



# Safety Data Sheet

RF 32

## Section 1. Identification

Product Identifier	RF 32
Synonyms	Epoxy Curing Agent
Manufacturer Stock Numbers	10078
Recommended use	Curing Agent
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	(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 CARCINOGENICITY - Category 2 SENSITIZATION - SKIN - Category 1A SPECIFIC TARGET ORGAN TOXICITY (Single E - Category 3)
Signal Word	Warning
Pictogram	The pictogram section contains two red diamond-shaped hazard symbols. The first symbol shows a hand being splashed with liquid from a container, representing skin irritation or sensitization. The second symbol is a large black exclamation mark, representing a general warning of hazard.

Hazard Statements	Harmful if swallowed Harmful in contact with skin May cause an allergic skin reaction May cause respiratory irritation; or May cause drowsiness or dizziness Suspected of causing cancer (based on animal data)
Precautionary Statements	
Response	Call a poison center/doctor/ ... /if you feel unwell. If exposed or concerned: Get medical advice/attention. If inhaled: Remove person to fresh air and keep comfortable for breathing. If on skin: Wash with plenty of water/ ... If skin irritation or rash occurs: Get medical advice/attention. If swallowed: Call a poison center/doctor/ ... / if you feel unwell. Rinse mouth. Specific treatment (see ... on this label) Take off immediately all contaminated clothing and wash it before reuse. Wash contaminated clothing before reuse.
Prevention	Avoid breathing dust/fume/gas/mist/ vapors/spray. Contaminated work clothing must not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use only outdoors or in a well-ventilated area. Wash ...thoroughly after handling. Wear protective Butyl Gloves, Face Shield, Eye Bath and Safety Shower. Wear protective gloves. Wear protective gloves/protective clothing/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	
<b>EMERGENCY OVERVIEW</b>	Harmful in contact with skin. May cause sensitization by skin contact. Harmful if swallowed. Corrosive, Severe respiratory, skin, and eye irritant. Possible Cancer Hazard. Contains material which may cause cancer based on animal data.
Health Hazards	Corrosive to eyes, and may cause severe damage including blindness. Vapors may be irritating to respiratory system, eyes and skin.
Appearance	Amber Liquid
Odor	Amine/Ammoniacal
MSDS	Read the entire MSDS for a more thorough evaluation of the hazards.

## Section 3. Ingredients

CAS	Ingredient Name	Weight %
68479-98-1	Diethylenetoluenediamine (DETDA)	<50 %
1761-71-3	Methylenebiscyclohexanamine, 4, 4	>50 %

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.
Toxicological Test Data	Skin : Rabbit: LD50: <1000 mg/kg; Moderately Toxic Ingestion : Rat: LD50: >500 mg/kg; Moderately Toxic Inhalation : No data available on the product itself
<b>FIRST AID MEASURES</b>	
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. 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. Drink 1 or 2 glasses of water. If vomiting occurs, give more fluids. May cause severe and permanent damage to mouth, throat, and stomach. May be moderately toxic if swallowed. May cause CNS depression. Do not give anything by mouth to an unconscious person. Let physician make all decisions about how to handle symptoms. 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 accompanied 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.
Chronic Health Hazard, General	This product contains no listed carcinogens according to IARC, ACGIH, NTP and/or OSHA in concentrations of 0.1% or greater. Prolonged contact may result in chemical burns and permanent damage. Repeated or prolonged contact may cause sensitization, asthma and eczema.
Chronic Health Hazard, Two-Year Animal Study	A two-year study in rats indicated diethyltoluenediamine (DETDA) causes pancreatic effects. The no-effect level for pancreatic toxicity in male rats dosed for two-years was 35 ppm; for females the no-effect level was 70. Evidence for thyroid hyperplasia or hypertrophy was found in high-dose males and females. In this lifetime feeding study there was also evidence of carcinomas in their liver.

## Section 5. Fire Fighting Measures

### Suitable Extinguishing Media

Moderate when exposed to heat or flames. Containers may burst under intense heat. Can react with oxidizing agents.

#### Extinguishing media:

Carbon dioxide, dry chemical or appropriate foam. If water is used, very large quantities are required. Reaction between epoxies and this curing agent may be vigorous. Contain runoff water with temporary barriers.

#### Protective Equipment:

Use self-contained breathing apparatus and full protective clothing (Bunker Gear).

#### Flash Point:

219°F (103.89°C), Tag Closed Cap

#### Flammable Limits (Lower):

Not Available

#### Flammable Limits (Upper):

Not Available

#### Sensitivity to Mechanical Impact:

None

#### Sensitivity to Static Discharge:

None

#### Combustion Products:

CO, CO<sub>2</sub>, NO<sub>x</sub> and some HCN

### Unsuitable Extinguishing Media

N/A

## Section 6. Accidental Release Measures

### Major Spills

### Spills, Leaks or Releases

For Major Spills, call CHEMTREC at 1-800-424-9300

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.

