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Effective Date: 8/16/07

Material Safety Data Sheet

MSDS No: 6578

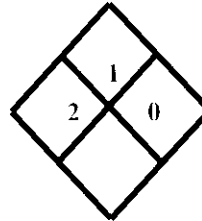
1. PRODUCT IDENTIFICATION

Trade Name: EPOTUF® 37-620

Material Code: 37620-00

Chemical Family: Aliphatic Amidoamine

Intended Use: Curing Agent



NFPA RATING

Health:	2*
Flammability:	1
Reactivity:	1
Personal Protection:	

HMIS RATING

2. COMPOSITION / INFORMATION ON INGREDIENTS

O S H A	CAS No.	CHEMICAL IDENTITY	EXPOSURE LIMITS				MFR.	CARCINOGEN STATUS		
			ACGIH		OSHA			IARC	NTP	OSHA
			TWA	STEL	PEL	STEL				
*	112-24-3	1,2-Ethanediamine, N,N'-bis(2-aminoethyl)- Common Name: Triethylenetetramine Concentration: 2.00 - 4.00 % by wt	NE	NE	NE	NE	TWA 1 ppm	NR	NR	NR
*	112-57-2	Tetraethylenepentamine Common Name: Tetraethylenepentamine Concentration: 10.00 - 13.00 % by wt	NE	NE	NE	NE	NE	NR	NR	NR
*	Proprietary	Modified Polyamine Concentration: 84.00 - 86.00 % by wt	NE	NE	NE	NE	NE	NR	NR	NR

NE = Not Established NR = Not Reviewed * = OSHA Hazardous Ingredient

Reference Notes: Refer to Section 8, Subheading "Exposure Guidelines", for additional information concerning exposure limits.

3. HAZARDS IDENTIFICATION

Emergency Overview: Appearance: Amber Liquid Amine odor.

Direct contact causes severe eye irritation. Inhalation may cause an allergic respiratory reaction. Harmful if absorbed through skin.

Route(s) of Entry: Eye contact, ingestion, inhalation, and skin contact. Skin absorption.

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Acute Exposure: SKIN: Harmful if absorbed through skin. Contact causes skin irritation. Prolonged contact may cause blister formation (burns). Contact may cause skin sensitization, an allergic reaction which becomes evident on re-exposure to this material.

EYES: Direct contact with this material causes severe eye irritation. Symptoms may include stinging, tearing, redness and swelling. Contact may cause eye burns. High vapor concentrations may be irritating.

INHALATION: Harmful if inhaled. Inhalation of vapor or aerosol causes irritation of the respiratory tract (nose, throat, and lungs). May cause respiratory sensitization in susceptible individuals.

INGESTION: Moderately toxic. Ingestion (swallowing) of this material may burn the mouth, throat, and stomach. Aspiration into lungs may cause chemical pneumonia and lung damage. Ingestion is not an anticipated route of exposure for this material in industrial use.

Chronic Exposure: Prolonged or repeated exposure may cause respiratory sensitization, an allergic reaction that becomes evident on re-exposure to this material. Prolonged or repeated exposure may cause liver and kidney damage.

Carcinogenicity: This material does not contain 0.1% or more of any chemical listed by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), or regulated by the Occupational Safety and Health Administration (OSHA) as a carcinogen.

4. FIRST AID MEASURES

Eye Contact: Immediately flush eyes with large quantities of clean water for at least 15 minutes. Get immediate medical attention.

Skin Contact: Immediately flush skin with water for at least 15 minutes while removing contaminated clothing. Get immediate medical attention. Wash contaminated clothing before reuse.

Ingestion: DO NOT INDUCE VOMITING. ASPIRATION HAZARD: this material may enter the lungs during vomiting. Immediately give the victim one or two glasses of water or milk to drink. Never give anything by mouth to an unconscious person. GET IMMEDIATE MEDICAL ATTENTION.

Inhalation: Remove victim to fresh air. Keep warm and quiet. If not breathing, give artificial respiration. If breathing is difficult, give oxygen by trained personnel. GET IMMEDIATE MEDICAL ATTENTION.

5. FIRE FIGHTING MEASURES

Flash Point:	> 200° F (> 93 ° C)
Flash Point Method Used:	SetaFlash Closed Cup
Flammable Limits in Air (Lower):	Not available
Flammable Limits in Air (Upper):	Not available
Autoignition:	Not available

General Hazards: Containers of this material may build up pressure if exposed to heat (fire). Use water spray to cool fire-exposed containers.

Fire Fighting Extinguishing Media: Use alcohol foam, dry chemical, carbon dioxide or any Class B fire extinguishing agent.

