



Safety Data Sheet

RF 5004 Part A

Section 1. Identification

Product Identifier	RF 5004 Part A		
Synonyms	Epoxy resin		
Manufacturer Stock Numbers	33639		
Recommended use	Epoxy Resin		
Uses advised against	Avoid high temperatures, flames and contact with strong oxidizing agents.		
Manufacturer Contact Address	Resin Formulators 18027 Bishop Avenue Carson, CA, 90746 USA		
	Phone	Emergency Phone	Fax
	(310) 204-6159	(800) 424-9300 CHEMTREC	(310) 202-7247
	Email	Website	
	sales@evroberts.com	http://www.evroberts.com	

Section 2. Hazards Identification

Classification	EYE DAMAGE/IRRITATION - Category 2A SKIN CORROSION/IRRITATION - Category 2 SPECIFIC TARGET ORGAN TOXICITY (Single E - Category 3)
Signal Word	Warning
Pictogram	
Hazard Statements	Causes serious eye irritation May cause respiratory irritation; or May cause drowsiness or dizziness

	Moderately irritating to skin
Precautionary Statements	
Response	Call a poison center/doctor/ ... /if you feel unwell. If eye irritation persists: Get medical advice/attention. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If inhaled: Remove person to fresh air and keep comfortable for breathing.
Prevention	Avoid breathing dust/fume/gas/mist/ vapors/spray. Use only outdoors or in a well-ventilated area. Wash ...thoroughly after handling. Wear eye protection/face protection.
Storage	Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Disposal	Dispose of contents/container to ...
Ingredients of unknown toxicity	0%
Hazards not Otherwise Classified	
Form	Viscous Liquid
OSHA/HCS Status	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910. 1200)
Emergency Overview	Warning: Causes skin and eye irritation. May cause allergic skin reaction. May cause respiratory tract irritation. Heated material can cause thermal burns.
Potential Health Effects	
Inhalation	Slightly irritating to eyes and respiratory tract.
Ingestion	Not expected to be harmful under normal conditions of use.
Skin	Irritating to skin. May cause sensitization by skin contact. Heated material can cause thermal burns.
Eye	Irritating to eyes. Heated material can cause thermal burns.
Potential Chronic Health Effects	
Chronic Health Effects	None known
Carcinogenicity	No known significant effects or critical hazards
Mutagenicity	No known significant effects or critical hazards
Teratogenicity	No known significant effects or critical hazards
Developmental Effects	No known significant effects or critical hazards.
Fertility Effects	No known significant effects or critical hazards.
Over-exposure signs/symptoms	
Inhalation	Adverse symptoms may include the following: respiratory tract irritation, coughing.
Ingestion	No specific data.
Skin	Adverse symptoms may include the following: irritation, redness.
Eye	Adverse symptoms may include the following: irritation, watering, redness.
Medical Conditions Aggravated by Exposure	Pre-existing skin disorders may be aggravated by over-exposure to this product.

Section 3. Ingredients

CAS	Ingredient Name	Weight %
Proprietary	Midified Epoxy Resin	<50 %
25068-38-6	Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane	>50 %
17557-23-2	Oxirane, 2,2'-[(2,2-dimethyl-1,3-propanediyl)bis(oxymethylene)]bis-	5-20 %

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First-Aid Measures

Eye	Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Chemical burns must be treated promptly by a physician. Get immediate medical attention.
Skin Contact	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing or wear gloves. Continue to rinse for at least 10 minutes. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse. For hot product, flush contaminated skin with large amounts of cold water to dissipate heat. Cover with clean cotton sheeting or gauze. Get medical attention immediately.
Inhalation	Move exposed person to fresh air. Keep person warm and at rest. If not breathing, breathing is irregular or respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if adverse health effects persist or are severe.
Ingestion	Wash out mouth with water. Remove dentures if any. Move exposed person to fresh air. Keep person warm and at rest. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effect persists or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Protection of First Aid Personnel	In the event of body contact with molten material, immediately cool with running water. Do not attempt to remove material from skin. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
Note to Physician	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Additional Hazards	See section 11 for more detailed information on health effects and symptoms.

