxic Chemical List (TCL):** This product does not contain a toxic chemical for routine annual 'Toxic Chemical Release Reporting' under Sec. 313 (40 CFR 372).

**TSCA Section 8(b) - Inventory Status:** Chemical components listed on TSCA Inventory.

**TSCA Section 12(b) - Export Notification:** This product contains the following chemicals that are subject to Section 12(b) export notification:

Chemical Name: 1,2-Ethanediamine, N-(2-aminoethyl)-  
CASRN: 111-40-0

**Pennsylvania Right-to-Know:** The following is required composition information:

Chemical Name : Fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines  
CASRN : 68410-23-1  
Common Name : Polyamide Resin  
Comment : Not on Pennsylvania Hazardous Substance List.

Chemical Name : 1,2-Ethanediamine, N-(2-aminoethyl)-  
CASRN : 111-40-0  
Common Name : Diethylenetriamine  
Comment : Hazardous Substance.

Chemical Name : Silica  
CASRN : 7631-86-9

Effective Date: 6/26/98

Common Name : Fumed Silica  
Comment : Hazardous Substance.**16. OTHER INFORMATION**

<b>MSDS No:</b>	6175
<b>Approved By:</b>	Kenneth L. Payne
<b>Title:</b>	E,H&S Manager

**Revision Summary:** The following sections have been modified since the last effective date: 1, 15

**Disclaimer:** The following supercedes Buyer's documents. SELLER MAKES NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, INCLUDING OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. No statements herein are to be construed as inducements to infringe any relevant patent. Under no circumstances shall Seller be liable for incidental, consequential or indirect damages for alleged negligence, breach of warranty, strict liability, tort or contract arising in connection with the product(s). Buyer's sole remedy and Seller's sole liability for any claims shall be Buyer's purchase price. Data and results are based on controlled or lab work and must be confirmed by Buyer by testing for its intended conditions of use. The product(s) has not been tested for, and is therefore not recommended for, uses for which prolonged contact with mucous membranes, abraded skin, or blood is intended; or for uses for which implantation within the human body is intended.

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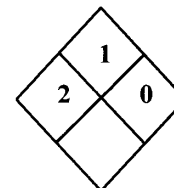
**Material Safety Data Sheet**

MSDS No: 6174

**1. PRODUCT IDENTIFICATION**

Trade Name: TDR 1100-11 RESIN

Chemical Family: Epoxy



NFPA RATING

HEALTH	2
FLAMMABILITY	1
REACTIVITY	0
PROTECTIVE EQUIPMENT	

HMS RATING

Intended Use or Product Type: Epoxy adhesive resin.

**2. COMPOSITION / INFORMATION ON INGREDIENTS**

O S H A	CAS#	CHEMICAL IDENTITY	EXPOSURE LIMITS					CARCINOGEN STATUS		
			ACGIH		OSHA		MFR.	IARC	NTP	OSHA
TWA	STEL	PEL	STEL							
*	25068-38-6	Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane	NE	NE	NE	NE	NE	NR	NR	NR
	Common Name:	Bisphenol A Diglycidyl Ether Polymer								

**3. HAZARDS IDENTIFICATION**

**Emergency Overview:** Warning! Causes skin and eye irritation. May cause allergic skin reaction.

Primary Route(s) of Entry: Dermal; heated product may produce inhalable vapors.

Effective Date: 6/5/98

**4. FIRST AID MEASURES****Ingestion:** If conscious, give plenty of water to drink. Do not induce vomiting. Call a physician.**Skin:** Wash with soap and water. Remove contaminated clothing and launder before re-use.**Inhalation:** Remove to fresh air. Give oxygen and/or artificial respiration, if needed. Call a physician.**Eyes:** Immediately flush eyes with water for at least 15 minutes. Call a physician.**Overexposure Effects:** Skin and eye irritation and allergic skin reactions.**Medical Conditions Aggravated by Exposure:** Skin and eye conditions.**Additional Information:** Referral to a physician is recommended if there is any question about the seriousness of any injury.**5. FIRE FIGHTING MEASURES****Flash Point:** > 350°F (> 177 °C)**Flash Point Method Used:** Estimated**Flammable Limits in Air (Lower - % by volume):** Not established**Flammable Limits in Air (Upper - % by volume):** Not established**Fire Fighting Extinguishing Media:** Carbon dioxide, dry chemical, foam.**Fire Fighting Equipment:** Use self-contained breathing apparatus.**Fire and Explosion Hazards:** Decomposition and combustion products may be toxic.**6. ACCIDENTAL RELEASE MEASURES****Accidental Release Measures:** Remove spillage by absorbing in absorbent material.**7. HANDLING AND STORAGE****Precautions:** Warning! Causes skin and eye irritation. May cause allergic skin reaction. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated contact with skin. Wash thoroughly after handling.**Other Handling Information:** Nuisance dust may be generated when sanding or sawing cured material.**8. EXPOSURE CONTROLS / PERSONAL PROTECTION****Skin Protection:** Wear impermeable gloves.**Respiratory Protection:** Use NIOSH approved organic vapor cartridge respirator when vapor/mist exposure is likely.**Eye Protection:** Wear splash-proof chemical goggles.

