

**MATERIAL SAFETY DATA SHEET**

Universal Crop Protection Alliance LLC
1300 Corporate Center Curve
Eagan, MN 55121

In Case of Emergency, Call:
24 Hour Emergency Number
CHEMTREC: 800-424-9300

Medical Emergency Contact:
1-800-228-5635 Ext. 138

1. CHEMICAL IDENTIFICATION

Product Name:	Diamond Copper Sulfate	Product No.:	1903
EPA Signal Word	Danger		
EPA Reg. Number:	1386-304		
Active Ingredient (%)	Copper sulfate 99.0%	CAS No.:	7758-99-8
Chemical Name:	Copper sulfate pentahydrate		
Chemical Class:	Anhydrous cupric sulfate		

2. COMPOSITION/INFORMATION ON INGREDIENTS

Material	OSHA PEL	ACGIH TLV	Other	NTP/IARC/OSHA Carcinogen
Cupric sulfate	1.0 mg/m ³	1.0 mg/m ³		

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Hazardous chemical. Blue crystals. Odorless. May cause slight eye and skin irritation. Emergency personnel should wear a self contained breathing apparatus. Sealed containers may rupture when heated due to release of water from crystals. Material is acidic when dissolved in water, contact with magnesium metal may evolve hydrogen gas.

Potential Health Effects: This section includes possible adverse effects which could occur if this material is not handled in the recommended manner.

Eye: May cause slight irritation and burning.

Skin: Exposure may cause skin irritation.

Ingestion: Single dose oral toxicity is low. Ingestion of large amounts may cause gastrointestinal irritation or ulceration. Note: Wilson's disease (individual absorbs, retains and stores copper excessively).

Inhalation: Prolonged inhalation may cause irritation of the mucous membranes. Avoid breathing dust.

Systemic (other Target Organs) Effects ND

Physical Properties

Appearance: Blue crystal.

Odor: Odorless.

4. FIRST AID MEASURES

Ingestion: Induce vomiting if large amounts are ingested. Contact a physician or poison control center immediately.

Eye Contact: Flush eyes with water immediately and continuously for 15 minutes. Consult a physician.

Skin Contact: Wash skin with plenty of soap and water for 15 minutes. Remove contaminated clothing and wash before reuse. Consult a physician if irritation develops.

Inhalation: Remove to fresh air. Consult a physician if irritation develops or breathing is difficult.

Medical Condition Likely to be Aggravated by Exposure: Wilson's disease.

5. FIRE FIGHTING MEASURES

Fire and Explosion

Flash Point (Test Method): ND
Flammable Limits (% in Air): ND
Autoignition Temperature: ND
Flammability: ND

Hazardous Combustion Products: At temperatures greater than 600°C, copper sulfate decomposes to cupric oxide and sulfur dioxide.

Extinguishing Media: Foam, fog, dry chemical or carbon dioxide. Do not allow runoff to enter sewers or waterways

Fire Fighting Instructions: Prevent human exposure to fire, fumes, and smoke. Sealed containers may rupture when heated due to release of water from crystals, material is acidic when dissolved in water, contact with magnesium metal may evolve hydrogen gas

Protective Equipment for Fire Fighters: Emergency personnel should wear full face, self contained breathing apparatus and impervious protective clothing

6. ACCIDENTAL RELEASE MEASURES

In Case of Spill or Leak Contain spill. Absorb spill with sand, floor clay or dirt. Shovel or sweep up and mop affected area. Prevent liquid from entering sewers, waterways, or low areas. If spilled solution is in a confined area introduce lime or soda ash to form insoluble copper salts and dispose of in approved manner.

7. HANDLING AND STORAGE

Precautions to be Taken in Handling and Storage: Good housekeeping and controlling of dusts are necessary for safe handling of product. No smoking, open flames or sources of ignition in handling and storage area. Wash thoroughly with soap and water after handling. Do not contaminate water, food or feed by storage or disposal. Do store in original container .

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

These precautions are suggested for conditions with a high potential for exposure. If handling procedures are such that there is only a low potential for exposure, less protection may be needed. Emergency conditions may require additional precautions.

Engineering Controls: Normal room ventilator should be satisfactory. Use only with adequate ventilation.
Eye Contact: Use chemical goggles.
Skin Contact: Use protective clothing impervious to this material.
Inhalation: Use a NIOSH approved respirator when protection is required.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Blue crystals.
Odor: Odorless.
Boiling Point: 150°C
Specific Gravity/Density: 2.284
pH: ND
Solubility in H₂O₂: 24.3g/100g @30°C
Vapor Pressure: ND
Vapor Density: ND

10. STABILITY AND REACTIVITY

Reactivity

Stability: Stable
Hazardous Polymerization: Will not occur
Conditions to Avoid: Elevated temperatures
Incompatible Materials: Acids and oxidizing materials, magnesium.

Hazardous Decomposition Products At temperatures greater than 600°C: cupric oxide and sulfur dioxide.

11. TOXICOLOGICAL INFORMATION

No data available

12. ECOLOGICAL INFORMATION

No data available

13. DISPOSAL CONSIDERATION

Disposal Method: Do not contaminate water, food, or feed by storage or disposal. If wastes cannot be disposed of by use according to label instructions, contact the appropriate state, local, or federal agency for guidance on disposal according to current environmental laws, rules, and regulations.

14. TRANSPORT INFORMATION

DOT Classification: Greater than RQ:
Hazard class: ORM-D

B/L Freight Classification: Consumer commodity.

15. REGULATORY INFORMATION

NOTICE: The information herein is presented in good faith and believed to be accurate as of the issue or revision date shown below. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ from one location to another, it is users responsibility to ensure that its activities comply with federal, state and local laws and regulations.

SARA Title III Classification

Section 311/312: Hazard Classes: Acute health hazard

Section 313 chemical(s): This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the emergency planning and community right-to-know act (EPCRA) of 1986 and of 40 CFR 372

<u>Chemical Name</u>	<u>CAS Number</u>	<u>RQ</u>	<u>% In Product</u>
Cupric sulfate	7758-98-7	10 lbs.	99.0%

RCRA Classification: NA

TSCA Status: NA

16. OTHER INFORMATION

NFPA Hazard Ratings

Health: 2
Flammability: 2
Reactivity: 0

0	Least
1	Slight
2	Moderate
3	High
4	Severe

Issued Date: October 4, 1999

Supersedes: September 10, 1992

Reference MSDS: Phelps Dodge, Copper Sulfate dated 2/1992

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