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Effective Date: 10/12/04

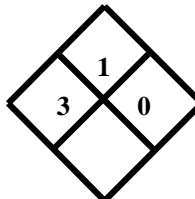
Material Safety Data Sheet

MSDS No: 6261

1. PRODUCT IDENTIFICATION

Trade Name: Ren 188-10

Chemical Family: Amine



NFPA RATING

Health:	3*
Flammability:	1
Reactivity:	0
Personal Protection:	

HMIS RATING

Synonyms:

TDT 188-10 Hardener

Intended Use or Product Type: Heat resistant hardener

2. COMPOSITION / INFORMATION ON INGREDIENTS

O S H A	CAS No.	CHEMICAL IDENTITY	EXPOSURE LIMITS				CARCINOGEN STATUS			
			ACGIH		OSHA		MFR.	IARC	NTP	OSHA
			TWA	STEL	PEL	STEL				
*	112-24-3	1,2-Ethanediamine, N,N'-bis(2-aminoethyl)- Triethylenetetramine Common Name:	NE	NE	NE	NE	NE	NR	NR	NR
*	1477-55-0	1,3-Benzenedimethanamine m-Xylenediamine Common Name:	NE	0.1 mg/m3	NE	NE	NE	NR	NR	NR
*	616-47-7	1H-Imidazole, 1-Methyl- 1-Methylimidazole Common Name:	NE	NE	NE	NE	NE	NR	NR	NR
*	68738-77-2	1,3-Benzenedimethanamine, Polymer with 2,2'-(1-Methylethylidene)Bis(4,1-Phenyleneoxymethylene)]Bis[Oxirane] and 2,2,4-Trimethyl-1,6-Hexanediamine MXDA/TMD/DGEBA adduct Common Name:	NE	NE	NE	NE	NE	NR	NR	NR

* = OSHA Hazardous Ingredient

3. HAZARDS IDENTIFICATION

Emergency Overview: Corrosive - causes skin and eye burns. Can cause allergic respiratory reaction and allergic skin reaction. Can be harmful if absorbed through skin and may be harmful if swallowed.

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

Acute Exposure: Corrosive. Causes skin and eye burns.

Chronic: Possible mutagen.

4. FIRST AID MEASURES

Ingestion: If conscious, give 2 - 4 glasses of water to drink. Do not induce vomiting. Call a physician.

Skin: Immediately wash with soap and water. Remove contaminated clothing and launder before reuse. Destroy contaminated shoes.

Inhalation: Remove to fresh air. Call a physician.

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

Overexposure Effects: Corrosive - causes skin and eye burns. Can cause allergic respiratory reaction and allergic skin reaction. Can be harmful if absorbed through skin and may be harmful if swallowed.

Medical Conditions Aggravated by Exposure: Skin, eye and pulmonary 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:	> 200°F (> 93 °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, 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

Signal Word: Danger!

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Precautions: Corrosive - causes skin and eye burns. Can cause allergic respiratory reaction and allergic skin reaction. Can be harmful if absorbed through skin and may be harmful if swallowed. Do not get in eyes, on skin, or on clothing. Avoid breathing vapor or mist. Avoid tasting or swallowing. Keep container closed when not in use. Use with adequate ventilation. Wash thoroughly after handling. Notice! Possible mutagen.

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

Color:	Blue
Odor:	Amine
Physical State:	Thin Liquid
Solubility in Water:	Moderate
Vapor Pressure:	0.0009 mm Hg at 20°C (68 °F)
Specific Gravity:	1.03 - 1.06 (water = 1)
Boiling Point:	> 400°F (> 204 °C)
Evaporation Rate:	Not Determined
Vapor Density:	Not Determined
VOC:	51.992 g/L
pH:	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

Acute Oral Effects (LD50): Component(s) are slightly toxic, 500 - 5000 mg/kg (rat).
Triethylenetetramine= 2500 - 4340 mg/kg (rat)

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Acute Dermal Toxicity (LD50): Component(s) are toxic, 200 - 1000 mg/kg (rabbit).
Triethylenetetramine= 550 - 800 mg/kg (rabbit)

Sensitization: May cause allergic skin reaction and respiratory sensitivity in some people.

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

Proper Shipping Name:	Polyamines, liquid, corrosive, n.o.s.
Technical Shipping Name (If n.o.s.):	Triethylene tetramine, Metaxylenediamine
Hazard Class:	8
ID Number:	UN 2735
Packing Group:	PG III
Label:	Corrosive

15. REGULATORY INFORMATION

US Federal Regulations:

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) but handle with care due to corrosive effect on skin and eyes.

SARA Title III: Section 313 Toxic Chemical List (TCL): This product does not contain any chemicals for routine annual toxic chemical release reporting under Section 313 (40 CFR 372).

TSCA Section 8(b) - Inventory Status: All chemical components of this product are in compliance with TSCA inventory requirements.

TSCA Section 12(b) - Export Notification: This product does not contain any chemical(s) that are subject to a Section 12(b) export notification.

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State Regulations:

California Proposition 65: This product does not contain any chemicals currently on the California list of Known Carcinogens and Reproductive Toxins.

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

Chemical Name: 1,2-Ethanediamine, N,N'-bis(2-aminoethyl)-
Common Name: Triethylenetetramine
CAS Number: 112-24-3
Comment: Hazardous Substance

Chemical Name: 1,3-Benzenedimethanamine, Polymer with 2,2'-[(1-Methylethylidene)Bis(4,1-Phenyleneoxymethylene)]Bis[Oxirane] and 2,2,4-Trimethyl-1,6-Hexanediamine
Common Name: MXDA/TMD/DGEBA adduct
CAS Number: 68738-77-2
Comment: Not on Pennsylvania Hazardous Substance List

Chemical Name: 1,3-Benzenedimethanamine
Common Name: m-Xylenediamine
CAS Number: 1477-55-0
Comment: Hazardous Substance

Chemical Name: 1H-Imidazole, 1-Methyl-
Common Name: 1-Methylimidazole
CAS Number: 616-47-7
Comment: Not on Pennsylvania Hazardous Substance List

16. OTHER INFORMATION

MSDS No: 6261
Approved By: Dianne Blessing
Title: EH&S Specialist

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