

Material Safety Data Sheet

REN®LAM 177-114

1. Product and company identification

REN®LAM 177-114
Material uses : Resin for adhesive systems
MSDS # : 00066603
Validation date : 7/21/2011.
Print date : 7/21/2011.

Supplier/Manufacturer : Huntsman Advanced Materials Americas LLC
P.O. Box 4980
The Woodlands, TX 77387

Non-Emergency phone: (800) 257-5547
E-Mail: MSDS@huntsman.com

In case of emergency : Chemtrec: (800) 424-9300 or (703) 527-3887

2. Hazards identification

Physical state : Liquid.
OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Emergency overview : WARNING!
CAUSES EYE AND SKIN IRRITATION. MAY CAUSE ALLERGIC SKIN REACTION.
Do not breathe vapor or mist. Do not get on skin or clothing. Avoid contact with eyes.
Wash thoroughly after handling.

See toxicological information (Section 11)

GENERAL INFORMATION : Read the entire MSDS for a more thorough evaluation of the hazards.

3. Composition/information on ingredients

<u>Name</u>	<u>CAS number</u>	<u>%</u>
Reaction product: bisphenol A-(epichlorhydrin); epoxy resin (number average molecular weight < 700)	25068-38-6	60 - 100
glycidylether of C12-C14 alcohols	68609-97-2	13 - 30
p-tert-butylphenyl 1-(2,3-epoxy)propyl ether	3101-60-8	3 - 7

4. First aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

Skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.

4 . First aid measures

- Inhalation** : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
- Ingestion** : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.
- Notes to physician** : No specific treatment. Treat symptomatically. Call medical doctor or poison control center immediately if large quantities have been ingested.

5 . Fire-fighting measures

- Flash point** : Closed cup: >93.33°C (>200°F) [Estimated]
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
halogenated compounds
- Extinguishing media**
- Suitable** : Use an extinguishing agent suitable for the surrounding fire.
- Not suitable** : None known.
- Special exposure hazards** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6 . Accidental release measures

- Personal precautions** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- Methods for cleaning up** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7 . Handling and storage

- Handling** : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Keep in the original container or an approved

7. Handling and storage

alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

- Storage** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. Exposure controls/personal protection

Consult local authorities for acceptable exposure limits.

- Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

- Engineering measures** : No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

- Respiratory** : In case of inadequate ventilation wear respiratory protection. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

- Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

- Eyes** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

- Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. Physical and chemical properties

General information

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Not available.

Important health, safety and environmental information

pH : Not available.

Boiling/condensation point : Not available.

9 . Physical and chemical properties

Melting/freezing point	: Not available.
Flash point	: Closed cup: >93.33°C (>200°F) [Estimated]
Flammable limits	: Not available.
Auto-ignition temperature	: Not available.
Vapor pressure	: Not available.
Specific gravity	: 1.15
Partition coefficient: n-octanol/water (log Kow)	: Not available.
Density	: Not available.
Vapor density	: Not available.
Evaporation rate (butyl acetate = 1)	: Not available.
VOC	: Not available.

10 . Stability and reactivity

Chemical stability	: The product is stable. Under normal conditions of storage and use, hazardous reactions will not occur.
Hazardous polymerization	: Under normal conditions of storage and use, hazardous polymerization will not occur.
Conditions to avoid	: No specific data.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11 . Toxicological information

Potential acute health effects

Inhalation	: No known significant effects or critical hazards.
Ingestion	: No known significant effects or critical hazards.
Skin	: Irritating to skin. May cause sensitization by skin contact.
Eyes	: Irritating to eyes.

