



# Material Safety Data Sheet # 397

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NFPA	HMIS	PPE	Transport Symbol						
	<table border="1"><tr><td>HEALTH</td><td>2</td></tr><tr><td>FLAMMABILITY</td><td>0</td></tr><tr><td>REACTIVITY</td><td>1</td></tr></table>	HEALTH	2	FLAMMABILITY	0	REACTIVITY	1		
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REACTIVITY	1								

Preparation Date Sept 12, 2011

Revision Date 01/13/12

Revision Number 1

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Identity:** HERCULES BREAK THROUGH R-D ROOT DESTROYER.

**Intended Use:** Root Destroyer

**Manufacturer:** Hercules Chemical Company, Inc.  
111 South Street  
Passaic, New Jersey 07055-7398

**Information Telephone:** (800) 221-9330

**Internet:** <http://www.herchem.com>

**Emergency Phone:** CHEMTREC: (800) 424-9300

**MSDS Date of Preparation** Sept 12, 2011

## 2. HAZARDS IDENTIFICATION

### Emergency Overview

Copper Sulfate Crystal is a blue crystalline odorless solid. Potentially fatal if swallowed. May cause severe irritation to the eyes and skin. Fire may produce irritating, corrosive and/or toxic fumes. Firefighters should use full protective equipment and clothing.

### Potential Health Hazard

Eye: May cause severe eye irritation and could result in irreversible eye damage.

Ingestion: May be fatal if swallowed.

Skin: Repeated or prolonged skin contact may cause skin coloration and dermatitis.

Inhalation: May cause irritation of nose and airways

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	Cas #	Wt/wt%
Copper Sulfate Pentahydrate	7758-99-8	99%

**4. EMERGENCY AND FIRST AID PROCEDURES.**

**Routes of Entry:** Eyes, skin, ingestion.

If in eyes: Flush with plenty of water. Call a physician.

If on skin: Wash with plenty of soap and water. Get medical attention.

If swallowed: Drink promptly a large quantity of milk, egg white, gelatin solution or, if these are not available, large quantities of water. Avoid alcohol.

**Other Health Warnings:**

Note to Physician: Probable mucosal damage may contraindicate the use of gastric lavage.

**5. FIRE FIGHTING MEASURES**

**Flash Point:** N/A **Method Used:** N/A

**Upper Flammable Limit:** N/A **Lower Flammable Limit:** N/A

**Auto Ignition:** N/A

**Flammability Classification:** N/A

**Rate of Burning:** N/A

**General Fire Hazards:** Copper Sulfate Pentahydrate is not combustible, but may decompose in the heat of a fire to produce corrosive and/or toxic fumes.

**Hazardous Combustion Products:** Sulfur oxides and copper fumes

**Extinguishing Media**

Dry chemical, carbon dioxide, water spray or foam. For large fires use water spray, or alcohol foam.

**Fire Fighting Equipment / Instructions**

Firefighters should wear full protective clothing including self-contained breathing apparatus. Run-off from fire control or dilution water may be corrosive and/or toxic and cause pollution. Avoid direct water stream on molten material, move containers from fire area if possible, do not scatter spilled area with more water than needed for fire control, dike fire control water for later disposal. Use agents suitable for type of fire. Avoid breathing vapors or dust.

**NFPA Ratings:** Health: 2 Fire: 0 Reactivity: 1

**HMIS:** 2, 0, 1

**6. ACCIDENTAL RELEASE MEASURES**

**Steps to be Taken in Case Material is Released or Spilled:**

Use clean-up methods that avoid dust generation (vacuum, wet). Wear a NIOSH or MSHA approved respirator if dust will be generated in clean-up. Use protective clothing if skin contact is likely. Shovel any spills into plastic bags and seal with tape. Copper sulfate solution may deteriorate concrete.

**7. HANDLING AND STORAGE**

**Precautions to be Taken**

Avoid breathing dust. Sweep up crystals or powder, vacuum is preferred. Eyewash stations should be available in work areas. Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**Other Precautions:**

Store in closed containers in cool, dry, well-ventilated area away from heat sources and reducing agents. Store copper sulfates in stainless steel, fiberglass, polypropylene, PVC's or plastic equipment. If container or bag is damaged, place the container or bag in a plastic bag. Use good housekeeping practices to avoid dust accumulation.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Component	CAS Number	OSHA PEL	ACGIH TLV	Other Limits	Upper bound limit if SARA Reportable
Copper Sulfate Pentahydrate	7758-99-8	1.0 mg/m <sup>3</sup>	1.0 mg/m <sup>3</sup>	1.0 mg/m <sup>3</sup>	98%

**Engineering Controls:**

Use adequate general or local ventilation to keep airborne concentrations below the exposure limits.

**Personal Protective Equipment:**

Respirator: NIOSH approved respirator for toxic dust. The respirator selected must be based on contamination levels found in the work area. Supply air respirator with full-face piece.

