

Material Safety Data Sheet

Product Name: PONDMASTER Copper Sulfate Crystal

MSDS No.: 534-2

Version No.: 002

EPA Registration No.: 56576-1-2217

1. Basic Information:

Manufacturer: PBI/Gordon Corporation
Address: 1217 West 12th Street
City, State Zip: Kansas City, MO 64101-1407
Information Contact: Environmental, Health, & Safety Dept.
Information Telephone Number: (816)421-4070
Emergency Contact: Chemtrec
Emergency Telephone Number: (800)424-9300



3	Health
0	Flammability
0	Reactivity
	Pers. Protection

Last Update: 7/22/2002

Chemical State: Liquid Gas Solid
Chemical Type: Pure Mixture

2. Ingredients:

Trade Secret (ND = Not Disclosed)

CAS No.	Chemical Name	% Range	EHS	NTP	IARC	SUB Z	SARA 313	OSHA PEL	ACGIH TLV	Other Limits
7758998	Copper (II) sulfate pentahydrate	99%	N	N	N	Y	Y	1 mg/M3	1 mg/M3	1 mg/M3

3. Hazardous Identification:

Hazard Category:
 Acute Chronic Fire Pressure Reactive

Hazardous Identification Information:
 The PEL, TLV, and REL are all in milligrams of Copper per cubic meter of air.

4. First Aid Measures:

Route(s) of Entry:
 Inhalation, Eye, Skin, Ingestion

Health Hazards (Acute and Chronic):
 Can cause skin, eye and respiratory irritation. Prolonged or repeated skin contact may cause dermatitis. Prolonged or repeated eye contact may cause conjunctivitis.

Signs and Symptoms:
EYE: Can cause severe eye irritation and may result in irreversible eye damage.
SKIN CONTACT: Can cause severe skin irritation. May cause localized discoloration of the skin.
INHALATION: Can result in irritation of the upper respiratory tract an in excessive quantities may cause ulceration and perforation of the nasal septum.
INGESTION: Can result in digestive tract irritation with abdominal pain.

Medical Conditions Generally Aggravated by Exposure:
 Wilson's disease or GGPd deficiency (individual who absorbs, retains and stores copper) can be aggravated by excessive exposure. Symptoms may include nausea, vomiting, epigastric pain, diarrhea, dizziness, jaundice, and general debility.

Emergency First Aid Procedure:
 If swallowed:
 · Call a poison control center or doctor immediately for treatment advice.
 · Do not induce vomiting unless told to by a poison control center or doctor.
 · Do not give any liquid to the person.
 · Do not give anything by mouth to an unconscious person.

If in eyes:
 · Hold eye open and rinse slowly and gently with water for 15 - 20

First Aid Measures (Continued)

minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing.
 · Call a poison control center or doctor for treatment advice.

If on skin:
 · Take off contaminated clothing.
 · Rinse skin immediately with plenty of water for 15 - 20 minutes.
 · Call a poison control center or doctor for treatment advice.

If inhaled:
 · Move person to fresh air.
 · If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.
 · Call a poison control center or doctor for treatment advice.

Other Health Warnings:
 Note to Physician: Probable mucosal damage may contraindicate the use of gastric lavage. Measures against circulatory shock, respiratory depression and convulsions may be needed. Wilson's disease or GGPd deficiency (individual who absorbs, retains and stores copper) can be aggravated by excessive exposure. Symptoms may include nausea, vomiting, epigastric pain, diarrhea, dizziness, jaundice, and general debility.

5. Fire Fighting Measures:

Flash Point: N/A **F.P. Method:** N/A

Lower Explosive Limit: N/A

Upper Explosive Limit: N/A

Fire Extinguishing Media:
 CO2, dry chemical, water.

Special Fire Fighting Procedures:
 Evacuate area and fight fire from safe distance. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Unusual Fire and Explosion:
 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. Anyhydrous cupric sulfate

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Fire Fighting Measures (Continued)

formed on water loss (white color). Anhydrous salt will ignite hydroxylamine, if present.

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. If spilled solution is in a confined area, introduce lime or soda ash to form insoluble copper salts and dispose of by approved method. Prevent accidental entry of solution into streams and other water bodies. 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 or solution mist. Sweep up crystals or powder, vacuum is preferred. Eye wash 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 sulfate 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:

Ventilation Requirements:

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

Personal Protective Equipment:

--Use safety glasses with side shields or goggles.
 --Use protective clothing to prevent repeated or prolonged skin contact. Applicators and other handlers must wear long-sleeved shirt and long pants, waterproof gloves, shoes plus socks, and protective eyewear. Discard clothing and other absorbent materials that may have been drenched or heavily contaminated with product's concentrate. Do not reuse them. Keep and wash PPE separately from other laundry.
 --A respiratory protection program that meets OSHA 29 CFR 1910.134 requirements must be followed whenever workplace conditions warrant respirator use. For concentrations up to 10 times the exposure limit, use NIOSH or MSHA approved half- or full-face air-purifying respirator. For higher concentrations, consult a professional industrial hygienist.