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
glycidylether of C12-C14 alcohols	LD50 Oral	Rat - Male	30.1 ml/kg	-
	LC50 Inhalation Vapor	Rat	>0.15 mg/L	7 hours
Reaction product: bisphenol A-(epichlorhydrin); epoxy resin (number average molecular weight < 700)	LD50 Dermal	Rat - Male, Female	>2000 mg/kg	-
	LD50 Oral	Rat - Female	>2000 mg/kg	-
	LC0 Inhalation Vapor	Rat - Male	0.00001 ppm	5 hours

Chronic toxicity

Product/ingredient name	Result	Species	Dose	Exposure
-------------------------	--------	---------	------	----------

11 . Toxicological information

glycidylether of C12-C14 alcohols	Sub-chronic NOEL : Dermal	Rat - Male, Female	1 mg/kg/d	13 weeks; 5 days per week
Reaction product: bisphenol A- (epichlorhydrin); epoxy resin (number average molecular weight < 700)	Sub-chronic NOAEL Oral	Rat - Male, Female	50 mg/kg	14 weeks; 7 days per week
	Sub-chronic NOEL : Dermal	Rat - Male, Female	10 mg/kg	13 weeks; 5 days per week
	Sub-chronic NOAEL Dermal	Mouse - Male	100 mg/kg	13 weeks; 3 days per week

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Reaction product: bisphenol A- (epichlorhydrin); epoxy resin (number average molecular weight < 700)	Skin - Mild irritant	Rabbit	-	-	-
	Eyes - Mild irritant	Rabbit	-	-	-

Sensitizer

Product/ingredient name	Route of exposure	Species	Result
glycidylether of C12-C14 alcohols	skin	Guinea pig	Sensitizing
Reaction product: bisphenol A- (epichlorhydrin); epoxy resin (number average molecular weight < 700)	skin	Mouse	Sensitizing

Product/ingredient name	Result	Species	Dose	Exposure
Reaction product: bisphenol A- (epichlorhydrin); epoxy resin (number average molecular weight < 700)	Negative - Oral - NOAEL	Rat - Male, Female	15 mg/kg	2 years; 7 days per week
	Negative - Dermal - NOEL :	Rat - Female	1 mg/kg	2 years; 5 days per week
	Negative - Dermal - NOEL :	Mouse - Male	0.1 mg/kg	2 years; 3 days per week

Mutagenicity

Product/ingredient name	Test	Experiment	Result
glycidylether of C12-C14 alcohols	OECD 476 <i>In vitro</i> Mammalian Cell Gene Mutation Test	Experiment: <i>In vitro</i> Subject: Mammalian- Animal Metabolic activation: +/-	Negative
	OECD 474 Mammalian Erythrocyte Micronucleus Test	Experiment: <i>In vivo</i> Subject: Mammalian- Animal Cell: Somatic Metabolic activation: +/-	Negative
Reaction product: bisphenol A- (epichlorhydrin); epoxy resin (number average molecular weight < 700)	OECD 471 Bacterial Reverse Mutation Test	Experiment: <i>In vitro</i> Subject: Bacteria Metabolic activation: +/-	Positive
	OECD 476 <i>In vitro</i> Mammalian Cell Gene Mutation Test	Experiment: <i>In vitro</i> Subject: Mammalian- Animal Cell: Somatic Metabolic activation: +/-	Positive
	OECD 478 Genetic Toxicology: Rodent Dominant Lethal Test	Experiment: <i>In vivo</i> Subject: Mammalian- Animal Cell: Germ	Negative

11 . Toxicological information

EPA OPPTS

 Experiment: In vivo
 Subject: Mammalian-
 Animal
 Cell: Somatic

Negative

Teratogenicity

Product/ingredient name	Result	Species	Dose	Exposure
glycidylether of C12-C14 alcohols	Negative - Dermal	Rat - Female	200 mg/kg NOEL :	10 days
Reaction product: bisphenol A- (epichlorhydrin); epoxy resin (number average molecular weight < 700)	Negative - Oral	Rat - Female	>540 mg/kg NOEL :	10 days
	Negative - Dermal	Rabbit - Female	>300 mg/kg NOEL :	13 days; 6 hours per day
	Negative - Oral	Rabbit - Female	180 mg/kg NOAEL	13 days

Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure
Reaction product: bisphenol A- (epichlorhydrin); epoxy resin (number average molecular weight < 700)	Negative	-	-	Rat - Male, Female	Oral: 540 mg/kg NOEL :	238 days; 7 days per week

Potential chronic health effects

- Chronic effects** : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
- Target organs** : Not available.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.
- Developmental effects** : No known significant effects or critical hazards.

