Safety Data Sheet

RF 14 Epoxy Curing Agent

Section 1. Identification

Product Identifier	RF 14 Epoxy Curing Agent
Synonyms	10026; Aliphatic amine hardener
Manufacturer Stock Numbers	10026
Recommended use	Laboratory Chemicals, Manufacture of Substances Aliphatic amine hardener
Uses advised against	N/A

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
info@resinformulators.com	http://www.resinformulators.com

Section 2. Hazards Identification

Classification	ACUTE TOXICITY - DERMAL - Category 3 HAZARDOUS TO THE AQUATIC ENVIRONMENT - L - Category 3 SENSITIZATION - SKIN - Category 1A SKIN CORROSION/IRRITATION - Category 1A SPECIFIC TARGET ORGAN TOXICITY (Single E - Category 3
Signal Word	Warning
Pictogram	

Hazard Statements	Causes severe skin burns and eye damage Harmful to aquatic life with long lasting effects May cause an allergic skin reaction May cause respiratory irritation Toxic in contact with skin
Precautionary Statements	
Response	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 skin irritation or rash occurs: Get medical advice/attention. If swallowed: Rinse mouth. Do NOT induce vomiting. Immediately call a poison center or doctor immediately if you feel dizzy, ill or unwell Specific treatment (see first aid measures 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. Avoid release to the environment Contaminated work clothing must not be allowed out of the workplace. Use only outdoors or in a well-ventilated area. Wash skin thoroughly after handling. 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 an approved waste disposal plant
Ingredients of unknown toxicity	0%
Hazards not Otherwise Classified	
Emergency Overview	Warning: Toxic in contact with skin. Corrosive. Moderate respiratory irritant. Severe skin irritant. Severe eye 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. 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: Skin, Eyes and Respiratory System

	Symptoms: Repeated and/or prolonged exposure to low concentrations of vapors and/or aerosols may cause Sore Throat
Aggravated Medical Condition	Eye disease, Skin disorders and Allergies. Adverse skin effects (such as rash, irritation or corrosion) Adverse eye effects (such as conjunctivitis or corneal damage). Adverse respiratory effects (such as cough, tightness of chest or shortness of breath) and Asthma.

Section 3. Ingredients

CAS	Ingredient Name	Weight %
112-24-3	1,2-Ethanediamine, N,N'-bis(2-aminoethyl)-	100 %

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

Section 4. First-Aid Measures

General advice	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	Immediately flush with plenty of clean running water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes lifting eyelids occassionally. Have eyes examined immediately and tested by medical personnel.
Skin	Remove contaminated clothing. Wash affected areas thoroughly with soap and water. If irritation, redness, or a burning sensation develops and persists, obtain medical advice. Contaminated clothing should be thoroughly cleaned before reuse. Contaminated leather articles can not be decontaminated and should be destroyed.
Notes To Physician	Application of corticosteroid cream has been effective in treating skin irritation.
Ingestion	Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Prevent aspiration of vomit. Turn victim's head to the side. Get medical attention
Inhalation	If breathing is labored, qualified personnel should administer oxygen. Apply artificial respiration if breathing has ceased or shows signs of failing.

Section 5. Fire Fighting Measures

Suitable Extinguishing Media	Extinguishing media: Alcohol-resistant foam Carbon dioxide (CO2) Dry chemical Dry sand Limestone powder.
Unsuitable Extinguishing Media	Specific Hazards: Ammonia gas may be liberated at high temperatures. In case of incomplete combustion an increased formation of oxides of nitrogen (NOx) is to be expected. Incomplete combustion may form carbon monoxide. May generate ammonia gas. May generate toxic nitrogen oxide gases. Burning produces noxious and toxic fumes. Downwind personnel must be evacuated.
Special Protective Equipment for Fire Fighters	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.
Further Information	Further Information: Do not allow run-off from fire fighting to enter drains or water courses. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Section 6. Accidental Release Measures

Personal precautions	Wear suitable protective clothing, gloves and eye/face protection. Use self-contained breathing apparatus and chemically protective clothing. Evacuate personnel to safe areas.
Environmental Precautions	Construct a dike to prevent spreading
Disposal	Deposit absorbent material saturated with product in a separate, labeled, leak-proof container and take to an approved treatment, storage or disposal facility. Disposal must abide by federal, state and local regulations.
Additional Advice	If possible, stop flow of product

