

MATERIAL SAFETY DATA SHEET

BLU-COP COPPER SULFATE CRYSTALS

Page 1 of 4

Issue Date: 08/00

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Chemical Product

BLU-COP COPPER SULFATE CRYSTALS

Common Name: Copper sulfate pentahydrate.

Chemical Description: $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$

TSCA/CAS No.: 7758-99-8.

Manufactured For

Monterey Chemical Company

P. O. Box 35000

Fresno, CA 93745-5000

Emergency Phone Numbers

Emergency Telephone: DAYS: (559) 499-2100 EVES.: (559) 431-7390

CHEMTREC (24-Hour Emergency Number): (800) 424-9300

EPA National Response Center: (800) 424-8802

SECTION 2. HAZARDOUS INGREDIENTS

CHEMICAL	CAS NO.	%	TLV OR PEL	RQ (lbs)
Copper sulfate pentahydrate	7758-99-8	99.0	1.0 mg/m ³ Dust/mist as copper	10 lbs.

* N.A. - Not available.

SECTION 3. EMERGENCY/HAZARDS OVERVIEW

Blue crystals or granules. Causes toxic sulfur dioxide fumes if heated at temperature $\geq 400^\circ\text{C}$. Also, aqueous solutions may be mildly corrosive to steel. Contain any liquid runoff. D.O.T. regulated as an Environmentally Hazardous Material.

HEALTH: 2 REACTIVITY: 1 FLAMMABILITY: 0 ENVIRONMENT: 1

(0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Extreme)

SECTION 4. FIRST AID

- Eyes: Flush immediately with water for at least 15 minutes. Call a physician if eye irritation persists.
- Skin: Wash thoroughly with soap and water. Remove contaminated clothing and wash before reuse. See a physician if skin becomes irritated.
- Ingestion: May cause severe GI tract irritation. Call a physician or Poison Control Center immediately. If conscious and alert, give victim 2-3 glasses of milk or water to drink and induce vomiting.
- Inhalation: Move to fresh air. Blow nose to remove dust. If breathing has stopped, perform artificial respiration and call a physician immediately.

SECTION 5. FIRE AND EXPLOSION HAZARDS

Flash Point:	Not pertinent.
Test Method:	Not pertinent.
LEL Flammable Limits:	Not pertinent.
UEL Flammable Limits:	Not pertinent.
Autoignition Temperature:	Not pertinent.
Flammability Classification:	None.
Known Hazardous Products of Combustion:	None.
Properties that Initiate/Contribute to Intensity of Fire:	None.
Potential For Dust Explosion:	None.
Reactions that Release Flammable Gases or Vapors:	None.
Potential for Release of Flammable Vapors:	None.
Unusual Fire & Explosion Hazards:	Toxic sulfur dioxide fumes if heated at temperature $\geq 400^{\circ}\text{C}$.
Extinguishing Media:	Does not burn or support combustion. Use appropriate media for surrounding fire.
Special Firefighting Procedures:	Avoid direct water stream on molten material (splattering occurs). Wear positive pressure, self-contained breathing apparatus and goggles. Contain any liquid runoff.

SECTION 6. SPILLS AND LEAKS

Containment:	Prevent product spillage from entering drinking water supplies or streams.
Clean Up:	Sweep up and use according to labeling or package for disposal. Lime or soda ash can be added to spilled material to form an insoluble copper salt.
Evacuation:	Not necessary.

SECTION 7. STORAGE AND HANDLING

Storage:	Store in closed containers in cool, dry, well-ventilated area away from heat sources and reducing agents. Do not stack pallets more than two (2) high.
Transfer Equipment:	Transfer solutions of product using chemical-resistant plastic or stainless steel (304, 347 or 316) tanks, pumps, valves, etc.
Work/Hygienic Practices:	Keep out of reach of children. Avoid contact with eyes, skin and clothing. Avoid inhalation of spray mists. Wash thoroughly with soap and water after handling.

