

PENDING

Drexel

# Kopper Sulfate

**ACTIVE INGREDIENT:**

Copper sulfate pentahydrate*.....	98.0%
OTHER INGREDIENTS:.....	2.0%
TOTAL:.....	100.0%

\*Metallic copper equivalent is 25.2%

## KEEP OUT OF REACH OF CHILDREN DANGER / PELIGRO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

See FIRST AID Below

EPA Reg. No. 19713-407

EPA Est. No. 55272-MX-001

Net Contents: \_\_\_\_\_

### FIRST AID

**IF SWALLOWED:**

- Call a poison control center or doctor immediately for treatment advice.
- Have person sip a glass of water if able to swallow.
- Do not induce vomiting unless told to do so by a poison control center or doctor.
- Do not give anything by mouth to an unconscious or convulsing person.

**IF IN EYES:**

- Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.
- Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.

**IF ON SKIN OR CLOTHING:**

- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15 to 20 minutes.

**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. Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For information on this pesticide product (including health concerns, medical emergencies or pesticide incidents), call the National Pesticide Telecommunications Network at 1-800-858-7378.

**NOTE TO PHYSICIAN:** Probable mucosal damage may contraindicate the use of gastric lavage. Measures against circulatory shock, respiratory depression and convulsions may be needed.

### PRECAUTIONARY STATEMENTS

#### Hazards to Humans and Domestic Animals

**DANGER:** Causes severe eye and skin irritation. Harmful if swallowed or absorbed through the skin. Avoid breathing mist or dust and contact with skin, eyes or clothing. Causes substantial but temporary eye injury. May cause skin sensitization in certain individuals.

#### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category A on an EPA chemical-resistance category selection chart. **Applicators and other handlers must wear:** Long-sleeved shirt and long pants, chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride, shoes plus socks and protective eyewear.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate.

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### PRECAUTIONARY STATEMENTS (Cont.)

Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

### USER SAFETY RECOMMENDATIONS

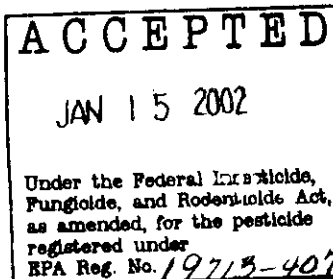
**Users should:** 1) Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. 2) Remove PPE immediately after handling this product. Wash the outside of gloves before removing. 3) As soon as possible, wash thoroughly and change into clean clothing.

### ENVIRONMENTAL HAZARDS

This pesticide 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 water. 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. **Note:** Add this statement to all container sizes of 50 pounds and higher. 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. For guidance contact your State Water Board or Regional Office of the EPA.

### DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.



Manufactured By:

**Drexel Chemical Company**

P.O. BOX 13327, MEMPHIS, TN 38113-0327

SINCE 1972

**AGRICULTURAL USE REQUIREMENTS**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, greenhouses and handlers of agricultural pesticides.

It contains requirements for training, decontamination, notification and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), restricted entry interval (REI) and notification to workers. The requirements in this box only apply to uses of this product that are covered by the WPS.

Do not enter or allow worker entry into treated areas during the REI of 24 hours. PPE required for early entry to treated areas that is permitted under the WPS and that involves contact with anything that has been treated such as plants, soil or water is: Coveralls, chemical-resistant gloves made of any waterproof material, shoes plus socks and protective eyewear.

**NON-AGRICULTURAL USE REQUIREMENTS**

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses. Protective clothing, including goggles, should be worn.

**CONTROL OF ALGAE AND TADPOLE SHRIMP (*Triops longicaudatus*) IN RICE FIELDS (Domestic and Wild)**

Tadpole shrimp in Rice fields may be effectively controlled by the prompt and proper use of this product. After the Rice field has been flooded to a depth of 6 to 8 inches, this product should be uniformly applied at a rate of 10 to 15 pounds per acre at the first sign of infestation. Following these directions carefully should keep the concentration of copper sulfate less than 10 ppm.

**SEWER TREATMENT FOR ROOT AND FUNGUS CONTROL**

This product is effective in keeping sewer lines free of roots. **For Partial Stoppage:** Add 0.5 pound of this product to sewer or drain and flush toward blockage with 5 gallons of water. Repeat at 6 month intervals to prevent growth of new roots. **For Complete Stoppage:** Physically remove the root blockage and treat as "For Partial Stoppage". \*State Law prohibits the use of this product in sewage systems in the State of CT. **For Household Sewer:** Use 2 to 6 pounds of this product twice yearly in Spring and early Fall. Apply in toilet bowl near sewer line. Flush 0.5 pound at a time or remove the clean-out plug and pour entire quantity directly into sewer line and flush with water. Do not use in septic tank systems.

