Safety Data Sheet

RCC Corrosion Control / SDS #: RCC-21501 / Revision Date: 05/23/2022

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: COROFLEX BC HARDENER

Chemical Family: Amine Solution

Product Use: Coating material

Restrictions on Use: Use as directed by manufacturer

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
Acute Toxicity, Oral, Category 4
Skin Corrosion, Category 1B
Eye Damage, Category 1
Skin Sensitization, Category 1A
Reproductive Toxicity, Category 2
Specific Target Organ Systemic Toxicity, Single Exposure, Category 3, Respiratory Tract [Inhalation, Skin absorption, Ingestion]
Specific Target Organ Systemic Toxicity, Repeated Exposure, Category 2, Respiratory Tract, Kidneys [Inhalation, Skin absorption, Ingestion]

Physical Hazards
Flammable Liquid, Category 4
Corrosive to Metal, Category 1

Environmental Hazards
Acute Aquatic Toxicity, Category 1
Chronic Aquatic Toxicity, Category 1

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
H335: May cause respiratory irritation
H361: Suspected of damaging fertility or the unborn child
H373: May cause damage to organs prolonged or repeated exposure
H410: Very toxic to aquatic life with long lasting effects

Precautionary Statements
Prevention:
P201: Obtain special instructions before use.
P233: Keep container tightly closed.
P234: Keep only in original container.
P260: Do not breathe vapours.
P264: Wash skin and exposed areas thoroughly after handling.
P271: Use only outdoors or in a well-ventilated area.
P273: Avoid release to the environment.
P281: Use personal protective equipment as required.

Response:
P301 + P330 + P331 + P312: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER or doctor/physician if you feel unwell.
P302 + P352: IF ON SKIN: Wash with plenty of soap and water.
P303 + P361 + P353: IF ON SKIN (hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313: IF exposed or concerned: Get medical advice/attention.
P314: Get medical advice/attention if you feel unwell.
P333 + P313: If skin irritation or rash occurs: Get medical advice/attention.
P337 + P313: If eye irritation persists: Get medical advice/attention.

P363: Wash contaminated clothing before reuse.

Storage:
P401: Store in original container
P403 + P233 + P235: Store in a well-ventilated place. Keep container tightly closed. Keep cool.

Disposal:
P501: Dispose of contents/container in accordance with local, regional, and federal regulations

3. COMPOSITION/ INFORMATION ON INGREDIENTS

Chemical characterization
Amine Solution

Component*	CAS #	% By Wt.
4-Nonylphenol, branched	84852-15-3	10 - 30
Isophorone Diamine	2855-13-2	5 - 15
Amines, coco alkyl	61788-46-3	5 - 15
Tris-2,4,6-(Dimethylaminomethyl)Phenol	90-72-2	5 - 10

4. FIRST AID MEASURES

Inhalation
Symptoms & Effects: Nose, throat, and lung irritation, severe eye, skin, and respiratory tract burns, headache, nausea, dizziness, confusion, breathing difficulties, delayed lung injury, and respiratory failure with severe exposure
Measures: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing has stopped, begin artificial respiration. If breathing is difficult, administer oxygen. If symptoms persist, seek medical attention.

Skin Contact
Symptoms & Effects: Severe skin irritation, redness, burning, headache, nausea, dizziness, confusion, and breathing difficulties
Measures: Seek immediate medical attention. Immediately wash skin with plenty of water until medical attention is available. If medical care is not promptly available, continue to wash skin for one hour. Remove contaminated clothing and shoes while washing.

Eye Contact
Symptoms & Effects: Severe eye irritation, stinging, tearing, redness, swelling of the eyes, and blindness
Measures: Seek immediate medical attention. Immediately rinse eyes with water until medical attention is available. If medical care is not promptly available, continue to rinse eyes for one hour. Remove contact lenses after the initial few minutes and if easy to do so and resume rinsing. Rinse beneath eyelids by holding eyelids apart with clean fingers while rinsing.

Ingestion
Symptoms & Effects: Severe mouth and throat burns, headache, nausea, vomiting, abdominal pain, dizziness, confusion, breathing difficulties, danger of perforation of the esophagus and stomach, respiratory failure with severe cases of overexposure

Measures: Seek immediate medical attention. Do NOT induce vomiting. If the victim is drowsy or unconscious, do not give anything by mouth. Place individual on their left side and place their head down. Do not leave victim unattended.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media: Alcohol-resistant foam, Carbon dioxide, Dry chemical, Water spray

Unsuitable Extinguishing Media: None identified

Hazardous Combustion Products: Nitrogen oxides (NOx), 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: May generate ammonia gas, toxic nitrogen oxide gases, as well as carbon monoxide. Downwind personnel must be evacuated. Do not allow run-off from firefighting to enter drains or water courses. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

6. ACCIDENTAL RELEASE MEASURES

Protective Equipment: Recommended to wear chemical splash goggles & resistant gloves, such as polyvinyl alcohol-based 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. Eliminate all ignition sources and pay 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 constructing a dike. 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: Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, or solid), all hazard precautions given in this SDS must be observed. Use only in well-ventilated areas. In atmospheres where this material is sprayed, workers should avoid contact with aerosols. Avoid prolonged or frequently repeated skin contact with this material. Skin contact can be minimized by wearing impervious protective gloves. Hands and other exposed areas should be washed thoroughly with soap and water after contact, especially before eating and/or smoking. Regular laundering of contaminated clothing is essential to reduce indirect skin contact with this material.

Storage: Store in a well- ventilated area, away from incompatible materials (see below). Keep container tightly closed. Store material in its' original container or in a corrosive resistant container. Keep away from food, drink, and animal foodstuffs.