Section 5. Fire Fighting Measures

Suitable Extinguishing Media	<p>In a fire or if heated, a pressure increase will occur and the container may burst.</p> <p>Extinguishing media: Use an extinguishing agent suitable for the surrounding fire.</p> <p>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.</p> <p>Hazardous Combustion Products: Decomposition products may include the following materials: Carbon Oxides</p> <p>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.</p>
Unsuitable Extinguishing Media	N/A

Section 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)
Large Spills	Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. For molten material, allow the product to cool and solidify. Vacuum or sweep up material and place in a designated, labelled waste container. 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.
Small Spills	Stop leak if without risk. Move containers from spill area. For molten material, allow the product to cool and solidify. Vacuum or sweep up material and place in a designated, labeled appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and Storage

Handling

Put on appropriate personal protective equipment (see section 8). Do not eat, drink or smoke when using this product. Workers should wash hands and face before eating, drinking and smoking. 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. Avoid breathing of dust created by cutting, sanding, grinding or machining. Avoid breathing of vapors or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved 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. Note: This resin may be handled, shipped and stored at elevated temperatures in bulk.

Section 8. Exposure Controls/Personal Protection

Occupational Exposure Limits	Ingredient Name	ACGIH TLV	OSHA PEL	STEL
	Midified Epoxy Resin	0.5 mg (Sb)/m3 (TWA) for handling and use.	0.5 mg (Sb) m3 (TWA)	N/A
	Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane	N/A	none	N/A
	Oxirane, 2,2'-[(2,2-dimethyl-1,3-propanediyl)bis(oxymethylene)]bis-	N/A	none	N/A
<p>Personal Protective Equipment</p> <p>Consult local authorities</p> <p>Recommended Monitoring Procedures</p>	<p>Goggles, Gloves, Respirator, CHEMICAL GOGGLES</p> <p>Consult local authorities for acceptable exposure limits.</p> <p>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.</p>			
<p>Engineering Measures</p>	<p>Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne containments below any recommended or statutory limits.</p>			
<p>Hygenic Practices</p>	<p>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. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.</p>			
<p>Respiratory</p>	<p>Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. 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.</p>			
<p>Eye protection</p>	<p>Safety eyewear complying with an approved standard should be used when a risk assessment indicated this is necessary to avoid exposure to liquid splashed, mist or dusts.</p>			
<p>Skin Protection</p>	<p>Personal protective equipment for the body should be selected based on the task being performed and the risk involved and should be approved by a specialist before handling the product.</p>			
<p>Environmental Exposure Controls</p>	<p>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.</p>			

Section 9. Physical and Chemical Properties

Physical State	Liquid
Color	Blue
Odor	N/A
Odor Threshold	N/A
Solubility	Negligible
Partition coefficient Water/n-octanol	N/A
VOC%	N/A
Viscosity	Dynamic - N/A
Specific Gravity	1
Density lbs/Gal	1.17
Pounds per Cubic Foot	N/A
Flash Point	251°C (484° F)
FP Method	Pensky- Martens Closed Cup ASTM D 93
Ph	N/A
Melting Point	N/A
Boiling Point	> 260°C (500°F)
Boiling Range	N/A
LEL	N/A
UEL	N/A
Evaporation Rate	N/A
Flammability	N/A
Decomposition Temperature	N/A
Auto-ignition Temperature	N/A
Vapor Pressure	0.03 mbar @ 77°C (171°F)
Vapor Density	N/A

Section 10. Stability and Reactivity

Chemical Stability	Stable under recommended storage temperatures and pressures.
Hazardous Polymerization	Will not occur
Conditions to Avoid	Strong oxidizier.
Materials to Avoid	Reactive or incompatible with the following materials: Oxidizing materials, strong acids, strong alkalis.
Other Hazards	Reacts with considerable heat release with some curing agents.
Hazardous Decomposition Products	Decomposition products may include the following materials: Carbon Oxides

Section 11. Toxicological Information

Acute Toxicity Data	4,4'-Isopropylidenediphenol-Epichlorohydrin Copolymer: LD50 Oral - Rat - 30,000 mg/kg LD50 Dermal - Rat - >1,200 mg/kg
	Oxirane, 2,2-[(2,2-dimethyl-1,3-propanedily) bis(oxymethylene)]bis-: LD50 Oral - Rat - 4,500 mg/kg LD50 Dermal - Rat - >2,000 mg/kg
Other Toxicological Information	
Carcinogenicity Classification Ingredient name	4,4'-Isopropylidenediphenol-Epichlorohydrin Copolymer Oxirane, 2,2-[(2,2-dimethyl-1,3-propanedily) bis(oxymethylene)]bis-: ACGIH: Not classified IARC: Not classified NTP: Not listed OSHA: Not regulated EU: Not classified

Section 12. Ecological Information

Environmental effects	No known significant effects or critical hazards.
Other Adverse Effects	No known significant effects or critical hazards.

