



Safety Data Sheet

RF 11

Section 1. Identification

Product Identifier	RF 11
Synonyms	Epoxy Hardener
Manufacturer Stock Numbers	10015
Recommended use	Epoxy Adhesive Hardener
Uses advised against	Avoid high temperatures. Avoid flames.
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	EYE DAMAGE/IRRITATION - Category 1 FLAMMABLE LIQUIDS - Category 3 HAZARDOUS TO THE AQUATIC ENVIRONMENT - A - Category 3 SENSITIZATION - SKIN - Category 1 SKIN CORROSION/IRRITATION - Category 1B SPECIFIC TARGET ORGAN TOXICITY (Single E - Category 3
Signal Word	Danger

Pictogram



Hazard Statements

Causes serious eye damage
Causes severe skin burns and eye damage
Flammable liquid and vapor
Harmful if swallowed
Harmful to aquatic life
May cause an allergic skin reaction
May cause respiratory irritation
Toxic in contact with skin

Precautionary Statements

Response

Call a poison center or doctor immediately 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 (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
If on skin: Wash with plenty of soap and water for a minimum of 15 minutes
If skin irritation or rash occurs: Get medical advice/attention.
If swallowed: Call a poison center/doctor/ ... / if you feel unwell.
If swallowed: Rinse mouth. Do NOT induce vomiting.
In case of fire: Use ... to extinguish.
Rinse mouth.
Specific treatment (see instructions on this label)
Take off immediately all contaminated clothing and wash it before reuse.
Wash contaminated clothing before reuse.

Prevention

Avoid release to the environment
Contaminated work clothing must not be allowed out of the workplace.
Do not breathe dust/fume/gas/mist/ vapors/spray.
Do not eat, drink or smoke when using this product.
Ground/bond container and receiving equipment.
Keep away from heat.
Keep container tightly closed.
Take precautionary measures against static discharge.
Use only non-sparking tools.
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.
Wear protective gloves.
Wear protective gloves/eye protection/face protection
Wear protective gloves/protective clothing/eye protection/face protection.

Storage

Store in a well-ventilated place. Keep container tightly closed.
Store in a well-ventilated place. Keep cool.
Store locked up.

Disposal

Dispose of contents/container should be in accordance with federal, state and local laws.

Ingredients of unknown toxicity

0%

Hazards not Otherwise

Classified

EMERGENCY OVERVIEW

DANGER: COMBUSTIBLE. CORROSIVE LIQUID.
MAY BE HARMFUL IF SWALLOWED.
MAY BE HARMFUL IF ABSORBED THROUGH SKIN.
CAUSES EYE BURNS.
CAUSES SKIN BURNS.
MAY CAUSE RESPIRATORY TRACT IRRITATION.
INGESTION MAY CAUSE GASTRIC DISTURBANCES.
Avoid contact with the skin, eyes and clothing.
Avoid inhalation of mists/vapors.
Use with local exhaust ventilation.
Wear a NIOSH-certified (or equivalent) organic vapor/particulate respirator.
Wear NIOSH-certified chemical goggles.
Wear full face shield if slashing hazard exists.
Wear chemical resistant protective gloves.
Wear protective clothing.
Eye wash fountains and safety showers must be easily accessible.

Potential Health Effects

Routes of Exposure

Routes of entry for solids and liquids include eye and skin contact, ingestion and inhalation. Route of entry for gases include inhalation and eye contact. Skin contact may be a route for liquefied gases.

Medical Conditions

Aggravated by Exposure

Data available do not indicate that there are medical conditions that are generally recognized as being aggravated by exposure to this substance/product.
See MSDS section 11 – Toxicological information.