Medical conditions aggravated by over-exposure

Pre-existing skin disorders may be aggravated by over-exposure to this product.

12 . Ecological information

- Environmental effects** : Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Aquatic ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
Reaction product: bisphenol A- (epichlorhydrin); epoxy resin (number average molecular weight < 700)	-	Acute EC50 9.4 mg/L Fresh water	Algae	72 hours Static
	OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test	Acute EC50 1.7 mg/L Fresh water	Daphnia	48 hours Static

12 . Ecological information

	-	Acute IC50 >100 mg/L Fresh water	Bacteria	3 hours Static
	OECD 203 Fish, Acute Toxicity Test	Acute LC50 1.5 mg/L Fresh water	Fish	96 hours Static
	OECD 211 <i>Daphnia Magna</i> Reproduction Test	Chronic NOEC 0.3 mg/L Fresh water	Daphnia	21 days Semi-static
glycidylether of C12-C14 alcohols	OECD 202 <i>Daphnia</i> sp. Acute Immobilisation Test	Acute EL50 7.2 mg/L Fresh water	Daphnia	48 hours Static
	OECD 201 Alga, Growth Inhibition Test	Acute IC50 843.75 mg/L Fresh water	Algae - <i>Selenastrum capricornutum</i> (<i>Pseudokirchneriella subcapitata</i>)	72 hours Static
	OECD 209 Activated Sludge, Respiration Inhibition Test	Acute IC50 >100 mg/L	Bacteria	3 hours
	OECD 203 Fish, Acute Toxicity Test	Acute LC50 5000 mg/L Fresh water	Fish - Rainbow trout (<i>Oncorhynchus mykiss</i> , <i>Salmo gairdneri</i>)	96 hours Static

Biodegradability

Product/ingredient name

Reaction product: bisphenol A- (epichlorhydrin); epoxy resin (number average molecular weight < 700)

Test

OECD Derived from OECD 301F (Biodegradation Test)

Result

5 % - Not readily - 28 days

Dose

20 mg/L Oxygen consumption

Inoculum

-

glycidylether of C12-C14 alcohols

OECD 301F Ready Biodegradability - Manometric Respirometry Test

87 % - Readily - 28 days

100 mg/L

-

Other ecological information

Not Determined

Not Determined

Product/ingredient name

Reaction product: bisphenol A- (epichlorhydrin); epoxy resin (number average molecular weight < 700)
glycidylether of C12-C14 alcohols

Aquatic half-life

Fresh water 4.83 days
Fresh water 3.58 days
Fresh water 7.1 days

Photolysis

-

Biodegradability

Not readily

Bioaccumulative potential

Reaction product: bisphenol A- (epichlorhydrin); epoxy resin (number average molecular weight < 700)
glycidylether of C12-C14 alcohols

LogP_{ow}

3.242

BCF

31

Potential

low

3.77

-

high

Other adverse effects : No known significant effects or critical hazards.

12 . Ecological information

PBT : Not applicable.

[Other information](#)

13 . Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

14 . Transport information







Proper shipping name

DOT : Environmentally hazardous substance, liquid, n.o.s. (BISPHENOL A EPOXY RESIN) Marine pollutant



TDG : Environmentally hazardous substance, liquid, n.o.s. (BISPHENOL A EPOXY RESIN) Marine pollutant

IMDG : Environmentally hazardous substance, liquid, n.o.s. (BISPHENOL A EPOXY RESIN) Marine pollutant

IATA : Environmentally hazardous substance, liquid, n.o.s. (BISPHENOL A EPOXY RESIN)