Fire Fighting Equipment: Wear self-contained breathing apparatus (SCBA) and full fire-fighting protective clothing. Thoroughly decontaminate all protective equipment after use.

Fire Fighting Instructions: Evacuate all persons from the fire area to a safe location. Move non-burning material, as feasible, to a safe location as soon as possible. Fire fighters should be protected from potential explosion hazard while extinguishing the blaze. Use water spray to cool fire-exposed containers.

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Fire and Explosion Hazards: Closed containers may rupture when exposed to extreme heat.

Hazardous Combustion Products: Combustion may produce carbon monoxide, carbon dioxide and irritating or toxic vapors and gases. Oxides of nitrogen. Ammonia

6. ACCIDENTAL RELEASE MEASURES

Accidental Release Measures: FOR SMALL SPILLS: Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container.

LARGE SPILL: Persons not wearing protective equipment (see Section 8) should be excluded from the area of the spill until clean-up has been completed. Prevent spilled material from 1) contaminating soil, 2) entering sanitary sewers, storm sewers, and drainage systems, and 3) entering bodies of water or ditches that lead to waterways. Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container.

7. HANDLING AND STORAGE

Signal Word: W A R N I N G

Handling Information: Avoid inhalation and contact with eyes, skin, and clothing. Remove and wash contaminated clothing before reuse. Wash hands thoroughly after handling and before eating or drinking. Use with adequate ventilation.

Empty drums should be completely drained, properly bunged, and promptly returned to a drum reconditioner or properly disposed.

Storage Information: Keep container closed when not in use. Store in a cool, well ventilated space away from incompatible materials.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines: The American Industrial Hygiene Association (AIHA) have established, for triethylenetetramine, a Workplace Environmental Exposure Level (WEEL) of 1 ppm Time Weighted Average (TWA), with a skin notation, for an 8 hour exposure.

Engineering Controls: Use general ventilation to maintain airborne concentrations to levels that are below regulatory and recommended occupational exposure limits. See occupational exposure limits in Section 2. Local ventilation may be required during certain operations. Use general ventilation to maintain airborne concentrations to levels that are below regulatory and recommended occupational exposure limits. See occupational exposure limits in Section 2.

Eye Protection: Wear 1) safety glasses with side shields and a faceshield or 2) goggles and a faceshield. Facilities storing or utilizing this material should be equipped with an eyewash station and safety shower.

Skin Protection: Wear chemical resistant gloves such as butyl rubber or neoprene. If splashing is likely, wear impervious clothing and boots to prevent skin contact. Consult your supplier of personal protective equipment for additional instructions on proper usage.

Respiratory Protection: A NIOSH/MSHA approved air purifying respirator with organic vapor cartridge or canister may be necessary under certain circumstances where airborne concentrations are expected to exceed exposure limits. A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. Protection provided by air purifying respirators is limited. Use a positive pressure air-supplied respirator if 1) there is any potential for an uncontrolled release, 2) exposure levels are not known, or 3) during other circumstances where air purifying respirators may not provide adequate protection.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Color:	Amber
Odor:	Amine
Odor Threshold:	Not available
Physical State:	Liquid
Solubility in Water:	Not available
Viscosity:	400 - 700 cps at 25°C (77 °F)
Vapor Pressure:	Not available
Specific Gravity:	0.946 (Water = 1) at 25°C (77 °F)
Boiling Point:	Not available
Freezing Point:	< 32°F (< 0 °C)
Evaporation Rate:	Not available
Vapor Density:	Not available
% Volatile:	Negligible
VOC Content:	< 1 % by weight
pH:	Not applicable

10. STABILITY AND REACTIVITY

Stability: Stable at normal temperatures and storage conditions.

Incompatibility: Avoid contact with acids. Avoid contact with strong oxidizing agents. Aldehydes Ketones Acrylates Organic halides Avoid contact with epoxy resins under uncontrolled conditions.

Hazardous Decomposition Products: Thermal decomposition may produce carbon dioxide, carbon monoxide and volatile amines. Nitrogen oxides Ammonia

Hazardous Polymerization: Hazardous polymerization will not occur.

Conditions to Avoid: Contamination by those materials referred to under Incompatibility. Do not mix this product with nitrites or other nitrosating agents because a nitrosamine may be formed. Nitrosamines may cause cancer.

11. TOXICOLOGICAL INFORMATION

Acute Eye Toxicity: No information is available.

Acute Skin Toxicity: Triethylenetetramine: dermal LD50 (rabbit), 550 - 800 mg / kg.

This product has been tested for skin corrosivity by the in-vitro method and has been found to be non-corrosive.

Acute Inhalation Toxicity: No information is available.