Section 3. Ingredients

CAS	Ingredient Name	Weight %
104-78-9	1,3-Propanediamine, N,N-diethyl-	100 %

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

Section 4. First-Aid Measures

General	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Routes of entry for solids and liquids include eye and skin contact, ingestion and inhalation. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquified gases.
Inhalation	CORROSIVE - Remove patient from exposure, keep warm and at rest. Vapors may be corrosive to upper respiratory tract. Repeated exposure can cause lung damage. May cause Central Nervous System (CNS) Depression. Obtain medical attention IMMEDIATELY. Treatment is Symptomatic for primary irritation or bronchospasm. If breathing is labored, qualified personnel should administer oxygen. Apply artificial respiration if breathing has ceased or shows signs of failing.
Skin	CORROSIVE to the skin. May cause skin sensitization. Wash affected areas thoroughly with soap and water. Obtain medical attention IMMEDIATELY. Contaminated clothing should be thoroughly cleaned before reuse. Can not decontaminate leather articles.
Eye	CORROSIVE to the eyes, may cause blindness. Immediately flush eyes with running water for a minimum of 15 minutes. Hold eyelids open during flushing. Obtain medical attention IMMEDIATELY.
Ingestion	CORROSIVE. DO NOT INDUCE VOMITING. May cause severe and permanent damage to mouth, throat, and stomach. May be moderately toxic if swallowed. May cause CNS depression. Obtain medical attention IMMEDIATELY.
Signs and Symptoms	Irritation as noted above. Lung damage (scarring, brochitis, emphysema) may be evidenced by shortness of breath, especially on exertion, and may be accpanied by evidenced by rashes, especially hives and may be evidenced by giddiness, headache, dizziness and nausea; in extreme cases, unconsciousness, respiratory depression and death may occur.

Section 5. Fire Fighting Measures

Suitable Extinguishing Media	Extinguishing media: Carbon dioxide, dry chemical, appropriate foam or FOG. If water is used, very large quantities are required. Contain runoff water with temporary barriers.
Unsuitable Extinguishing Media	N/A
Flash Point	Flash Point: 51°C (DIN 51755)
Auto Ignition Temperature	419°F (215°C), per DIN 51794
Flammable Limits (Lower)	1.0% (V) (46.5°C, 10 hPa)
Flammable Limits (Upper)	Flammable Limits (Upper) 4.5%
Extinguishing media	Extinguishing media: Water spray or fog, CO2, dry chemical
Protective Equipment	Protective Equipment: Use self-contained breathing apparatus and full protective clothing (Bunker Gear).
Further Information	Further Information: Do not allow run-off from fire fighting to enter drains or water courses.

Section 6. Accidental Release Measures

Major Spills	For Major Spills, call CHEMTREC at 1-800-424-9300
Spills, Leaks or Releases	Clean up should only be performed by trained personnel. People dealing with major spillages should wear full protective clothing including respiratory protection. Evacuate the area. Prevent further leakage, spillage or entry into drains. Contain and absorb large spillages onto an inert, non-flammable absorbent carrier (such as earth or sand), Shovel into open-top drums or plastic bags for further decontamination, if necessary. Wash the spillage area clean with liquid decontaminant. Notify applicable government authorities if release is reportable.
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.

Section 7. Handling and Storage

DANGER: CORROSIVE	Causes burns to eyes, skin, and respiratory tract. May cause skin sensitization. May cause CNS depression. Do not get into eyes, on skin or on clothing. Do not breathe vapors or mists.
Containers	Containers, even those that have been emptied, can cause hazardous product residues. Wash with soap and water before eating, drinking, smoking, applying cosmetics, or using toilet facilities. Launder contaminated clothing before reuse.
Handling	Avoid personal contact with the product or reaction mixture. Use only with adequate ventilation to ensure that the defined occupational exposure limit is not exceeded. The efficiency of the ventilation must be monitored regularly because of the possibility of blockage. Avoid breathing aerosols, mists and vapors. When the product is sprayed or heated, an approved MSHA/NIOSH positive-pressure, supplied-air respirator may be required.
Storage Requirements	Keep containers properly sealed and stored indoors, in a cool, dry, well ventilated area. DO NOT STORE NEAR ACIDS. Do not store in reactive containers. Keep contents away from open flames and high temperatures. Do not pressurize drum containers to empty them. Heating this curing agent in the presence of air may cause thermal and oxidative decomposition. With some epoxy resins, it may produce exothermic reactions which in large masses can cause runaway polymerization and charring of the reactants. Fumes and vapors from these thermal and chemical decompositions vary widely in composition and toxicity. DO NOT BREATHE FUMES. Use a NIOSH-approved respirator as required to prevent over exposure. In accordance with 29 CFR 1910-134. Use a full face, atmosphere-supplying respirator or an air purifying respirator for organic vapors.
Shelf Life	24 Months