SECTION 8. PERSONAL PROTECTIVE EQUIPMENT

Eyes:	Chemical dust/splash goggles or full-face shield to prevent eye contact. As a general rule, do not wear contact lenses when handling.
Skin:	Impervious gloves and clothes.
Respiratory:	NIOSH-approved dust/mist respirator (such as 3M #8710) for toxic dusts and mists.
Ventilation:	TWA TLV for copper sulfate = 1 mg/l. Provide appropriate ventilation and/or dust respirators to control dust level to below TLV.

SECTION 9. PHYSICAL AND CHEMICAL DATA

Appearance:	Blue crystals or granules.
Odor:	None.
pH:	Not available.
Vapor Pressure:	Not available.
Vapor Density (Air = 1):	8.6.
Boiling Point:	150°C (302°F).
Freezing Point:	Not available.
Water Solubility:	Soluble (22.37% @ 0°C; 117.95% @ 100°C).
Specific Gravity:	2.284
Evaporation Rate:	Not available.
Viscosity:	Not available.
% Volatile:	Not available.
Octanol/Water Partition Coefficient:	Not available.
Saturated Vapor Concentration:	Not available.

SECTION 10. STABILITY AND REACTIVITY

Stability:	Stable under normal temperatures and pressures.
Conditions to Avoid:	High heat, moisture, iron, and reducing agents.
Incompatibility:	Contact with magnesium metal may generate dangerous levels of hydrogen gas. Product oxidizes and turns whitish when exposed to air. Also, aqueous solutions may be mildly corrosive to steel.
Hazardous Decomposition Products:	May produce toxic sulfur dioxide fumes if heated to temperatures above 400°C.
Hazardous Polymerization:	Will not occur.

SECTION 11. POTENTIAL HEALTH EFFECTSAcute Effects:

Eyes:	Irritant. May cause redness and burning with possible conjunctivitis, corneal ulceration and turbidity.
Skin:	Mild irritant, especially from prolonged exposure. May cause redness and ulcerations or lesions.
Ingestion:	Toxic. May cause salivation, nausea, vomiting, gastric pain, and local hemorrhages.
Inhalation:	Irritant. Nuisance dust may irritate nasal mucous membranes and/or cause chills, fever, muscle aches, headache and dryness in mouth and throat.

Subchronic Effects: None known.

Chronic Effects: Very rare, except in individuals with Wilson's disease (excessive absorption, retention of copper). Possible symptoms include: eyes - corneal discoloration, necrosis, corneal opacity; skin / ingestion - blue discoloring of tongue and gums, hemolytic anemia, hemorrhagic gastritis, colic and diarrhea with bloody stools, liver and kidney damage, circulatory failure; inhalation - severe congestion of nasal mucosa, rhinitis, sloughing and ulceration.

SECTION 12. ECOLOGICAL INFORMATION

Algal/Lemna Growth Inhibition:	Not known.
Toxicity to Fish and Invertebrates:	Toxic.
Toxicity to Plants:	Not known.
Toxicity in Birds:	Not known.

SECTION 13. DISPOSAL

Do not contaminate lakes, streams, ponds, estuaries, oceans or other waters by discharge of waste effluents or equipment washwaters. Dispose of waste effluents according to state and local regulations. Also, chemical additions or other alterations of this product may invalidate any disposal information in this MSDS. Therefore, consult local waste regulators for proper disposal. Do not discharge.

SECTION 14. TRANSPORTATION

D.O.T.:	Environmentally Hazardous Substance, Solid, N.O.S. (Cupric Sulfate), 9, UN 3077, PG III, RQ 10 lbs. (No Placards Req.) ERG #171.
Other Shipping Description:	Feed Supplements (Animal), Dry NMFC Item 67075, LTL Class 85

SECTION 15. REGULATORY INFORMATION

CERCLA: This product contains copper compounds. Copper and its compounds are listed as priority pollutants under the Clean Water Act and, as such, fall under the CERCLA spill reporting requirements of 40 CFR 302.

SARA TITLE III, Section 313 Toxic Chemicals: Copper Compounds (99%).

PROPOSITION 65 (CA): WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

SECTION 16. OTHER

All information appearing in this document was based on data provided by third party sources and was compiled to comply with the Federal Hazard Communication Standard and the California Hazardous Substances Information and Training Act. The information is believed to be accurate as of the preparation date, but is not warranted as being the final authority in the use of this product. This information does not purport to be legal or medical advice.