Safety Data Sheet

RCC Corrosion Control / SDS #: RCC-21749 / Revision Date: 05/23/2022

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: COROGROUT EP HARDENER

Chemical Family: Amine Solution

Product Use: Coating material

Manufacturer: RCC Corrosion Control
1450 Hoff Industrial Drive
O'Fallon, MO 63366
Phone: 636-697-4659

24-Hour Emergency Phone Number: North America: 800-424-9300 (CHEMTREC)
International: 703-527-3887 (CHEMTREC) Collect Calls Accepted

2. HAZARD IDENTIFICATION

GHS Classifications

Health Hazards
Skin Corrosive, Category 1B
Eye Damage, Category 1
Respiratory Sensitization, Category 1B
Skin Sensitization, Category 1A
Specific Target Organ Systemic Toxicity, Repeated Exposure, Category 2, Respiratory Tract [Inhalation, Ingestion]

Physical Hazards
Corrosive to Metal, Category 1

Environmental Hazards
Acute Aquatic Toxicity, Category 3

GHS-Labeling
Pictograms:

Signal Word: Danger!

Hazard Statements
H290: May be corrosive to metals.
H302: Harmful if swallowed.
H314: Causes severe skin burns and eye damage.
H317: May cause an allergic skin reaction
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H373: May cause damage to organs prolonged or repeated exposure.
H402: Harmful to aquatic life.

Precautionary Statements
Prevention:
P202: Do not handle until all safety precautions have been read and understood.
P233: Keep container tightly closed.
P260: Do not breathe vapors.
P264: Wash hands and exposed areas thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P271: Use only outdoors or in a well-ventilated area.
P280: Wear protective gloves, clothing, eye protection, and face protection.

Response:
P301+P330+P331+P312: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER or doctor/physician if you feel unwell.
P303+P361+P353: IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340+P341: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338+P315: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical attention.
P342 + P311: If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
P363: Wash contaminated clothing before reuse.
P390: Absorb spillage to prevent material damage.

Storage:
P403 + P233: Store in a well-ventilated place. Keep container tightly closed.
P405: Store locked up
P406: Store in corrosive resistant/original container with a resistant inner liner.
Disposal:
P501: Dispose of contents/container in accordance with local, regional, and federal regulations

3. COMPOSITION/ INFORMATION ON INGREDIENTS

Chemical characterization
Epoxy Resin

Component*	CAS #	% By Wt.
Tall oil fatty acids reaction with tetraethylenepentamine	68953-36-6	65 - 75
Triethylenetetramine	112-24-3	10 - 20
Tetraethylenepentamine (TEPA)	112-57-2	10 - 20
Tris-2,4,6-(Dimethylaminomethyl)Phenol	90-72-2	5 - 10

4. FIRST AID MEASURES:

Inhalation
Symptoms & Effects: Stomach or intestinal irritation, severe eye, skin and respiratory tract burns, nose, throat and lung irritation, respiratory tract irritation, headache, nausea, dizziness, confusion, breathing difficulty
Measures: If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If breathing has stopped or is labored, give artificial respiration. Call a POISON center or doctor/physician if you feel unwell.

Skin Contact
Symptoms & Effects: Skin burns, severe skin irritation, redness, drying
Measures: Immediately remove contaminated clothing and shoes, and any extraneous chemical, if possible to do so without delay. Wash off immediately with plenty of water for at least 15-20 minutes and until no evidence of the chemical remains. Launder all contaminated clothing before reuse. If skin irritation occurs, seek medical advice/attention.
NOTE TO PHYSICIANS: Application of corticosteroid cream has been effective in treating skin irritation.

Eye Contact
Symptoms & Effects: Eye burning, severe eye irritation, tearing, redness, blindness (severe exposure)
Measures: Immediately remove contact lenses and flush eyes and beneath the eyelids with plenty of water for at least 20 minutes. While washing, separate the eyelids with fingers and roll eyes in a circular motion. Flush for a longer period of time if there is any indication of residual chemical in the eye. If eye irritation persists, seek medical advice/attention.