**Engineering Controls:** General mechanical and local exhaust in accordance with ACGIH recommendations.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance:</b>	Creamy
<b>Odor:</b>	Mild
<b>Physical State:</b>	Liquid
<b>Solubility in Water:</b>	Negligible
<b>Specific Gravity:</b>	1.16 (water = 1)
<b>Boiling Point:</b>	Not Determined
<b>Evaporation Rate:</b>	Not Determined
<b>Vapor Density:</b>	Not Determined
<b>pH:</b>	Not Determined

**Percent Volatile:** Negligible.

**10. STABILITY AND REACTIVITY**

**Conditions to Avoid:** Excessive heat for prolonged periods of time.

**Stability:** Stable.

**Incompatibility:** Strong oxidizers, acids and bases.

**Hazardous Decomposition Products:** Combustion may form toxic materials, such as carbon dioxide, carbon monoxide.

**Hazardous Polymerization:** Will not occur.

**11. TOXICOLOGICAL INFORMATION**

**Sensitization:** Possible in susceptible individuals.

**Skin Irritation:** Irritant.

**Eye Irritation:** Irritant.

**12. ECOLOGICAL INFORMATION**

**13. DISPOSAL CONSIDERATIONS**

**Waste Disposal Method:** Consult qualified local or corporate personnel for method that will comply with local, state and federal health and environmental regulations.

Effective Date: 6/5/98

**14. TRANSPORT INFORMATION****DOT: Non-Bulk****Proper Shipping Name:** Resin compounds, N.O.I.**Department of Transportation:** Not regulated as a hazardous material by the U.S. Dept. of Transportation (DOT) 49 CFR 172.101 hazardous materials table.**15. REGULATORY INFORMATION****Occupational Safety and Health Act (OSHA):** This Material Safety Data Sheet (MSDS) has been prepared in compliance with the federal OSHA Hazard Communication Standard 29 CFR 1910.1200. This product is considered to be a hazardous chemical under that standard.**Resource Conservation and Recovery Act (RCRA):** Not a hazardous waste under RCRA (40 CFR 261).**SARA Title III: Section 313 - Toxic Chemical List (TCL):** This product does not contain a toxic chemical for routine annual 'Toxic Chemical Release Reporting' under Sec. 313 (40 CFR 372).**TSCA Section 8(b) - Inventory Status:** Chemical components listed on TSCA Inventory.**TSCA Section 12(b) - Export Notification:** This product contains the following chemicals that are subject to Section 12(b) export notification:Chemical Name: CYCLOTETRASILOXANE, OCTAMETHYL-  
CASRN: 556-67-2**Pennsylvania Right-to-Know:** The following is required composition information:Chemical Name : Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane  
CASRN : 25068-38-6  
Common Name : Bisphenol A Diglycidyl Ether Polymer  
Comment : Not on Pennsylvania Hazardous Substance List.**16. OTHER INFORMATION****MSDS No:** 6174  
**Approved By:** Kenneth L. Payne  
**Title:** E,H&S Manager**Revision Summary:** The following sections have been modified since the last effective date: 1, 15**Disclaimer:** The following supercedes Buyer's documents. SELLER MAKES NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, INCLUDING OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. No statements herein are to be construed as inducements to infringe any relevant patent. Under no circumstances shall Seller be liable for incidental, consequential or indirect damages for alleged negligence, breach of warranty, strict liability, tort or contract arising in connection with the product(s). Buyer's sole remedy and Seller's sole liability for any claims shall be Buyer's purchase price. Data and results are based on controlled or lab work and must be confirmed by Buyer by testing for its intended conditions of use.

**Effective Date: 6/5/98**

The product(s) has not been tested for, and is therefore not recommended for, uses for which prolonged contact with mucous membranes, abraded skin, or blood is intended; or for uses for which implantation within the human body is intended.