Section 8. Exposure Controls/Personal Protection

Occupational Exposure Limits	Ingredient Name	ACGIH TLV	OSHA PEL	STEL
	1,3-Propanediamine, N,N-diethyl-	N/A	N/A	N/A
Personal Protective Equipment CHEMICAL_GOGGLES GLOVES VENTILATION SYNTHETIC_APRON RUBBER_BOOTS RESPIRATOR PROTECTIVE CLOTHING FACE_SHIELD Exposure Guidelines	Goggles, Gloves, Apron, Face Shield, Respirator, PROTECTIVE CLOTHING, RUBBER BOOTS, VENTILATION, CHEMICAL GOGGLES Chemical Safety Goggles with Side Shields. Indirect Vented Goggles. Neoprene, Nitrile-Butadiene rubber, butyl rubber. Thin disposable gloves should be avoided for repeated or long term use. Have proper ventilation Please wear rubber boots at all times DO NOT BREATHE FUMES! Use a NIOSH-approved respirator. Protective clothing should be selected and used in accordance with "Guidelines for the Selection of Chemical Protective Clothing" published by ACGIH. Face Shield Persons with asthmatic-type conditions, chronic bronchitis, other chronic respiratory diseases or recurrent skin eczema or sensitization should be excluded from working with this product. Once a person is diagnosed as sensitized, no further exposure to any sensitizer should be permitted.			
Preventive Measures	Conditions of use, adequacy of engineering or other control measures, and actual exposures will dictate the need for specific protective devices at your workplace.			
Engineering Measures	Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.			
Hygienic Practices - Clothing	Launder contaminated clothes before wearing. Do not smoke or eat where this material is being used. Wash hands before smoking, eating or going to the bathroom			

Section 9. Physical and Chemical Properties

Physical State	Liquid
Color	Colorless to Yellow
Odor	N/A
Odor Threshold	N/A
Solubility	N/A
Partition coefficient Water/n-octanol	log POW: -0.4
VOC%	<1
Viscosity	1.6 MPAS
Specific Gravity	0.818
Density lbs/Gal	0.82
Pounds per Cubic Foot	N/A
Flash Point	52°C (126°F)
FP Method	closed cup
Ph	11.7 at 10 g/l at 20°C
Melting Point	-50°C
Boiling Point	159°C (318° F)
Boiling Range	lit
LEL	N/A
UEL	N/A
Evaporation Rate	0.001
Flammability	3
Decomposition Temperature	N/A
Auto-ignition Temperature	419°F (215° C) per DIN 51794
Vapor Pressure	7 hPa (5 mmHg) at 30° C (77°F)
Vapor Density	4.5 - (Air = 1.0)

Section 10. Stability and Reactivity

Hazardous Decomposition Products	Highly unlikely under normal industrial use. See section 5.
Chemical Stability	Stable at room temperature
Conditions to Avoid	Avoid high temperatures. Avoid flames and contact with strong oxidizing agents.
Hazardous Polymerization	Nitrogen oxides, carbon monoxide and unidentified organic compounds may be formed during combustion.
Oxidizer Properties	Not an oxidizer