Section 13. Disposal

Waste disposal	The generation of waste should be avoided or minimized wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-product should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
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Section 14. Transport Information

UN Number	N/A
UN Proper Shipping Name	N/A
DOT Classification	N/A
Packing Group	N/A
Disclaimer	The data provided in this section is for information only and may not be specific to your package size or mode of transport. You will need to apply the appropriate regulations to properly classify your shipment for transportation.
All Regulatory Classification	This product is not regulated by CFR, TDG, IMO, IMDG or IATA

Section 15. Regulatory Information

US Regulations

HCS Classification Irritating material, Sensitizing material

Federal Regulations

SARA 311/312 Hazard Categories Immediate (acute) health hazard

State Regulatory Information (By Component)

SARA 313 - SUPPLIER NOTIFICATION:
This product contains the following toxic chemical(s) subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986, and Subpart C-Supplier Notification Requirement of 40 CFR Part 372.
None required.

SARA 302 Extremely Hazardous Substances

None

State Regulations

Massachusetts RTK Substances - None required

New Jersey RTK Hazardous Substances - None required

Pennsylvania RTK Hazardous Substances - None required

California Prop. 65: WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm: Oxirane,(phenoxyethyl)- 122-60-1

Regulatory for Canada

WHMIS (Canada)

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

Canadian Lists: Canadian NPRI: None required.

International Regulations

Chemical Inventories:

Europe inventory: All components are listed or exempted.

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

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

Korea inventory (KECI): All components are listed or exempted.

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

Japan inventory (ENCS): All components are listed or exempted.

Canada inventory: All components are listed or exempted.

United States inventory (TSCA 8b): All components are listed or exempted.

Section 16. Other Information

Revision Date

8/14/2015

HMIS Rating (Not Regulated) The HMIS Rating for this product is:
Health: 2 Flammability: 1 Reactivity: 0

0=Minimal; 1=Slight; 2=Moderate; 3=Serious; 4=Severe

Disclaimer

The information contained herein is believed to be accurate. It is provided independently of any sale of the product for purpose of hazard communication as part of E.V. Roberts' product safety program. It is not intended to constitute performance information concerning the product. No warranty, expressed or implied, or merchantability or fitness for a particular purpose is made with respect to the product or the information contained herein.

To determine applicability or effects of any law or regulation with respect to the product, user should consult his legal advisor or the appropriate government agency. E.V. Roberts does not undertake to furnish advice on such matters.



Safety Data Sheet

RF 5004 Part B

Section 1. Identification

Product Identifier	RF 5004 Part B		
Synonyms	Polyamine hardener		
Manufacturer Stock Numbers	33639		
Recommended use	Polyamine hardener		
Uses advised against	Sodium hypochlorite Organic acids (i.e. acetic acid, citric acid, etc) Mineral acids Product slowly corrodes copper, aluminum, zinc and galvanized surfaces. Reaction with peroxides may result in violent decomposition of peroxide possibly creating an explosion.		
Manufacturer Contact Address	Resin Formulators 18027 Bishop Avenue Carson, CA, 90746 USA		
	Phone	Emergency Phone	Fax
	(310) 204-6159	(800) 424-9300 CHEMTREC	(310) 202-7247
	Email	Website	
	sales@evroberts.com	http://www.evroberts.com	

Section 2. Hazards Identification

Classification	ACUTE TOXICITY - DERMAL - Category 3 CORROSIVE TO METALS - Category 1 EYE DAMAGE/IRRITATION - Category 2A SENSITIZATION - SKIN - Category 3 SKIN CORROSION/IRRITATION - Category 2 SPECIFIC TARGET ORGAN TOXICITY (Single E - Category 3
Signal Word	Danger

