

# Safety Data Sheet



**RCC Corrosion Control / SDS #: RCC-21011 / Revision Date: 05/23/2022**

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## **1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

**Product Name:** HARDENER 11

**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**

Acute Toxicity, Oral, Category 4

Acute Toxicity, Inhalation, Category 3

Skin Corrosive, Category 1B

Eye Damage, Category 1

Skin Sensitization Category 1B

Specific Target Organ Systemic Toxicity, Single Exposure, Category 3, Central Nervous System, Respiratory Tract [Inhalation, Skin absorption, Ingestion]

Specific Target Organ Systemic Toxicity, Repeated Exposure, Category 2, Central Nervous System, Kidneys Respiratory Tract [Inhalation, Skin absorption, Ingestion]

#### **Physical Hazards**

Corrosive to Metal, Category 1

#### **Environmental Hazards**

Acute Aquatic Toxicity, Category 3

#### **GHS-Labeling**

**Pictograms:**

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**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  
H331: Toxic if inhaled.  
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:

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.

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## Disposal:

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

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

### Chemical characterization

Component*	CAS #	Weight %
Modified cycloaliphatic amine	Trade Secret	65 - 80
Benzyl Alcohol (Phenylmethanol)	100-51-6	5 - 15
Isophorone Diamine (IPD; 3-Aminomethyl-3,5,5-trimethylcyclohexylamine)	2855-13-2	1 - 5
Benzene-1,3-dimethaneamine (MXDA; m-Xylylenediamine)	1477-55-0	1 - 5

## 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.

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## 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.

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## 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.

<b>Benzene-1,3-Dimethaneamine (MXDA)</b>	<b>CAS # 1477-55-0</b>		
OSHA	Permissible Exposure Limit (PEL)		None Established
ACGIH	Threshold Limiting Value (TLV)		0.1 mg/m <sup>3</sup> Ceiling
NIOSH	Recommended Exposure Limit (REL)		0.1 mg/m <sup>3</sup> Ceiling

<b>Benzyl Alcohol</b>	<b>CAS # 100-51-6</b>		
AIHA WEEL	Time weighted average (TWA)		10 ppm

**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.

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**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:** Light Yellow Liquid

**Odor:** Amine / Fishy

**Odor Threshold:** No data available

**pH:** > 8

**Melting/Freezing point:** No data available

**Boiling point/range:** 402°F (206°C)

**Flash point (Tag closed cup):** 226°F (108°C)

**Evaporation rate:** No data available

**Flammability: Lower Limit:** No data available **Upper Limit:** No data available

**Vapor pressure:** < 10.4 mmHg @ 70°F (21°C)

**Relative vapor density:** > 1 (Air = 1)

**Density:** 1.02 g/cm<sup>3</sup> (8.5 lbs/gal)

**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

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## 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<sub>50</sub> Rat: 1,000 mg/kg

Acute Dermal Toxicity: LD<sub>50</sub> Rat: 2,800 mg/kg

Acute Inhalation Toxicity: LC<sub>50</sub> Rat: 2.75 mg/l

### **Carcinogen Claims:**

OSHA: **No**, International Agency for Research on Cancer (IARC): **No**,

ACGIH: **No**, National Toxicology Program (NTP) Report on Carcinogens: **No**

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## 12. ECOLOGICAL INFORMATION

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

**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:**

### **DOT SHIPPING CLASSIFICATION:**

UN NUMBER: UN2735

PROPER SHIPPING NAME: Amines, liquid, corrosive, n.o.s., (Benzene-1,3-dimethanamine [MXDA], 3-Aminomethyl-3,5,5-trimethylcyclohexylamine [IPD])

TRANSPORTATION HAZARD CLASS: 8

PACKING GROUP: III

HAZARD LABEL CODE: 8

### **IMDG (Marine) SHIPPING CLASSIFICATION:**

IMDG CODE: 8

UN NUMBER: UN2735

MARINE POLLUTANT: No

EmS: F-A, S-B

IMDG PACKING GROUP: III

HAZARD LABEL: 8

### **Description of the goods**

AMINES, LIQUID, CORROSIVE, N.O.S., (Benzene-1,3-dimethanamine [MXDA], 3-Aminomethyl-3,5,5-trimethylcyclohexylamine [IPD])

### **IATA (Air) SHIPPING CLASSIFICATION:**

ICAO/IATA-DGR: 8

UN NUMBER: UN2735

HAZARD LABEL: Corrosive

IATA-packing instructions – Passenger: 852

IATA -max. quantity – Passenger: 5L

IATA – packing instructions – Cargo: 856

IATA –max. quantity – Cargo: 60L



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IAO packing group: III

Limited quantity Passenger: Y841 / 1L

**Description of the goods**

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## **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

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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.

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## 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.