Section 11. Toxicological Information

Oral LD50	LD50 Oral – rat – 550 mg/kg Remarks: Behavioral: somnolence (general depressed activity). Respiratory disorder Skin and Appendages: Other: hair
	LD50 Oral – mouse – 425 mg/kg Remarks: Behavioral: somnolence (general depressed activity). Respiratory disorder Skin and Appendages: Other: hair
	LD50 Oral – rat – 1,410 mg/kg
	Inhalation LC50 No data available
	Dermal LD50 LD Dermal – rabbit – 620 mg/kg Remarks: Skin irritation
Other Toxicological Information	No data available
Skin	Corrosion/Irritation Skin - rabbit - Open irritation test - 24 h
Eye Irritation	No data available
Respiratory or skin sensitisation	May cause allergic skin reaction.
Mutagenicity	Unknown
Carcinogenicity	IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH. NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
Reproductive Effects	No adverse reproductive effects are anticipated.
Teratogenicity and Fetotoxicity	No information is available and no adverse teratogenic embryotoxic effects are anticipated.
Specific target organ toxicity - repeated exposure	no data available
Aspiration hazard	No data available
POTENTIAL HEALTH EFFECTS:	
Inhalation	May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
Ingestion	Harmful if swallowed.
Skin Irritation	Toxic is absorbed through skin. Causes skin burns.
Eye Contact	Corrosive. Causes burns.
Signs and Symptoms of Exposure	Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., Cough, Shortness of breath, Headache, Nausea.

Synergistic effects no data available
Additional Information RTECS: TX7350000

Section 12. Ecological Information

Toxicity to fish LC50 - Leuciscus idus (Golden orfe) - > 100 - <220 mg/l - 96 h
Toxicity to daphnia EC50 - Daphnia magna (Water flea) - 30.2 mg/l - 48 h
Components
Toxicity to algae EC50 - Desmodesmus subspicatus (green algae) - 100 - 150 mg/l - 72 h
Components
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.
PBT and vPvB assessment no data available
Other Adverse Effects An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Toxic to aquatic life. Do not empty into drains.

Section 13. Disposal

Waste Treatment Methods Product:
Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.
Contaminated Packaging:
Dispose of as unused product.
Contaminated packaging Dispose of container and unused contents in accordance with federal, state, and local requirements.

Section 14. Transport Information

UN Number 2684
UN Proper Shipping Name 3-Diethylaminopropylamine
DOT Classification 3, 8
Packing Group III

Section 15. Regulatory Information

OSHA Hazards	Combustible Liquid, Harmful by ingestion., Toxic by skin absorption, Skin sensitiser, Corrosive
Sara 302 Components	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
Sara 313 Components	This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.
Sara 311/312 Hazards	Fire Hazard, Acute Health Hazard
Massachusetts Right to Know Components	3-Aminopropyldiethylamine CAS No. 104-78-9 Revision Date: 1993-04-24
Pennsylvania Right to Know Components	3-Aminopropyldiethylamine CAS No. 104-78-9 Revision Date: 1993-04-24
New Jersey Right to Know Components	3-Aminopropyldiethylamine CAS No. 104-78-9 Revision Date: 1993-04-24
California Prop. 65 Components	This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Section 16. Other Information

Revision Date

3/23/2015

HMIS Rating (Not Regulated) The HMIS Rating for this product is:
Health: 3 Flammability: 2 Reactivity: 0

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

For Information Purposes Only - No Longer Regulated

Disclaimer

This product is hazardous or contains components which are hazardous according to the OSHA Hazard Communication Standard NOTICE: While the descriptions, designs data, and information contained herein are presented in good faith and believed to be accurate, it is provided for your guidance only. It is provided independently of any sale of the product for purpose of hazard communication as part of E.V. Roberts' product safety program. Many factors may affect processing or application/use. We recommend you make tests to determine the suitability of a product for your particular purpose prior to use. No warranties of any kind, either expressed or implied, including warranties or merchantability or fitness for a particular purpose, are made regarding products described or designs, data or information set forth, or that the products, designs, data or information may be used without infringing the intellectual property rights of others. In no case shall the descriptions, information, data or designs provided be considered a part of our terms and conditions of sales. Further, you expressly understand and agree that the descriptions, designs, data and information furnished by E.V. Roberts hereunder are given gratis and E.V. Roberts assumes no obligation or liability for the description, designs, data and information given or results obtained, all such being given and accepted at your risk.

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