Regulatory information	UN number	Classes	PG*	Label	Additional information
DOT Classification	UN3082	9	III	 	-
TDG Classification	UN3082	9	III	 	-
IMDG Class	UN3082	9	III	 	Emergency schedules (EmS) F-A, S-F

14 . Transport information

ATA-DGR Class	UN3082	9	III	 	Passenger and Cargo Aircraft Quantity limitation: 450 L Packaging instructions: 964 Cargo Aircraft Only Quantity limitation: 450 L Packaging instructions: 964 Remarks ***TO BE TRANSLATED***
----------------------	--------	---	-----	--	---

PG* : Packing group

15 . Regulatory information

U.S. Federal regulations

- HCS Classification** : Irritating material
Sensitizing material
- U.S. Federal regulations** : **United States inventory (TSCA 8b)**: All components are listed or exempted.
- TSCA 5(a)2 final significant new use rule (SNUR)** : None.
- TSCA 5(e) substance consent order** : None.
- TSCA 12(b) one-time export notification:** : None.
- TSCA 12(b) annual export notification** : None.
- SARA 302/304/311/312 extremely hazardous substances** : **SARA 302/304/311/312 extremely hazardous substances**: No Ingredient Listed
- SARA 311/312 hazard identification** : **SARA 311/312 MSDS distribution - chemical inventory - hazard identification**: No Ingredient Listed
- Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs)** : **Product name** **CAS number** **Concentration**
No Ingredients Listed.
- Clean Air Act - Ozone Depleting Substances (ODS)** : This product does not contain nor is it manufactured with ozone depleting substances.
- SARA 313** : No ingredients listed.

CERCLA: Hazardous substances: No ingredients listed.

STATE REGULATIONS:

15 . Regulatory information

PENNSYLVANIA - RTK: None of the components are listed.

California Prop 65 :

WARNING: This product contains less than 0.1% of a chemical known to the State of California to cause cancer.

WARNING: This product contains less than 1% of a chemical known to the State of California to cause birth defects or other reproductive harm.

<u>Ingredient name</u>	<u>Cancer</u>	<u>Reproductive</u>	<u>No significant risk level</u>	<u>Maximum acceptable dosage level</u>
1-chloro-2,3-epoxypropane	Yes.	Yes.	Yes.	No.

Canada

WHMIS (Canada) : Class D-2B: Material causing other toxic effects (Toxic).

CEPA DSL : All components are listed or exempted.

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.

International lists

Australia inventory (AICS): All components are listed or exempted.

China inventory (IECSC): All components are listed or exempted.

Japan inventory: At least one component is not listed.

Korea inventory: At least one component is not listed.

New Zealand Inventory of Chemicals (NZIoC): Not determined.

Philippines inventory (PICCS): All components are listed or exempted.

16 . Other information

Label requirements : CAUSES EYE AND SKIN IRRITATION. MAY CAUSE ALLERGIC SKIN REACTION.

Hazardous Material Information System (U.S.A.) :

Health	2
Flammability	1
Physical hazards	0
Personal protection	

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.) :



Date of printing : 7/21/2011.

Date of issue : 7/21/2011.

Date of previous issue : No previous validation.

Version : 1

☑ Indicates information that has changed from previously issued version.

16 . Other information

Notice to reader

While the information and recommendations in this publication are to the best of our knowledge, information and belief accurate at the date of publication, NOTHING HEREIN IS TO BE CONSTRUED AS A WARRANTY, EXPRESS OR OTHERWISE.

IN ALL CASES, IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE THE APPLICABILITY OF SUCH INFORMATION AND RECOMMENDATIONS AND THE SUITABILITY OF ANY PRODUCT FOR ITS OWN PARTICULAR PURPOSE.

THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.