Incompatible Materials: Sodium hypochlorite, Nitrous Acids, Nitrosating agents, Nitrites, Acids, Fatty acids, Peroxides, Oxidizing agents, Reactive metals

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits :

Exposure limits have not been established for this product or its components.

Engineering Controls: Provide sufficient mechanical (general and/or local exhaust) ventilation. 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.

Eye Protection: Recommended to wear a full face shield with tight fitting, chemical splash goggles underneath when there is potential for the exposure of the eyes to the liquid, vapor or mist. 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: Recommended to wear impervious clothing, such as a full rubber suit or slicker suit as well as long-sleeved clothing, pants and proper foot covering in order to prevent direct skin contact with the product. 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: Faint Yellow Liquid
Odor: Amine / Fishy
Odor Threshold: No data available
pH: > 8
Melting/Freezing point: No data available
Boiling point/range: No data available
Flash point (Tag closed cup): >200°F (>93°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: No data available
Density: 0.96 g/cm^3 (8.0 lbs/gal) @ 70°F (21°C)
Solubility in water: Insoluble
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 or hazardous reactions are expected if storage and use guidelines are followed.

Chemical Stability: Stable under normal conditions.

Possibility of Hazardous Reactions: No decomposition or hazardous reactions are expected if storage and use guidelines are followed.

Conditions to Avoid: Excessive heat, Incompatible materials

Incompatible Materials: Sodium hypochlorite, Nitrous Acids, Nitrosating agents, Nitrites, Acids, Fatty acids, Peroxides, Oxidizing agents, Reactive metals

Hazardous decomposition products: Nitrogen oxides (NOx), Carbon monoxide, Carbon dioxide

11. TOXICOLOGICAL INFORMATION

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

Symptoms Related to Physical, Chemical and Toxicological Characteristics: Nose, throat, and lung irritation, severe respiratory tract burns, headache, nausea, dizziness, confusion, breathing difficulties, delayed lung injury, severe skin irritation, redness, burning of the skin, severe eye irritation, stinging, tearing, redness, swelling of the eyes, blindness, severe mouth and throat burns, vomiting, abdominal pain, danger of perforation of the esophagus and stomach, respiratory failure with severe cases of overexposure

Delayed and Immediate Effects & Chronic Effects from Exposure: With repeated exposure, the substance may have effects on the kidneys and respiratory tract. This product may result in skin sensitization or allergic skin reactions.

Measures of Toxicity:
Acute toxicities are calculated based on component toxicities
Mixture: Acute Oral Toxicity: LD_{50} >1200 mg/kg
Acute Dermal Toxicity: LD_{50} >2000 mg/kg
Acute Inhalation Toxicity: No sufficient data available

4-Nonylphenol, branched	**CAS # 84852-15-3**
Acute Oral Toxicity	LD_{50} Rat: 1,400 mg/kg
Acute Dermal Toxicity	LD_{50} Rabit: 2,031 mg/kg

Isophorone Diamine	**CAS # 2855-13-2**
Acute Oral Toxicity	LD_{50} Rat: 1,030 mg/kg

Amines, coco alkyl	**CAS # 61788-46-3**
Acute Oral Toxicity	LD_{50} Rat: 1,240 mg/kg
Acute Dermal Toxicity	LD_{50} Rabit: >2,000 mg/kg

Tris-2,4,6 (Dimethylaminomethyl) Phenol	**CAS # 90-72-2**
Acute Oral Toxicity	LD_{50} Rat: 2,169 mg/kg
Acute Dermal Toxicity	LD_{50} Rabit: >971 mg/kg

Carcinogen Claims:
OSHA: **None,** International Agency for Research on Cancer (IARC): **None**
ACGIH: **None,** National Toxicology Program (NTP) Report on Carcinogens: **None**

12. ECOLOGICAL INFORMATION

Eco-toxicity: This substance is very toxic to aquatic organisms. It is strongly advised that this substance does not enter the environment. Local authorities should be advised if significant spillages cannot be contained or if material discharges into drains or ground water.

4-Nonylphenol, branched	**CAS # 84852-15-3**
Toxicity to Fish	LC_{50} – 0.083 mg/l (Fathead Minnow; 96 h)
	LC_{50} – 0.135 mg/l (Bluegill; 96 h)

Isophorone Diamine	**CAS # 2855-13-2**
Toxicity to Fish	LC_{50} – 110 mg/l (Golden Orfe; 96 h)
Toxicity to Daphnia	EC_{50} – 17.4 mg/l (Water flea; 48 h)
Toxicity to Algae	EC_{50} – 37 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: UN2735
PROPER SHIPPING NAME: Amines, Liquid, Corrosive, N.O.S. (Tetradecylamine, Nonylphenol)
TRANSPORTATION HAZARD CLASS: 8
PACKING GROUP: II
HAZARD LABEL: 8

IMDG (Marine) SHIPPING CLASSIFICATION:
IMDG CODE: 8
UN NUMBER: UN2735
MARINE POLLUTANT: Yes
EmS: F-A; S-B
IMDG PACKING GROUP: II
HAZARD LABEL: 8
Description of the goods
AMINES, LIQUID, CORROSIVE, N.O.S. (Tetradecylamine, Nonylphenol)

IATA (Air) SHIPPING CLASSIFICATION:
ICAO/IATA-DGR: 8
UN NUMBER: UN2735
HAZARD LABEL: 8
Description of the goods
Amines, Liquid, Corrosive, N.O.S. (Tetradecylamine, Nonylphenol)

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

Section 302 – Extremely Hazardous Chemicals
The following ingredients are subject to the supplier notification requirements of Section 302 of the Superfund Amendments and Reauthorization Act (SARA/EPCRA) and the requirements of 40 CFR Part 37 *None Listed*

Section 313 – Toxic Chemicals
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 Listed*

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.