




Safety Data Sheet

RF 2436

Section 1. Identification

Product Identifier	RF 2436
Synonyms	Polyamine hardener
Manufacturer Stock Numbers	28058
Recommended use	Polyamine hardener
Uses advised against	Reacts with acids. Avoid high temperatures, flames and contact with strong oxidizing agents.
Manufacturer Contact Address	Resin Formulators 18027 Bishop Avenue Carson, CA, 90746 USA
Phone	(310) 204-6159
Emergency Phone	(800) 424-9300 CHEMTREC
Fax	(310) 202-7247
Email	sales@evroberts.com
Website	http://www.evroberts.com

Section 2. Hazards Identification

Classification	ACUTE TOXICITY - DERMAL - Category 4 ACUTE TOXICITY - ORAL - Category 4 EYE DAMAGE/IRRITATION - Category 1 SPECIFIC TARGET ORGAN TOXICITY (Single E - Category 3)
Signal Word	Danger
Pictogram	

Hazard Statements	Causes serious eye damage Harmful if swallowed Harmful in contact with skin May cause respiratory irritation; or May cause drowsiness or dizziness
Precautionary Statements	
Response	Call a poison center/doctor/ ... /if you feel unwell. 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/ ... If swallowed: Call a poison center/doctor/ ... / if you feel unwell. Immediately call a poison center/doctor/ ... Rinse mouth. 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. Do not eat, drink or smoke when using this product. 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 locked up.
Disposal	Dispose of contents/container to ...
Ingredients of unknown toxicity	0%
Hazards not Otherwise Classified	
Form	Liquid
OSHA/HCS Status	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910. 1200)
Emergency Overview	DANGER: HARMFUL IN CONTACT WITH SKIN OR IF SWALLOWED. CAUSES EYE AND SKIN BURNS. CAUSES RESPIRATORY TACK IRRITATION. MAY CAUSE ALLERGIC RESPIRATORY REACTION.
Potential Health Effects	
Inhalation	Irritating to respiratory system. May cause sensitization by inhalation.
Ingestion	Harmful if swallowed. May cause burns to mouth, throat and stomach.
Skin	Corrosive to the skin, causes skin burning. Harmful in contact with skin. May cause sensitization by skin contact. Wash off with soap and water immediately!
Eye	Corrosive, contact causes severe eye burns.
Potential Chronic Health Effects	
Chronic Health Effects	Contains material that may cause target organ damage, based on animal data.
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.
Target Organs	Contains material which causes damage to the following organs: Blood, liver, upper respiratory tract.

Review section 2 and 11 for any additional assessments.

Over-exposure
signs/symptoms

Inhalation

Adverse symptoms may include the following:
respiratory tract irritation, coughing, wheezing and breathing difficulties, asthma.

Ingestion

Adverse symptoms may include the following:
stomach pains

Skin

Adverse symptoms may include the following:
pain, or irritation, redness, blistering may occur

Eye

Adverse symptoms may include the following:
pain, watering, redness.

Medical Conditions

Aggravated by Exposure

Pre-existing respiratory and skin disorders and disorders involving any other target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

More details

See section 11 for more detailed information on health effects and symptoms.

Section 3. Ingredients

CAS	Ingredient Name	Weight %
111-40-0	1,2-Ethanediamine, N-(2-aminoethyl)-	<12 %
84852-15-3	Phenol, 4-nonyl-, branched	<28 %

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. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.
Inhalation	Move exposed person to fresh air. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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. Move exposed person to fresh air. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention. Never give anything by mouth if the victim is unconscious or rapidly losing consciousness or is convulsing.
Protection of First Aid Personnel	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
Note to Physician	No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
More details	See section 11 for more detailed information on health effects and symptoms.

Section 5. Fire Fighting Measures

Suitable Extinguishing Media

Flammability of the product:
In a fire or if heated, a pressure increase will occur and the container may burst.

Extinguishing media:
Use an extinguishing agent suitable for the surrounding fire.

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.

Hazardous Combustion Products:
Decomposition products may include the following materials:
nitrogen oxides, carbon monoxide.

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.

Unsuitable Extinguishing Media

Do not use water jet. Water or fog may cause frothing which can be violent, especially if sprayed into containers of hot or burning liquid.

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. 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). Use spark-proof tools and explosion-proof equipment. 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. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. 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.

Section 8. Exposure Controls/Personal Protection

Occupational Exposure Limits	Ingredient Name	ACGIH TLV	OSHA PEL	STEL
	1,2-Ethanediamine, N-(2-aminoethyl)-	1ppm, 4mg/m3 Time Weighted Average (TWA)	N/A	N/A
	Phenol, 4-nonyl-, branched	N/A	N/A	N/A
Personal Protective Equipment Local Authorities Recommended Monitoring Procedures	Goggles, Gloves, CHEMICAL GOGGLES, PROTECTIVE CLOTHING, VENTILATION Consult local authorities for acceptable exposure limits. 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.			
Hygienic Practices	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.			
Respiratory	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.			
Hand protection	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. Neoprene gloves. Nitrile rubber. Gauntlet type			
Eye protection	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.			
Skin Protection	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.			
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.			