Ingestion
Symptoms & Effects: Stomach or intestinal irritation, severe burns of the mouth and throat, digestive tract irritation, nausea, vomiting
Measures: Do not induce vomiting without medical advice. Rinse out the mouth with plenty of water and drink 1 or 2 glasses of water. Seek immediate medical attention.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media: Dry chemical, Carbon dioxide, Alcohol-resistant foam, Dry sand, Limestone powder

Unsuitable Extinguishing Media: Water may be ineffective unless used under favorable conditions.

Hazardous Combustion Products: Ammonia, Nitrogen oxide, Carbon monoxide, Carbon dioxide

Protective Equipment for Fire-Fighters: Wear full firefighting turn-out gear (full Bunker gear), and respiratory protection (SCBA).

Precautions for Fire-Fighters: Use of water may result in the formation of very toxic aqueous solutions. Do not allow run-off from firefighting to enter drains or water courses. Incomplete combustion may form carbon monoxide and burning produces noxious and toxic fumes. Downwind personnel must be evacuated.

6. ACCIDENTAL RELEASE MEASURES:

Protective Equipment: Recommended to wear self-contained breathing apparatus, chemical splash goggles & resistant gloves and discard of gloves that show tears, pinholes, or signs of wear. Wear proper garments to prevent skin exposure, such as long-sleeves and pants.

Personal Precautions: Persons not wearing proper PPE should be excluded from the area of contamination until clean-up has been completed. Ensure adequate ventilation. Pay close attention to the spreading of gases, especially at ground level.

Environmental Precautions: Do not allow discharge into drains, surface waters, or sanitary sewer system. Prevent spreading over a wide area by containment or oil barriers. Local authorities should be advised if significant spillages cannot be contained or if material discharges into drains or ground water.

Methods & Materials for Clean-Up: Contained spilled material with inert, non-combustible absorbent materials (e.g. sand, earth, diatomaceous earth, vermiculite). Transfer to a suitable container for disposal according to proper federal, state, and local regulations.

7. HANDLING AND STORAGE

Handling: Do not use sodium nitrite or other nitrosating agents in formulations containing this product, as this may lead to the formation of suspected cancer-causing nitrosamines. Emergency showers and eye wash stations should be readily accessible. Adhere to work practice rules established by government regulations. Do not cut, puncture, or weld on or near the container. Avoid breathing vapors and/or aerosols. Avoid contact with skin and eyes. Use only in well-ventilated areas. Use personal protective equipment. When using, do not eat, drink or smoke.

Storage: Store in steel containers, preferably located outdoors, above ground, and surrounded by dikes to contain spills or leaks. Do not store near acids or oxidizers. Avoid storing containers in direct sunlight as vapors may accumulate in the head space, creating pressure. Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible Materials: Acids, Sodium nitrite, Nitrosating agents, Oxidizers, Strong reducing agents

8. EXPOSURE CONTROLS & PERSONAL PROTECTION

Exposure Limits :
Exposure limits have not been established for this product.

Triethylenetetramine	**CAS # 112-24-3**	
AIHA WEEL	Time weighted average (TWA)	1 ppm (6 mg/m^3)
Tetraethylenepentamine	**CAS # 112-57-2**	
AIHA WEEL	Time weighted average (TWA)	5 ppm (30 mg/m^3)

Engineering Controls: Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposures below permissible exposure limits. Provide readily accessible eye wash stations and safety showers.

Occupational Exposure Controls: Ensure adequate ventilation, especially in confined areas. Consider all potential hazards of this material, applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting PPE. Ensure that eyewash stations and safety showers are proximal to the work location. It is ultimately the responsibility of the employer to follow regulatory guidelines established by local authorities.

Protective and Hygiene measures: Do not inhale vapors. Wash hands before breaks and immediately after handling product. When using, do not eat, drink, or smoke. In case of clothes contamination, remove and wash contaminated clothing before re-use. Discard of contaminated leather articles.

Eye Protection: Recommended to wear a full face shield with tight fitting, chemical splash goggles underneath at all times when using this product. Have a suitable eye wash station or bottle nearby in case of splashing into the eyes.