Pictogram



Hazard Statements

Causes serious eye irritation
Inhalation may be irritating, to respiratory system, eyes and skin
May be corrosive to metals
May cause respiratory irritation; or May cause drowsiness or dizziness
Moderately irritating to skin
Toxic in contact with skin

Precautionary Statements

Response

Absorb spillage to prevent material damage.
Call a poison center/doctor/ ... /if you feel unwell.
If eye irritation persists: Get medical advice/attention.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
If on skin: Wash with plenty of water/ ...
Specific treatment (see ... on this label)
Take off immediately all contaminated clothing and wash it before reuse.

Prevention

Avoid breathing dust/fume/gas/mist/ vapors/spray.
Keep only in original container.
Use only outdoors or in a well-ventilated area.
Wash ...thoroughly after handling.
Wear eye protection/face protection.
Wear protective Butyl Gloves, Face Shield, Eye Bath and Safety Shower.

Storage

Store in a well-ventilated place. Keep container tightly closed.
Store in corrosive resistant/... container with a resistant inner liner.
Store locked up.

Disposal

Dispose of contents/container to ...

Ingredients of unknown toxicity

0%

Hazards not Otherwise Classified

EMERGENCY OVERVIEW

Toxic in contact with skin.
Corrosive
Severe respiratory irritant.
Severe eye irritant.
Severe skin irritant.
May cause sensitization by skin contact.

Potential Health Effects

Inhalation

Can cause severe eye, skin and respiratory tract burns. May cause nose, throat, and lung irritation. Inhalation of vapors and/or aerosols in high concentration may cause irritation of respiratory system.

Eye contact

Causes eye burns. May cause blindness. Severe eye irritation.

Skin contact

Toxic in contact with skin. Causes skin burns.

Ingestion

If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach. Harmful if swallowed.

Chronic Health Hazard

This product contains no listed carcinogens according to IARC, ACGIH, NTP and/or OSHA in concentrations of 0.1 percent or greater. Prolonged contact may

result in chemical burns and permanent damage. Repeated or prolonged contact causes sensitization, asthma and eczemas.

Exposure Guidelines

Target Organs

Symptoms

Aggravated Medical Condition

Skin, Eyes, Respiratory System

Repeated and/or prolonged exposure to low concentrations of vapors and/or aerosols may cause: Sore throat.

Eye disease, Skin disorders and Allergies.

Section 3. Ingredients

CAS	Ingredient Name	Weight %
65997-17-3	Glass, oxide, chemicals	1-10 %
1760-24-3	1,2-Ethanediamine, N-[3-(trimethoxysilyl)propyl]-	1-5 %
4246-51-9	1-Propanamine, 3,3'-[oxybis(2,1-ethanediyloxy)]bis-	40-60 %
140-31-8	1-Piperazineethanamine	40-60 %
80-05-7	Phenol, 4,4'-(1-methylethylidene)bis-	5-15 %

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First-Aid Measures

General

Seek medical advice. If breathing has stopped or is labored, give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately.

Eye Contact

Immediately flush eyes with running water for a minimum of 20 minutes. Hold eyelids open during flushing. Flushing within one minute is essential to achieve effectiveness. Obtain medical attention IMMEDIATELY.

Skin Contact

Immediately remove contaminated clothing, and any extraneous chemical, if possible to do so without delay. Initiate and maintain gentle and continuous irrigation until the patient receives medical care. If medical care is not promptly available, continue to irrigate for one hour. Cover wound with sterile dressing. Take off contaminated clothing and shoes immediately. NOTE TO PHYSICIANS: Application of corticosteroid cream has been effective in treating skin irritation.

Ingestion

If a person vomits when lying on his back, place him in the recovery position. Never give anything by mouth to an unconscious person. Prevent aspiration of Vomit. Turn victim's head to the side.

Inhalation

If breathing has stopped or is labored, give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately. Move to fresh air.

Section 5. Fire Fighting Measures

Suitable Extinguishing Media

Extinguishing media:
Alcohol-resistant foam
Carbon dioxide (CO₂)
Dry chemical
Dry sand
Limestone powder.