Section 7. Handling and Storage

Handling	Do not use sodium nitrite or other nitrosating agents in formulations containing this product. Suspected cancer-causing nitrosamines could be formed. 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. Avoid breathing vapors and/or aerosols. Avoid contact with eyes. Use only in well-ventilated areas. Use personal protective equipment. When using, do not eat, drink or smoke.
Storage Requirements	Do not store near acids. Store in steel containers preferably located outdoors, above ground, and surrounded by dikes to contain spills or leaks. 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
	1,2-Ethanediamine, N,N'-bis(2-aminoethyl)-	N/A	1 ppm, skin, TWA 6 mg/m3, inhalation	N/A
Personal Protective Equipment	Goggles, Gloves, PROTECTIVE CLOTHING, RUBBER BOOTS, VENTILATION, CHEMICAL GOGGLES, EYE WASH AND SAFETY SHOWER			
EYE WASH AND SAFETY SHOWER	Eye bath and Safety Shower should be available when working with this material.			
VENTILATION	Have proper ventilation			
RESPIRATOR	DO NOT BREATHE FUMES! Use a NIOSH-approved respirator.			
GLOVES	Neoprene, Nitrile-Butadiene rubber, butyl rubber. Thin disposable gloves should be avoided for repeated or long term use.			
FACE_SHIELD	Face Shield			
CHEMICAL_GOGGLES	Chemical Safety Goggles with Side Shields. Indirect Vented Goggles.			
PROTECTIVE CLOTHING	Protective clothing should be selected and used in accordance with "Guidelines for the Selection of Chemical Protective Clothing" published by ACGIH.			
RUBBER_BOOTS	Please wear rubber boots at all times			
Environmental Exposure Controls	Construct a dike to prevent spreading			
Hygenic 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			
Hygiene Measures	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.			

Section 9. Physical and Chemical Properties

Physical State	Liquid
Color	Amber
Odor	Fishy
Odor Threshold	N/A
Solubility	Completely Soluble
Partition coefficient Water/n-octanol	N/A
VOC%	N/A
Viscosity	20 mPa.s @77°F (25° C)
Specific Gravity	N/A
Density lbs/Gal	N/A
Pounds per Cubic Foot	61.179
Flash Point	264°F (129° C)
FP Method	Closed Cup
Ph	Alkaline
Melting Point	54°F (12°C)
Boiling Point	511°F (266° C)
Boiling Range	511°F - 513°F (266-267°C)
LEL	N/A
UEL	N/A
Evaporation Rate	N/A
Flammability	1
Decomposition Temperature	N/A
Auto-ignition Temperature	N/A
Vapor Pressure	<0.01 hPa (<0.01 mmHg) @ 20° C
Vapor Density	5.05

Section 10. Stability and Reactivity

Chemical Stability	Stable under recommended storage 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. CAUTION! N-Nitrosamines, many of which are known to be potent carcinogens, may be formed when the product comes in contact with nitrous acid, nitrites or atmospheres with high nitrous oxide concentrations. Nitrous acid and other nitrosating agents Oxidizing agents
Hazardous Decomposition Products	Nitric Acid, Ammonia, Nitrogen Oxides (NOx), Carbon Monoxide, Carbon Dioxide, Aldehydes, Flammable hydrocarbon fragments (e.g. acstylene) and unknown organics. Nitrogen oxide can react with water vapors to form corrosive nitric acid

Section 11. Toxicological Information

Acute Health Hazard	Ingestion: LD50: 2,500 mg/kg (Rat) Inhalation: No data available Skin: LD50: 805 mg/kg (Rabbit) Eye Irritation/corrosion: Severe Eye Irritation Acute dermal irritation/corrosion: Severe skin irritation Sensitization: May cause sensitization by skin contact. Sensitization has occurred in laboratory animals after repeated exposures. Chronic Health Hazard: Results from a battery of short term genotoxicity tests on this material or its components indicate mutagenic activity.

Section 12. Ecological Information

Aquatic Toxicity	None Established
Ecotoxicological Information	None Listed
Environmental/Chemical Fate	None Listed
Persistence and degradability	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.
WASTE DISPOSAL METHOD:	Dispose of in accord with local, state and federal regulations

Section 14. Transport Information

UN Number	2259
UN Proper Shipping Name	Triethylenetetramine
DOT Classification	8
Packing Group	II
Transport Information	DOT/CFR (US): Proper Shipping Name:TRIETHYLENETETRAMINE UN Number: UN2259 Class: 8 Packing Group: II IMDG: Proper Shipping Name:TRIETHYLENETETRAMINE UN Number: UN2259 Class: 8 Packing Group: II IATA: Proper Shipping Name:TRIETHYLENETETRAMINE UN Number: UN2259 Class: 8 Packing Group: II TDG: Proper Shipping Name:TRIETHYLENETETRAMINE UN Number: UN2259 Class: 8 Packing Group: II

Section 15. Regulatory Information

OSHA Hazard Communication Standard	OSHA Hazard Communication Standard (29 CFR 1910.1200) Hazard Classes: Corrosive, Sensitizer
Regulatory Information	USA (TSCA) Included on the TSCA inventory EU (EINECS) Included on EINECS inventory or polymer substance, monomers included on EINECS inventory or no longer polymer Canadian Domestic Substance List (DSL) Included on DSL inventory China (SEPA) Included on the SEPA Inventory Australia (AICS) Included on the AICS Inventory Japan (ENCS) Included on the ENCS Inventory South Korea (ECL) Included on the ECL Inventory Philippines (PICCS) Included on the PICCS Inventory EPA SARA TITLE III Section 312 (40CFR370) Hazard Classification: Acute Health Hazard, Chronic 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	4/13/2015
HMIS Rating (Not Regulated)	The HMIS Rating for this product is: Health: 3 Flammability: 1 Reactivity: 0 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 GracoRoberts' 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. GracoRoberts does not undertake to furnish advice on such matters.