Hand Protection: Recommended to wear suitable resistant gloves and discard of gloves that show tears, pinholes, or signs of wear. Suitable gloves will be based on product use and the period of use, and may include neoprene, butyl-rubber, nitrile rubber, etc.
Skin Protection: Minimally recommended to wear long-sleeved clothing, pants and proper foot covering in order to prevent direct skin contact with the product. Recommended to wear impervious clothing, full rubber suits, rubber or plastic boots and slicker suits. If skin irritation develops, contact your facility health and safety professional or your local safety equipment supplier to determine the proper personal protective equipment for your use.

Respiratory Protection: A NIOSH-approved air-purifying respirator with an appropriate cartridge and/or filter may be appropriate under certain circumstances where airborne concentrations are expected to exceed exposure limits (if applicable) or if overexposure has otherwise been determined. Protection provided by air-purifying respirators is limited. Use a positive pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are not known or any other circumstances where an air-purifying respirator may not provide adequate protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Amber Liquid
Odor: Amine / Fishy
Odor Threshold: No data available
pH: > 8
Melting/Freezing point: No data available
Boiling point/range: > 405°F (> 207°C)
Flash point (Tag closed cup): > 212°F (> 100°C)
Evaporation rate: No data available
Flammability: Lower Limit: No data available **Upper Limit:** No data available
Vapor pressure: No data available
Relative vapor density: > 1 (Air = 1)
Density: 0.95 g/cm^3 (7.9 lbs/gal) @ 70°F (21°C)
Solubility in water: Slightly Soluble
Partition coefficient (n-octanol/water): No data available
Auto-ignition temperature: No data available
Ignition temperature: No data available
Decomposition temperature: No data available
Viscosity (dynamic): No data available

10. STABILITY AND REACTIVITY

Reactivity: No decomposition if stored and applied as directed.

Chemical Stability: Stable under normal conditions.

Possibility of Hazardous Reactions: Avoid exposure to excessive heat and ignition sources as well as incompatible materials. Product will not undergo hazardous polymerization.
Conditions to Avoid: Excessive heat and ignition sources.

Incompatible Materials: Sodium hypochlorite, Acids, Organic acids, Mineral acids, Peroxides, Nitrosamines, Nitrous acids, Nitrosating agents, Oxidizing agents, Reactive metals, Strong reducing agents

Hazardous decomposition products: Nitric acid, Ammonia, Nitrogen oxides (NOx), Carbon monoxide, Carbon dioxide, Nitrosamine, Hydrocarbons, Chlorine, Aldehydes,

11. TOXICOLOGICAL INFORMATION

Primary Routes of Exposure: Inhalation, Skin absorption, Eye contact, Ingestion

Symptoms Related to Physical, Chemical and Toxicological Characteristics: Severe skin burns, severe skin irritation, redness, drying of the skin, serious eye damage, tearing of the eyes, blindness (severe exposure), stomach or intestinal irritation, respiratory tract irritation, digestive tract irritation, allergy or asthma symptoms, nose, throat and lung irritation, headache, nausea, dizziness, confusion, breathing difficulty, and vomiting.

Delayed and Immediate Effects & Chronic Effects from Exposure: The substance may have effects on the central nervous system as well as the respiratory system. This substance is suspected of harming the unborn child. This substance is a potential carcinogen to humans (see below).

Measures of Toxicity:
Acute toxicities are calculated based on component toxicities
Mixture: Acute Oral Toxicity: LD_{50} Rat: >2,100 mg/kg
Acute Dermal Toxicity: LD_{50} Rat: >2,000 mg/kg

Triethylenetetramine	**CAS # 112-24-3**
Acute Oral Toxicity	LD_{50} Rat: 2,500 mg/kg
Acute Dermal Toxicity	LD_{50} Rabbit: 550 mg/kg

Tetraethylenepentamine	**CAS # 112-57-2**
Acute Oral Toxicity	LD_{50} Rat: 3,990 mg/kg

Tris-2,4,6-(Dimethylaminomethyl)Phenol	**CAS # 90-72-2**
Acute Oral Toxicity	LD_{50} Rat: 2,169 mg/kg

Carcinogen Claims:
OSHA: **No,** International Agency for Research on Cancer (IARC): **No,**
ACGIH: **No,** National Toxicology Program (NTP) Report on Carcinogens: **No**

12. ECOLOGICAL INFORMATION

Ecotoxicity: This substance is toxic to aquatic organisms. It is strongly advised that this substance does not enter the environment.

