



Safety Data Sheet

RF 77

Section 1. Identification

Product Identifier RF 77
Synonyms Epoxy Curing Agent
Manufacturer Stock
Numbers 10187

Recommended use Epoxy Curing Agent
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 ACUTE TOXICITY - DERMAL - Category 4
 ACUTE TOXICITY - ORAL - Category 4
 EYE DAMAGE/IRRITATION - Category 2A
 SPECIFIC TARGET ORGAN TOXICITY (Single E - Category 3)

Signal Word Danger

Pictogram



Hazard Statements Causes serious eye irritation

Harmful if swallowed
Harmful in contact with skin
May cause respiratory irritation.

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.
If on skin: Wash with plenty of water/ ...
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.

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

EMERGENCY OVERVIEW

Health Hazards:
Corrosive
Toxic in contact with skin. Severe Skin & Eye Irritant, May cause irritation and/or sensitization through repeated contact
Harmful if swallowed. Can cause burns to mouth, and throat
Severe respiratory irritant
May cause sensitization by inhalation

Appearance:
Amber liquid

Odor:
Amoniacal odor.

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

Section 3. Ingredients

CAS	Ingredient Name	Weight %
111-40-0	Diethylenetriamine	50 %
108-95-2	Phenol	50 %

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

Section 4. First-Aid Measures

TARGET ORGANS	Skin, Eyes and Respiratory System, Liver, Central nervous system, Pancreas, Spleen, Kidney
General	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Corneal edema can cause the perception of "blue haze" or "fog" around lights although this is a temporary effect and has not known residual effect. Cause eye burns. May cause blindness.
Chronic Health Hazard	Absorption of phenolic solutions through the skin may be very rapid and can cause death. Lesser exposure can cause damage to the kidneys, liver, pancreas & spleen, and edema to the lungs. Chronic exposures can cause death from liver and kidney damage.
Inhalation	Severe Irritant: ISO TC58 (1h): 0 ppm Remove patient from exposure, keep warm and at rest. Vapors may be mildly to severely irritating to respiratory tract. Repeated exposure can cause irritation. 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 show signs of failing.
Skin Contact	Severe Skin Irritant: LD50: 669 mg/kg, species, Rabbit, Method Estimated Cause skin burns and may cause sensitization. Wash affected areas thoroughly with soap and water. Obtain medical attention IMMEDIATELY. Contaminated clothing should be thoroughly cleaned before reuse. Cannot decontaminate leather articles. NOTE TO PHYSISIANS: Application of corticosteroid cream has been effective in treating skin irritation.
Eye Contact	Severe Eye Irritant. May Cause blindness. Immediately flush eyes with running water for a minimum of 20 minutes. Hold eyelids open during flushing. Obtain medical attention IMMEDIATELY.
Ingestion	Severe Irritant: LD50: 1457 mg/kg, species, RAT Do NOT Induce Vomiting. Will cause gastrointestinal burns or ulceration. Will cause irritation and burns to mouth, throat, and stomach. May be moderately toxic if swallowed. May cause CNS depression. Give large amounts of water followed by milk if available. 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

Containers may burst under intense heat.

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.

Fire Fighting Protective Equipment:

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

Flash Point:

>225°F (>107.22°C)

Flammable Limits (Lower):

Not determined.

Flammable Limits (Upper):

Not determined.

Rate of Burning:

Not determined.

Explosive Power:

None.

Sensitivity to Mechanical Impact:

None.

Sensitivity to Static Discharge:

None.

Decomposition Products:

CO, CO₂, NO_x 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. 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.
CAUTION	SEVERE EYE IRRITANT , 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 empties, 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 cannot be decontaminated and should be destroyed to prevent reuse.
Storage Temperature	Ideal storage temperature is 16-38°C (60-100°F) Store closed in cool dry, and well ventilated place.
Shelf Life	12 Months @ 77°F (25°C)

Section 8. Exposure Controls/Personal Protection

Occupational Exposure Limits	Ingredient Name	ACGIH TLV	OSHA PEL	STEL
	Diethylenetriamine	1ppm, 4mg/m ³ Time Weighted Average (TWA)	N/A	N/A
	Phenol	N/A	N/A	N/A
Personal Protective Equipment	Goggles, Gloves, Apron, Face Shield, Respirator, CHEMICAL GOGGLES, PROTECTIVE CLOTHING			
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.			
Exposure Limits	Phenol: Time Weighted Average (TWA);, ACGHI: 5ppm Recommended exposure line (REL), NIOSH: 5 ppm, 19 mg/m ³ Ceiling Limit Value and Time Period (if specified), NIOSH, 15.6 ppm, 60 19 mg/m ³ PEL: OSHA Z1: 5ppm, 19 mg/m ³			
Engineering Controls	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".			
Eye Protection	Chemical safety goggles. Use a full-face shield.			
Skin Protection	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.			
Respiratory Protection	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.			
Exposure Guidelines	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.			

Section 9. Physical and Chemical Properties

Physical State	Liquid
Color	Light reddish to green
Odor	Ammoniacal
Odor Threshold	N/A
Solubility	< 0.1 g/l
Partition coefficient Water/n-octanol	N/A
VOC%	N/A
Viscosity	N/A
Specific Gravity	1
Density lbs/Gal	1.4
Pounds per Cubic Foot	64.925
Flash Point	> 225°F (107.22°C)
FP Method	N/A
Ph	Alkaline
Melting Point	N/A
Boiling Point	> 387°F (>204°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	< 0.10
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.

Section 11. Toxicological Information

No Data Available

Section 12. Ecological Information

Ecotoxicity Effects

Aquatic toxicity: No data is available on the product itself

Toxicity to daphnia, by components:

Phenol: EC50 (48 h): 4.2 mg/l Species: Daphnia

Phenol: EC50 (48 h): 5.55 mg/l Species: Daphnia

Phenol: EC50 (48 h): 6.6 mg/l Species: Daphnia

Toxicity to algae, by components:

Phenol: EC50 (48 h): 5.55mg/l Species: Daphnia

Phenol: EC50 (48 h): 6.6 mg/l Species: Daphnia

Toxic to other organism: No data available

Bioaccumulation – by components:

Phenol: Low bioaccumulation

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 277. Small quantities should be treated with a decontaminate solution. The treated waste is not a hazardous material under RCRA 40 CFR 277. 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

2922

UN Proper Shipping Name

CORROSIVE LIQUIDS, TOXIC, n.o.s. (Diethylenetriamine (DETA), Phenol

DOT Classification

8 (6.1) (Corrosive Material)

Packing Group

III

Section 15. Regulatory Information

Regulatory

This product is listed on the EPA/TSCA inventory of chemical substances.

U.S. Federal Regulations

OSHA Hazard Communication Standard (29 CFR 1910.1200) Hazard Class: Corrosive, Kidney toxin

SARA 311/312 (40 CFR 370) Hazard Classification: Acute Health hazard, Chronic Health hazard

SARA 313 (40 CFR 372) Toxic Component above “de minimis” level: Phenol

SARA 302 Extremely Hazardous Substances” None

WHMIS Hazard Classification: Very Toxic Material Causing Toxic Effects, Corrosive Material

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

4/28/2015

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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