**Immediately Dangerous to Life or Health Conditions:** Self-contained breathing apparatus operated in pressure-demand or other positive pressure mode.

**Skin and Eye Protection:** Wear appropriate protective clothing and equipment to prevent repeated or prolonged skin contact. Wear appropriate gloves to prevent contact with substance.

**Eye Protection:** wear splash proof or dust resistance safety goggles to prevent eye contact with this substance.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Melting Point:** 230°F (110°C)

**Vapor Density (Air = 1):** 8.6

**Specific Gravity (H<sub>2</sub>O):** 2.284

**Solubility (H<sub>2</sub>O) :** 22.37% @ 0° C, 117.95% @ 100° C

**pH:** 3.7 - 4.2 (10% solution)

**Solvent Solubility:** Solvent in methanol, glycerol and slightly soluble in ethanol.

**Appearance and Odor:** Blue crystals, odorless

**VOC Content:** 0 g/L

**Vapor Pressure (mm Hg):** N/A

**Evaporation Rate (Butyl Acetate = 1):** N/A

**10. STABILITY AND REACTIVITY****Stability:**

Stable under normal temperatures and pressures.

**Incompatibility (Materials to avoid)**

None when product remains dry. Acetylene gas, aluminum powder, hydroxylamine, magnesium, moist air. Contact with magnesium metal can generate dangerous levels of hydrogen gas.

**Decomposition / By-Products:**

At temperatures >1112°F (600°C) material decomposes to cupric oxide and sulfur dioxide.

**Hazardous Polymerization:**

Will not occur.

**11. TOXICOLOGICAL INFORMATION**

**Skin LD50:** N/A **Sub Acute Dietary LC50:** N/A

**Oral LD50:** N/A **96-hr Acute Toxicity LD50:** N/A

**Inhalation LC50:** N/A **48-hr LC50:** N/A

**Primary Eye Irritation Irritant 24-hr LC50:** N/A

**Primary Skin Irritation:** Irritant

**Carcinogenic:** Not listed by NTP, IARC, or OSHA.

Poisoning may affect the liver and/or kidneys and gastrointestinal tract. Persons with a history of chronic respiratory or skin disease may be at increased risk from exposure.

**12. ECOLOGICAL INFORMATION**

This pesticide is toxic to fish. Direct application of copper sulfate to water may cause a significant reduction in population of aquatic invertebrates, plants and fish. Do not treat more than one-half of a lake or pond at one time in order to avoid depletion of oxygen from decaying vegetation. Allow 1 to 2 weeks between treatments for oxygen levels to recover. Trout and other species of fish may be killed at application rates recommended on this label, especially in soft or acid waters. However, fish toxicity generally decreases as the hardness of water increases. Do not contaminate water by cleaning of equipment or disposal of wastes.

This pesticide is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, streams, ponds estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority, except when product is labeled for use in sewers and bears such use instructions. For guidance, contact your State Water Board or Regional Office of the EPA.

**13. DISPOSAL CONSIDERATIONS**

Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture or reconstituted is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

**Container Disposal: (Plastic Pail)**

If empty: Do not reuse this container. Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by State and local authorities, by burning. If burned, stay out of smoke.

If partly filled: Call your local solid waste agency or 1-800-CLEANUP for disposal instructions.

Never place unused product down any indoor or outdoor drain.

**14. TRANSPORT INFORMATION**

DOT: Not Regulated except when the product is shipped in packaging of 10 pounds or greater or when transported by vessel or aircraft.

**Proper Shipping Name:** UN3077 Environmentally Hazardous Substance, Solid, N.O.S.,(Cupric Sulfate), 9, PG III.

Reportable Quantity (RQ)=10 pounds (4.54 kg)

**15. REGULATORY INFORMATION**

**TSCA STATUS:** This product is exempt from TSCA Regulation under FIFRA Section 3(2)(B)(ii) when used as a pesticide.

DSL: N/A

**SARA TITLE III:**

SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES: None

SECTION 311/312 HAZARD CATEGORIES: Immediate Health Hazard,  
Delayed Health Hazard

SECTION 313 TOXIC CHEMICALS: Copper Sulfate, anhydrous CAS # 7758-98-7

**RCRA STATUS:** When discarded in its purchased form, this product is a listed RCRA hazardous waste and should be managed as a hazardous waste. (40 CFR part 261.20-24)

California Proposition 65: Not on the list.

Canada: WHMIS Classification: D1B, D2A.

<b>16. OTHER INFORMATION</b>
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**DISCLAIMER:**

The information herein has been compiled from sources believed to be reliable, up-to-date, and is accurate to the best of our knowledge. However, Hercules cannot give any guarantees regarding information from other sources, and expressly does not make warranties, nor assumes any liability for its use.