Tetraethylenepentamine	**CAS # 112-57-2**
Toxicity to Fish	LC_{50} – 420 mg/l (Guppy; 96 h)
Toxicity to Daphnia	EC_{50} – 24 mg/l (Water flea; 48 h)
Toxicity to Algae	EC_{50} – 2 mg/l (Green Algae; 72 h)

Persistence & Degradability: No data available
Bio-accumulative Potential: No data available
Mobility in Soil: No data available
Other Adverse Effects: No data available

13. DISPOSAL CONSIDERATIONS

Dispose of in accordance with Federal, State or Local regulations.
Contaminated packaging should be emptied as far as possible before disposal.

14. TRANSPORT INFORMATION

DOT SHIPPING CLASSIFICATION:
UN NUMBER: UN2259
PROPER SHIPPING NAME: Triethylenetetramine
TRANSPORTATION HAZARD CLASS: 8
PACKING GROUP: II
HAZARD LABEL CODE: 8

IMDG (Marine) SHIPPING CLASSIFICATION:
IMDG CODE: 8
UN NUMBER: UN2259
MARINE POLLUTANT: No
EmS: F-A, S-B
IMDG PACKING GROUP: II
HAZARD LABEL: 8
Description of the goods
TRIETHYLENETETRAMINE

IATA (Air) SHIPPING CLASSIFICATION:
ICAO/IATA-DGR: 8
UN NUMBER: UN2259
HAZARD LABEL: Corrosive
IATA-packing instructions – Passenger: 851
IATA -max. quantity – Passenger: 1L
IATA – packing instructions – Cargo: 855
IATA –max. quantity – Cargo: 30L
IAO packing group: II
Limited quantity Passenger: Y840 / 0.5L
Description of the goods
Triethylenetetramine

15. REGULATORY INFORMATION

All components of this product conform to the following national inventory requirements. US TSCA, EU EINECS and Canada DSL

SARA Title III

The following ingredients are subject to the supplier notification requirements of Section 313 of the Superfund Amendments and Reauthorization Act (SARA/EPCRA) and the requirements of 40 CFR Part 37
None Identified

OTHER FEDERAL REGULATIONS

Components of this product are subject to RCRA Hazardous Waste requirements.
Clean Air Act (CAA) Hazardous Air Pollutants requirements and OSHA Process Safety Management (PSM) high hazard requirements.

CANADIAN REGULATIONS

Same as OSHA GHS Classification

STATE REGULATIONS

California Proposition 65
This product does not contain chemicals known to the state of California to cause cancer, birth defects or reproductive harm.

The components of this product may be included on the various state hazardous materials lists noted below.

California Hazardous Substances List/Permissible Exposure List
California Toxic air contaminants
Connecticut Permissible Exposure Limits
Delaware List of Chemicals and RQs
Hawaii Permissible Exposure Limits
Idaho Toxic Air Pollutants
Illinois Toxic Air Contaminants List
Louisiana Toxic Air Pollutants
Maine Hazardous Air Pollutants
Maryland Toxic Air Pollutants for Existing Sources
Massachusetts Hazardous Substances List
Michigan Permissible Exposure Limits
Minnesota Hazardous Substances
Minnesota Permissible Exposure Limits
Nebraska Hazardous Air Pollutants
New Jersey RTK Hazardous Substances List/TCPA Extremely Hazardous Substances List
New York List of Hazardous Substances
Ohio Toxic Air Contaminants
Oklahoma Toxic Air Contaminants
North Carolina TAP Emissions Rates Requiring a Permit
Pennsylvania Hazardous Substances List
Rhode Island Toxic Air Contaminants
Tennessee Permissible Exposure Limits
Vermont Hazardous Air Contaminants/Permissible Exposure Limits
Washington Permissible Exposure Limits for Airborne Contaminants.
West Virginia Toxic Air Pollutant List
Wisconsin hazardous Air Contaminants

Note: Entries under Section 15 are not intended to be all inclusive of Federal and State laws and regulations. Please consult the appropriate agencies for further clarification of any requirements.

16. OTHER INFORMATION

Disclaimer: The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.