Section 9. Physical and Chemical Properties

Physical State	Liquid
Color	Water white
Odor	N/A
Odor Threshold	N/A
Solubility	Partial
Partition coefficient Water/n-octanol	N/A
VOC%	N/A
Viscosity	N/A
Specific Gravity	1
Density lbs/Gal	N/A
Pounds per Cubic Foot	N/A
Flash Point	124°C (255° F)
FP Method	estimated
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	N/A
Vapor Density	N/A

Section 10. Stability and Reactivity

Chemical Stability	Stable under normal conditions.
Hazardous Polymerization	Will not occur
Conditions to Avoid	Avoid high temperatures. Avoid flames and contact with strong oxidizing agents.. Exposure to water vapor.
Materials to Avoid	Strong oxidizing agents, strong lewis or mineral acids.
Hazardous Decomposition Products	Under normal conditions of storage and use, hazardous decomposition products should not be produced. Decomposition products may include the following materials: nitrogen oxides, carbon monoxide, other organic compounds.

Section 11. Toxicological Information

Acute Toxicity Data	Poly(oxypropylene) diamine: LD50 Oral - Rat - 1,100 mg/kg LD50 Dermal - Rabbit - 1,500 mg/kg
	Phenol, 40-Nonyl-, Branched: LD50 Oral - Rat - 1,300 mg/kg LD50 Dermal - Rabbit - 3,160 mg/kg
Other Toxicological Information	
Carcinogenicity Classification Ingredient name	Poly(oxypropylene) diamine: ACGIH: Not classified IARC: Not classified NTP: Not listed OSHA: Not regulated EU: Not classified
	Phenol, 40-Nonyl-, Branched: ACGIH: Not classified IARC: Not classified NTP: Not listed OSHA: Not regulated EU: Not classified
Acute Toxicity Data	Diethylenetriamine: LD50 Oral - Rat - 1,080 mg/kg LD50 Dermal - Rabbit - 1,090 mg/kg
	4,4'-Isopropylidenediphenol: LD50 Oral - Rat - 3,250 mg/kg LD50 Oral - Rabbit - 2,230 mg/kg LD50 Oral - Mouse - 2,500 mg/kg LD50 Dermal - Rabbit - 3,000 mg/kg
Additional Toxicological Information	
Chronic Toxicity	Bisphenol A: Liver and questionable kidney and bladder effects were observed in animal feeding studies. Toxic levels of exposure resulted in weight loss in laboratory animals with other effects related to the weight loss as a consequence.
Carcinogenicity Classification Ingredients	Diethylenetriamine: ACGIH: Not classified IARC: Not classified NTP: Not listed OSHA: Not regulated EU: Not classified
	4,4'-Isopropylidenediphenol: ACGIH: Not classified IARC: Not classified NTP: Not listed OSHA: Not regulated EU: Not classified
Teratogenicity	Bisphenol A: Another study on the effects of laboratory rats and mice exposed during pregnancy concluded that even doses high enough to be toxic to the

pregnant animals did not alter fetal development of the pups.

Section 12. Ecological Information

Environmental effects	No known significant effects or critical hazards.
Aquatic Ecotoxicity	Ingredient Name: Phenol, 4-Nonyl-, Branched Fresh water - Acute LC50 0.1383 mg/l/4 d (Fathead Minnow) Fresh water - Acute LC50 0.1351 mg/l/4 d (Bluegill) Salt water - Acute LC50 0.142 mg/l/4 d (Sheepshead Minnow)
Other Adverse Effects	No known significant effects or critical hazards.
Aquatic Ecotoxicity	Diethylenetriamine: Fresh water - Acute LC50 1,014 mg/l/96 h (Guppy)
Ingredients	4,4'-Isopropylidenediphenol: Fresh water - Acute LC50 4.6 mg/l/96 h (Fathead Minnow)
	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	2735
UN Proper Shipping Name	POLYAMINES, LIQUID, CORROSIVE, N.O.S. (POLYOXYPROPYLENEDIAMINE)
DOT Classification	8
Packing Group	III
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.

Section 15. Regulatory Information

US Regulations

HCS Classification

Corrosive material, Sensitizing material, Target organ effects

SARA 311/312 Hazard Categories

Delayed (chronic) Health

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 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

State Regulations

Massachusetts RTK Substances - None required

New Jersey RTK Hazardous Substances -

The following components are listed:

Phenol, 4-Nonyl-, Branched

Pennsylvania RTK Hazardous Substances - None required

California Prop. 65: None required.

Regulatory for Canada

WHMIS (Canada)

Class D-1B: Material causing immediate and serious toxic effects (Toxic)

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

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

Class E: Corrosive material

Canadian Lists:

Canadian NPRI: The following components are listed:

Phenol 4-Nonyl, Branched.

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

Japan inventory (ENCSC): All components are listed or exempted

Japan inventory (ISHL): Not determined.

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

New Zealand Inventory of Chemicals (NZIoC): Not determined

Philippines inventory (PICCS): 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

8/28/2015

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

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