NO PERSON OR ORGANIZATION EXCEPT A DULY AUTHORIZED HUNTSMAN EMPLOYEE IS AUTHORIZED TO PROVIDE OR MAKE AVAILABLE DATA SHEETS FOR HUNTSMAN PRODUCTS. DATA SHEETS FROM UNAUTHORIZED SOURCES MAY CONTAIN INFORMATION THAT IS NO LONGER CURRENT OR ACCURATE. NO PART OF THIS DATA SHEET MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM, OR BY ANY MEANS, WITHOUT PERMISSION IN WRITING FROM HUNTSMAN. ALL REQUESTS FOR PERMISSION TO REPRODUCE MATERIAL FROM THIS DATA SHEET SHOULD BE DIRECTED TO HUNTSMAN, MANAGER, PRODUCT SAFETY AT THE ABOVE ADDRESS.

P.O. Box 4980
The Woodlands, TX 77387-4980

8 am to 5 pm Phone: (800) 257-5547
24-Hour Emergency Phone: (800) 328-8501
International Emergency Phone: (409) 727-0831
Asia Pacific Emergency Phone: (65) 6336-6011

Effective Date: 8/27/08

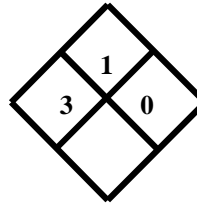
Material Safety Data Sheet

MSDS No: 5785

1. PRODUCT IDENTIFICATION

Trade Name: Ren 956

Chemical Family: Amine



NFPA RATING

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

HMIS RATING

Synonyms:

H 956 Hardener

Intended Use or Product Type:

Amine hardener

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)- Triethylenetetramine Common Name: Concentration 15.00 - 40.00 % by wt	NE	NE	NE	NE	NE	NR	NR	NR
*	26950-63-0	1,2-Ethanediamine, N,N'-bis(2-aminoethyl)-, polymer with methyloxirane Propoxylated Triethylenetetramine Common Name: Concentration 60.00 - 100.00 % by wt	NE	NE	NE	NE	NE	NR	NR	NR

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

3. HAZARDS IDENTIFICATION

Emergency Overview: Causes severe eye irritation and may cause eye burns. Can cause skin irritation and allergic skin reaction. Can be harmful if absorbed through skin and may be harmful if swallowed.

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



4. FIRST AID MEASURES

Ingestion: Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Seek immediate medical attention.

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

Inhalation: Remove to fresh air. Seek immediate medical attention.

Eyes: Immediately flush eyes with water for at least 15 minutes. Seek immediate medical attention.

Overexposure Effects: Causes severe eye irritation and may cause eye burns. Can cause skin irritation and allergic skin reaction. Can be harmful if absorbed through skin and may be harmful if swallowed.

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:	> 300°F (> 149 °C)
Flash Point Method Used:	PMCC
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.

7. HANDLING AND STORAGE

Signal Word: Danger!

Precautions: Causes severe eye irritation and may cause eye burns. Can cause skin irritation and allergic skin reaction. Can be harmful if absorbed through skin and may be harmful if swallowed. Do not get in eyes. Avoid breathing vapor or mist. Avoid contact with skin and clothing. Avoid tasting or swallowing. Keep container closed when not in use. 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

Effective Date: 8/27/08

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

Color:	Light Amber
Odor:	Amine
Physical State:	Liquid
Solubility in Water:	Slight
Vapor Pressure:	< 1 mm Hg at 21°C (70 °F)
Specific Gravity:	1.02 (water = 1)
Boiling Point:	Not Determined
Melting Point:	Not Determined
Evaporation Rate:	Not Determined
Density:	1.02 g/cm ³ at 21°C (70 °F)
Vapor Density:	Not Determined
pH:	Not Determined
Coefficient of water/oil:	Not Determined

Percent Volatile: Not determined.

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

Acute Oral Effects (LD50): Component(s) are slightly toxic, 500 - 5000 mg/kg (rat).
Triethylenetetramine= 2500 - 4340 mg/kg (rat)**Acute Dermal Toxicity (LD50):** Component(s) are toxic, 200 - 1000 mg/kg (rabbit).
Triethylenetetramine= 550 - 800 mg/kg (rabbit)**Sensitization:** Possible in susceptible individuals.**Skin Irritation:** Irritant.