Acute Oral Toxicity: Triethylenetetramine: oral LD50 (rat), 4,300 mg / kg; (mouse), 1,600 mg / kg; and (rabbits), 5,500 mg / kg.

Chronic/Carcinogenicity: This material does not contain 0.1% or more of any chemical listed by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), or regulated by the United States Occupational Safety and Health Administration (OSHA) as a carcinogen.

Sensitization: Inhalation of ethyleneamines may cause sensitization of the respiratory tract and the development of an asthmatic reaction on further exposure.

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Reproduction: Triethylenetetramine has caused embryofetal toxicity and fetal malformations when fed to rats. Similar effects were not seen in studies in which the material was applied to the skin of rabbits, a more relevant route of exposure in the industrial workplace. These effects are believed to be secondary to copper deficiency, resulting from the chelating activity of the chemical.

Mutagenicity: Triethylenetetramine contains one or more components which have exhibited evidence for weak mutagenic activity in standard in-vitro test systems. Triethylenetetramine was found to be positive when tested for mutagenicity using the Salmonella / microsome preincubation assay.

12. ECOLOGICAL INFORMATION

Ecotoxicity: Triethylenetetramine is slightly toxic to aquatic organisms on an acute basis: LC50 (Daphnia magna) is 12 mg / L; LC50 (fathead minnow) 495 mg / L; Growth inhibition EC50 (green alga) 3.7 - 20 mg / L.

Environmental Fate: The bioconcentration potential for triethylenetetramine is low. Biodegradation under aerobic static laboratory conditions is low.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method: Not a RCRA hazardous waste. Disposal of this material is not regulated under RCRA. Consult federal, state and local regulations to ensure that this material and its containers, if discarded, is disposed of in compliance with all regulatory requirements.

"Empty containers", as defined under 40 CFR 261.7 or other applicable state or provincial regulations or transportation regulations, are not classified as hazardous wastes. For further information, contact your local, state, provincial, or federal agency.

RCRA Hazard Class: NOT A RCRA HAZARDOUS WASTE: When discarded in its purchased form, this material would not be regulated as a RCRA Hazardous waste under 40 CFR 261.

14. TRANSPORT INFORMATION

DOT / IATA / IMDG / TDG: Bulk and Non-Bulk

Proper Shipping Name:

NOT REGULATED

15. REGULATORY INFORMATION

Occupational Safety and Health Act (OSHA): This material is classified as a hazardous chemical under the criteria of the US Occupational Safety and Health Administration (OSHA) Hazard Communication Standard, 29 CFR 1910.1200.

SARA Title III: Section 302 - Extremely Hazardous Substances (EHS): This product does not contain any chemicals regulated under Section 302 (40 CFR 355) as extremely hazardous substances.

SARA Title III: Section 304 - CERCLA: Reportable Quantities have not been established for any of this material's components.

SARA Title III: Section 311/312 - Hazard Communication Standard (HCS): This material is classified as an IMMEDIATE HEALTH HAZARD and DELAYED HEALTH HAZARD under the US Superfund Amendment and Reauthorization Act (Section 311/312).

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 components of this material are listed on the US Toxic Substances Control Act (TSCA) inventory.

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TSCA Section 12(b) - Export Notification: This material does not contain any components that are subject to the US Toxic Substances Control Act (TSCA) Section 12(b) Export Notification requirements.

Australian Inventory Status: This product contains only chemicals which are currently listed on the Australian Inventory of Chemical Substances.

Canadian Inventory Status: All components of this material are listed on the Canadian Domestic Substances List (DSL).

Canadian WHMIS: This material is classified by the Canadian Workplace Hazardous Material Information System as: D1B (materials causing immediate and serious toxic effects, toxic material) D2A (materials causing other toxic effects, very toxic material) D2B (materials causing other toxic effects, toxic material)

European Inventory Status (EINECS): All components are either listed or are exempt from being listed, on the EINECS chemical inventory.

Korean Inventory Status: This product contains only chemicals which are currently listed on the Korean Chemical Substances List.

California Proposition 65: This product is not known to contain any chemicals listed by the State of California (Safe Drinking Water and Toxic Enforcement Act of 1986) to cause cancer or reproductive toxicity.

Additional Canadian Regulatory Information: This product contains the following chemical(s) listed on the WHMIS Ingredient Disclosure List at or above the specified concentration limit: Triethylenetetramine (CAS# 112-24-3) Tetraethylenepentamine (CAS# 112-57-2)

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

16. OTHER INFORMATION

MSDS No:	6578
Reason Issued:	General Update.
Prepared By:	Product Safety & Compliance Department
Approved Date:	08/16/07
Supersedes Date:	03/23/04

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