## Section 7. Handling and Storage

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. <b>DO NOT STORE NEAR ACIDS.</b> 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. <b>DO NOT BREATHE FUMES.</b> 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.
<b>DANGER: CORROSIVE</b>	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, 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.  Contaminated leather can be decontaminated and should be destroyed to prevent reuse.
Storage Temperature	Ideal storage temperature is 60-80 Degrees F (16-27 Degrees C)
Shelf Life	12 Months @ 77°F (25°C)

## Section 8. Exposure Controls/Personal Protection

Occupational Exposure Limits	Ingredient Name	ACGIH TLV	OSHA PEL	STEL
	Diethylenetoluenediamine (DETDA)	N/A	N/A	N/A
	Methylenebis(cyclohexanamine, 4, 4)	N/A	N/A	N/A
<p>Personal Protective Equipment</p> <p>Preventive Measures</p>	<p>Goggles, Gloves, Face Shield, Respirator, CHEMICAL GOGGLES, PROTECTIVE CLOTHING</p> <p>Conditions of use, adequacy of engineering or other control measures, and actual exposures will dictate the need for specific protective devices at your workplace.</p>			
<p>Engineering Controls</p>	<p>Use local exhaust ventilation to maintain airborne concentrations below the TLV. Suitable respiratory equipment should be used in cases of insufficient ventilation or where operational procedures demand it. Follow guidelines in the ACGIH publication "Industrial Ventilation".</p>			
<p>Personal Protective Equipment</p> <p>Eye Protection</p> <p>Skin Protection</p>	<p>Chemical safety goggles. Use a full-face shield.</p> <p>The following protective materials are recommended. Gloves - neoprene, nitrile-butadiene rubber, butyl rubber. Thin disposable gloves should be avoided for repeated or long term use. Protective clothing should be selected and used in accordance with "Guidelines for the Selection of Chemical Protective Clothing" published by ACGIH.</p>			
<p>Respiratory Protection</p>	<p>Use a NIOSH/MSHA approved positive pressure air-supplied respirator equipped with a full facepiece, or an air-supplied hood, if airborne concentrations exceed or are expected to exceed the TLV.</p>			
<p>Exposure Guidelines</p>	<p>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.</p>			

## Section 9. Physical and Chemical Properties

Physical State	Liquid
Color	Amber
Odor	Amine odor
Odor Threshold	N/A
Solubility	Slightly Soluble
Partition coefficient Water/n-octanol	N/A
VOC%	<1
Viscosity	N/A
Specific Gravity	1
Density lbs/Gal	62.428
Pounds per Cubic Foot	N/A
Flash Point	219°F (103.89°C)
FP Method	Tag Closed Cup
Ph	Alkaline
Melting Point	N/A
Boiling Point	572°F (>300° 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	10.34 mmHg at 21°C (70° F)
Vapor Density	N/A

## 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

No Data Available

## Section 12. Ecological Information

Environmental Fate and Distribution It is unlikely that significant environmental exposure in the air or water will arise, based on consideration of the production and use of the substance.

## Section 13. Disposal

Disclaimer Part 1 The generation of waste should be avoided or minimized wherever possible.  
Disclaimer Part 2 Disposal should be in accordance with local, state, provincial and national regulations. This material is not a hazardous waste under RCRA 40 OPP 261. Small quantities should be treated with a liquid decontaminate. The treated waste is not a hazardous material under RCRA 40 CFR 261. Chemical waste, even small quantities, should never be poured down drains, sewers or waterways.  
Disclaimer Part 3 Empty containers should be decontaminated and either passed to an approved drum recycler or destroyed.

## Section 14. Transport Information

UN Number 2735  
UN Proper Shipping Name Amines liquid, corrosive, N.O.S. (Methylenebiscyclohexanamine, 4,4'-)  
DOT Classification 8  
Packing Group II  
Transportation classification Transportation classification may vary by container volume and maybe influenced by regional, county, or country variation in regulations.

## Section 15. Regulatory Information

OSHA Hazard Communication Standard OSHA Hazard Communication Standard (29 CFR 1910.1200) Hazard Classes: Carcinogen, Corrosive, Sensitizer  
TSCA Inventory Status Listed on Inventory  
EPA SARA Title III Section 312 EPA SARA Title III Section 312 (40 CFR 370) Hazard Classification: Chronic Health Hazard, Acute Health Hazard EPA SARA Title III Section 312 (40 CFR 372) Component above 'de minimus level': NONE  
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

5/29/2015

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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