Effective Date: 8/27/08

Eye Irritation: Severe eye 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.

14. TRANSPORT INFORMATION

DOT: Non-Bulk	
Proper Shipping Name:	Not Regulated
IATA: Non-Bulk	
Proper Shipping Name:	Not Regulated
IMDG: Non-Bulk	
Proper Shipping Name:	Not Regulated
TDG: Non-Bulk	
Proper Shipping Name:	Not Regulated

Motor Freight Classification Resin compounds, N.O.I.

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).

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.

International Regulations:

Canadian Inventory Status: This product contains only chemicals that are currently listed on the Canadian Domestic Substance List.

Canadian WHMIS: 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. D1B D2B

Effective Date: 8/27/08

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)-, polymer with methyloxirane

Common Name: Propoxylated Triethylenetetramine

CAS Number: 26950-63-0

Comment: Not on Pennsylvania Hazardous Substance List

Chemical Name: 1,2-Ethanediamine, N,N'-bis(2-aminoethyl)-

Common Name: Triethylenetetramine

CAS Number: 112-24-3

Comment: Hazardous Substance

16. OTHER INFORMATION

MSDS No: 5785
Approved By: Dianne Blessing
Title: EH&S Specialist

Disclaimer: The information and recommendations contained herein are based upon tests in controlled laboratory conditions, are believed to be correct, and are provided for the sole purpose of hazard communication as part of Huntsman's product safety program. This product has not been tested for, and therefore is not recommended or suitable for, uses for which prolonged contact with mucous membranes, abraded skin, or blood is intended or likely, or for uses for which implantation within the human body is intended, and Huntsman assumes no liability for any such uses.

The information and recommendations contained herein are not intended to constitute performance information concerning the product, which is available in separate technical data sheets available from Huntsman upon request. Users are urged, and are urged to urge others who may come in contact with the product, to obtain and consult data sheets prior to purchase, use, transportation or storage of the product.

HUNTSMAN MAKES NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY, QUALITY, OR FITNESS FOR A PARTICULAR PURPOSE. HUNTSMAN'S LIABILITY IS STRICTLY LIMITED TO REIMBURSEMENT OF BUYER'S PURCHASE PRICE, OR IN HUNTSMAN'S DISCRETION REPLACEMENT, OF THE PRODUCT IN RESPECT OF WHICH SUCH CLAIM IS MADE. HUNTSMAN'S LIABILITY IS STRICTLY LIMITED BY LEGAL NOTICES IN TECHNICAL DATA SHEETS, PRODUCT LITERATURE, AND/OR SALE DOCUMENTS. The foregoing DISCLAIMERS and LIMITATION OF LIABILITY supercede inconsistent or contradictory provisions in Buyer's documents.

USER SHOULD CONSULT A LEGAL ADVISOR OR THE APPROPRIATE GOVERNMENTAL AGENCY TO DETERMINE THE APPLICABILITY OR EFFECT OF ANY LAW OR REGULATION WITH RESPECT TO THE PRODUCT. HUNTSMAN DOES NOT UNDERTAKE TO FURNISH ADVICE ON SUCH MATTERS.

NO PERSON OR ORGANIZATION EXCEPT A DULY AUTHORIZED HUNTSMAN EMPLOYEE IS AUTHORIZED TO PROVIDE OR MAKE AVAILABLE DATA SHEETS FOR HUNTSMAN PRODUCTS. DATA SHEETS FROM UNAUTHORIZED SOURCES MAY CONTAIN INFORMATION THAT IS NO LONGER CURRENT OR ACCURATE. NO PART OF THIS DATA SHEET MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM, OR BY ANY MEANS, WITHOUT PERMISSION IN WRITING FROM HUNTSMAN. ALL REQUESTS FOR PERMISSION TO REPRODUCE



MATERIAL FROM THIS DATA SHEET SHOULD BE DIRECTED TO HUNTSMAN, MANAGER, PRODUCT SAFETY AT THE ABOVE ADDRESS.