Specific Hazards:

May generate ammonia gas. May generate toxic nitrogen oxide gases. Use of water may result in the formation of very toxic aqueous solutions. Do not allow run-off from fire fighting to enter drains or water courses. Incomplete combustion may form carbon monoxide. Downwind personnel must be evacuated. Burning produces obnoxious and toxic fumes.

Special Protective Equipment for Fire-Fighters

Avoid contact with the skin. A face shield should be worn. Use personal protective equipment. Wear self contained breathing apparatus for fire fighting if necessary.

Further Information:

Do not allow run-off from fire fighting to enter drains or water courses.

Unsuitable Extinguishing Media

N/A

Section 6. Accidental Release Measures

Personal precautions

Use self-contained breathing apparatus and chemically protective clothing. Wear suitable protective clothing, gloves and eye/face protection. Evacuate personnel to safe areas.

Environmental Precautions Methods for cleaning up

Construct a dike to prevent spreading
Approach suspected leak areas with caution. If necessary, contact Air Products Emergency Response Center for additional advice. Place in appropriate chemical waste container.

Additional Advice

If possible, stop flow of product

Section 7. Handling and Storage

Handling

Avoid contact with skin and eyes. Emergency showers and eye wash stations should be readily accessible. Adhere to work practice rules established by government regulations. Use personal protective equipment. When using, do not eat, drink or smoke.

Storage

Do not store near acids. Keep containers tightly closed in a dry, cool and well ventilated place.

Technical measures/Precautions

Do not store in reactive metal containers

Section 8. Exposure Controls/Personal Protection

Occupational Exposure Limits	Ingredient Name	ACGIH TLV	OSHA PEL	STEL
	Glass, oxide, chemicals	N/A	N/A	N/A
	1,2-Ethanediamine, N-[3-(trimethoxysilyl)propyl]-	N/A	N/A	N/A
	1-Propanamine, 3,3'-[oxybis(2,1-ethanediyloxy)] bis-	N/A	N/A	N/A
	1-Piperazineethanamine	N/A	N/A	N/A
	Phenol, 4,4'-(1-methylethylidene)bis-	N/A	N/A	N/A
Personal Protective Equipment Engineering Measures	Goggles, Gloves, Face Shield, CHEMICAL GOGGLES, PROTECTIVE CLOTHING, EYE WASH AND SAFETY SHOWER Provide readily accessible eye wash stations and safety showers. Provide natural or explosion-proof ventilation adequate to ensure concentrations are kept below exposure limits.			
Personal Protective Equipment Respiratory Protection Hand protection	Wear appropriate respirator when ventilation is inadequate. Neoprene gloves. Butyl-rubber. Nitrile rubber. Impervious gloves. The breakthrough time of the selected glove(s) must be greater than the intended use period.			
Eye protection	Full face shield with goggles underneath. Chemical resistant goggles must be worn.			
Skin and Body Protection	Slicker Suit. Impervious clothing. Full rubber suit (rain gear). Rubber or plastic boots. Long sleeve shirt and trousers without cuffs.			
Environmental exposure controls Special Instructions for protection and hygiene	Construct a dike to prevent spreading. Discard contaminated leather articles. Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Provide readily accessible eye wash stations and safety showers. Wash at the end of each workshift and before eating, smoking or using the toilet.			

Section 9. Physical and Chemical Properties

Physical State	Paste
Color	Red
Odor	Irritating
Odor Threshold	N/A
Solubility	Nearly complete
Partition coefficient Water/n-octanol	N/A
VOC%	N/A
Viscosity	N/A
Specific Gravity	1
Density lbs/Gal	0.98
Pounds per Cubic Foot	N/A
Flash Point	>115°C
FP Method	N/A
Ph	12
Melting Point	N/A
Boiling Point	> 432°F (>222°C)
Boiling Range	N/A
LEL	N/A
UEL	N/A
Evaporation Rate	N/A
Flammability	N/A
Decomposition Temperature	N/A
Auto-ignition Temperature	N/A
Vapor Pressure	<0.05 mmHg at 68°F (20° C)
Vapor Density	4.45

Density

61.179 lb/ft³ (0.98 g/cm³) at 70°F (21°C)

Section 10. Stability and Reactivity

Chemical Stability	Stable under normal conditions.
Materials to Avoid	Sodium hypochlorite. Organic acids (i.e. acetic acid, citric acid, etc). Mineral acids. Product slowly corrodes copper, aluminum, zinc and galvanized surfaces. Reaction with peroxides may result in violent decomposition of peroxide possibly creating an explosion. Reactive metals (e.g. sodium, calcium, zinc, etc.). Materials reactive with hydroxyl compounds. Oxidizing agents.
Hazardous Decomposition Products	Nitric Acid. Ammonia. Nitrogen Oxides (NOx). Nitrogen Oxides can react with water vapors to form corrosive nitric acid. Carbon Monoxide. Carbon Dioxide (CO2).