9. Physical and Chemical Properties:

Boiling Point: 560°C* Melting Point: 150°C

Evaporation Rate (Butyl Acetate = 1): NI

Vapor Pressure (mm Hg.): NA

Vapor Density (Air = 1): NA

Specific Gravity (H₂O = 1):

Solubility in Water: 83.1 g/100cc water at 30°C

Appearance and Odor: Transparent blue crystals

Other Information:

Molecular weight: 249.68.

Density: 64-78 pounds/cubic foot

* decomposes

10. Stability and Reactivity:

Stability:

Stable.

Incompatibility (Materials to Avoid):

Acetylene gas, aluminum powder, hydroxylamine, magnesium, moist air. Contact with magnesium metal can generate dangerous levels of hydrogen gas.

Decomposition/By-Products:

At temperatures > 600°C material decomposes to cupric oxide and sulfur dioxide.

Hazardous Polymerization:

Will not occur.

11. Toxicological Information:

Skin LD50: >8.0g/kg

Oral LD50: 472.5 mg/kg

Inhalation LC50: >2.95 mg/L

Primary Eye Irritation: Corrosive, irreversible eye damage

Primary Skin Irritation: No skin irritation.

Subacute dietary LC50: >10,000 ppm (quail and duck).

96 hr acute toxicity LC50: 0.65 ppm (bluegill), 0.056 ppm (trout), 16 ppm (pink shrimp)

48 hr EC50: 54 ppb (eastern oysters)

48 hr LC50: 17 ppm (pink shrimp), 600 ppb (daphnia)

24 hr LC50: 6.9 ppm (blue crab), 600 ppb (daphnia)

Carcinogenic: Not listed by NTP, IARC or OSHA.

Additional Information: Inhalation of dust and mists of copper salts can result in irritation of nasal mucous membranes, sometimes of the pharynx and, on occasion ulceration with perforation of the nasal septum. Exposure to copper dust causes discoloration of the skin.

Note to Physician: Probable mucosal damage may contraindicate the use of gastric lavage. Measures against circulatory shock, respiratory depression and convulsions may be needed. Wilson's disease or GGPD deficiency (individual who absorbs, retains and stores copper) can be aggravated by excessive exposure. Symptoms may include nausea, vomiting, epigastric pain, diarrhea, dizziness, jaundice, and general debility.

12. Ecological Information:

This product is toxic to fish and aquatic organisms. For terrestrial uses, do not apply directly to water or to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff from treated areas may be hazardous to fish and aquatic organisms in adjacent sites. Direct application of copper sulfate to water may cause a significant reduction in populations of aquatic invertebrates, plants, and fish. Do not treat more than one-half of lake or pond at one time to avoid depletion of oxygen levels due to decaying vegetation. Allow one to two 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 when the hardness of water increases. Do not contaminate water when disposing of equipment washwaters. Consult your State Fish and Game Agency before applying this product to public waters. Permits may be required before treating such waters.

13. Disposal Considerations:

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Disposal Considerations (Continued)

Waste Disposal Method: Waste must be disposed of in accordance with federal, state and local environmental control regulations. Improper disposal is a violation of Federal law.

Do not reuse empty container. If allowed by State and local authorities, dispose of container in a sanitary landfill or by incineration.

14. Transport Information:

The following guidelines apply for domestic ground transport. If shipping by air or ocean, please contact our Transportation Department.

Freight Class: Herbicides, NOI - NMFC Class #50320

Proper Shipping Name:

For package sizes less than 10 pounds: product is non-regulated.

For package sizes 10 pounds or greater: Environmentally Hazardous Substances, Solid, N.O.S., 9, UN3077, PGIII, RQ (Cupric Sulfate)

When shipped as a Hazardous Material, label required is Class 9 (Miscellaneous). Placards required on bulk shipments only.

15. Regulatory Information:

OSHA STATUS: This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.

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

CERCLA REPORTABLE QUANTITY: 15.8 pounds of the formulation which contains 10 pounds of anhydrous Copper Sulfate

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)

16. Other Information:

REASON FOR ISSUE: To change the EPA Registration Number.

NOTE: NI means not indicated.

The information and statements in this Material Safety Data Sheet are believed to accurately reflect the scientific evidence used in making the hazard determination, but is not to be construed as a warranty or representation for which we assume legal responsibility. Additional information may be necessary or desirable depending on particular, exceptional or variable conditions or circumstances of use or storage or because of locally applicable laws or government regulations.

Therefore, you should use this information only as a supplement to other information available to you and must make independent determinations of the suitability of the information for your particular circumstances or conditions and of the completeness of the information available from all sources to assure both the proper use of the material described herein and the safety and health of employees.