Section 11. Toxicological Information

Acute Health Hazard	No data is available on the product itself.
Ingestion Components	Aminoethyl piperazine, 1-(2-, (AEP) LD50 : 2,108 mg/kg Species: Rat 3,3'-(oxybis(2,1,-ethane-diyloxy)) bis-1-propanamine LD50 : 3,160 mg/kg Species: Rat
Inhalation	No data is available on the product itself.
Dermal	Aminoethyl piperazine, 1-(2-, (AEP) LD50 : > 880 mg/kg Species : Rabbit. Method : Estimated. 3,3'-(Oxybis(2,1-ethane-diyloxy)) bis-1-propanamine LD50 : > 2,500 mg/kg Species : Rabbit. Method : Estimated.
Eye Irritation	Severe eye irritation.
Skin Irritation	Severe skin irritant
Sensitization	May cause sensitization by skin contact.
Chronic Health Hazard	The product or a component may be mutagenic, the data is inconclusive.

Section 12. Ecological Information

Ecotoxicity Effects

Aquatic Toxicity

No data is available on the product itself.

Persistence and degradability

Biodegradability: No data is available on the product itself.

Mobility: No data available

Bioaccumulation: No data is available on the product itself.

Section 13. Disposal

Waste from residues / unused products

Contact supplier if guidance is required.

Contaminated packaging

Dispose of container and unused contents in accordance with federal, state, and local requirements.

Section 14. Transport Information

UN Number

2815

UN Proper Shipping Name

N-Aminoethylpiperazine

DOT Classification

8

Packing Group

III

Further Information

The transportation information is not intended to convey all specific regulatory data relating to this material.

Section 15. Regulatory Information

TSCA 12(b) Components	None
OSHA Hazard Communication Standard	OSHA Hazard Communication Standard (29 CFR 1910.1200) Hazard Classes: Corrosive, Sensitizer, Toxic
Regulatory Information	USA (TSCA) Included on inventory EU (EINECS) Included on EINECS inventory or polymer substance, monomers included on EINECS inventory or no longer polymer Canadian (DSL) Included on Inventory. Australia (AICS) Included on Inventory. Japan (ENCS) Included on Inventory. South Korea (ECL) Included on Inventory. China (SEPA) Included on Inventory. Philippines (PICCS) Included on Inventory.
	EPA SARA TITLE III Section 312 (40CFR370) Hazard Classification: Acute Health Hazard
	EPA SARA TITLE III Section 313 (40CFR372) Component(s) above de minimus level: None
	CALIFORNIA PROPOSITION 65 WARNING: This product does not contain any chemicals that are known to the State of California to cause cancer, birth defects or other reproductive harm.
	WHMIS Hazard Classification: Toxic Material causing Immediate and Serious Toxic Effects, Toxic Material causing Other Toxic Effects, Corrosive Material

Section 16. Other Information

Revision Date	8/17/2015
HMIS Rating (Not Regulated)	The HMIS Rating for this product is: Health: 3 Flammability: 1 Reactivity: 0 0=Minimal; 1=Slight; 2=Moderate; 3=Serious; 4=Severe For Information Purposes Only - No Longer Regulated
Disclaimer	The information contained herein is believed to be accurate. It is provided independently of any sale of the product for purpose of hazard communication as part of E.V. Roberts' product safety program. It is not intended to constitute performance information concerning the product. No warranty, expressed or implied, or merchantability or fitness for a particular purpose is made with respect to the product or the information contained herein. To determine applicability or effects of any law or regulation with respect to the product, user should consult his legal advisor or the appropriate government agency. E.V. Roberts does not undertake to furnish advice on such matters.