**FOR COMMERCIAL, INSTITUTIONAL AND MUNICIPAL USE**

**Sewers:** Use 2 pounds of this product every 6 to 12 months, applied to each junction or terminal manhole. **Storm Drains:** Use 2 pounds of this product per drain per year. Apply during period of light flow. In dry weather, induce a flow with hose. If storm drains become almost plugged, repeat treatment 3 or 4 times at two-week intervals. **Sewer Pumps and Force Mains:** Place 2 pounds of this product in a cloth bag at the storage wall inlet. Repeat as needed.

**CONTROLLING WEEDS, ALGAE, AND MICROSCOPIC ORGANISMS IN IMPOUNDED WATERS, LAKES, PONDS AND RESERVOIRS**

**Precaution concerning fish:** The treatment of algae with this product can result in oxygen loss in the water from decomposition of dead algae. This can cause the fish to suffocate. Care should be taken when water temperature exceeds 85°F. At this water temperature, aquatic plants treated with copper sulfate decompose rapidly, causing an increase in oxygen depletion. Therefore, to minimize this hazard, treat one-third to one-half of the water area in a single operation. Wait 7 to 14 days between treatments. Begin treatment along the shore and proceed outward in bands to allow fish to move into untreated water. **Application by dragging this product under water:** Large or small sized product is placed in burlap bags or baskets and dragged through the water by means of a boat. Begin treatment along the shoreline and proceed outward until one-third to one-half of the total area has been treated. The path of the boat should ensure a distribution that is even. In large lakes, the boat should move in parallel lines about 60 feet apart. Continue dragging until all of the weighed product is dissolved.

**Application by spraying solution of this product on water surface:** A solution can be made with this product which dissolves easily in water. This solution can then be sprayed on the pond or lake surface from a boat. When using this method, the wind direction is important as well as the operation of the boat. Do not endanger people or animals in the boat with the copper sulfate spray.

**Application by spraying this product dry from airplanes:** Professional personnel licensed by the State Agricultural Service are allowed to apply this product in some states.

**Note:** If treated water is to be used as a source of potable water, the metallic residual must not exceed 1 ppm copper. This equals 10.64 pounds per acre-foot of water or 4 ppm of this product.

**HOW TO FIND THE POUNDS OF THIS PRODUCT TO ADD TO WATER**

To find acre-feet of water in a body of water, measure the depth of the body of water in feet. Calculate the surface area in square feet, divided by 43,560 (square feet/acre) times the average depth in feet.

- 1 acre-foot of water = Water measuring 208.7 feet long by 208.7 feet wide by 1 foot deep
- 1 acre-foot of water = 43,560 cubic feet of water
- 1 cubic foot of water = 62.4 pounds
- 1 acre-foot of water = (43,560)(62.4) = 2,720,000 pounds

**COPPER SULFATE PENTAHYDRATE IN WATER**

Pounds of Copper Sulfate Pentahydrate Per Acre-Foot of Water	=	Parts (by weight) Copper Sulfate Pentahydrate per Million Parts (by weight) of Water	=	Parts (by weight) Copper per Million Parts (by weight) of Water
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0.67 pound/acre-foot	=	0.25 ppm	=	0.0625 ppm
1.3 pound/acre-foot	=	0.5 ppm	=	0.125 ppm
2.6 pound/acre-foot	=	1 ppm	=	0.25 ppm
5.32 pound/acre-foot	=	2 ppm	=	0.50 ppm

**TREATMENT OF SOME ALGAE WITH COPPER SULFATE PENTAHYDRATE**

Dosage is in ppm of this product. A higher concentration is required if the water is hard. Consult with the State Fish and Game Agency before applying product in municipal waters.

**TO CONTROL ALGAE AND WEEDS IN FLOWING WATER**

To control Potamogeton pond weeds, Leafy and Sago, in irrigation conveyance systems, use the continuous application method, selecting proper equipment to supply this product at 0.25 to 0.5 pound per hour for each cubic foot per second of flow for 12 hours of each 24 hours. For best control, begin copper sulfate additions when water is first turned into system to be treated and continue throughout the irrigation season. Copper sulfate becomes less effective for mature plants. Copper sulfate becomes less effective as the bicarbonate alkalinity increases and is substantially reduced above 150 ppm as CaCO<sub>3</sub>. Mechanical or other means may then be required to remove excess growth.

To control algae (such as Filamentous green, Pigmented flagellates, Diatoms) in irrigation conveyance systems, begin continuous addition when water is first turned on, using suitable equipment to uniformly deliver 0.10 to 0.2 pound of copper sulfate per hour per cubic foot per second of flow for 12 of each 24 hours.

To control algae and weeds in irrigation systems by "slug" method of addition, add 0.5 to 2 pounds for each cubic foot per second flow. Repeat every two weeks. A pile is required for every 5 to 30 miles of length depending on alkalinity of the water.

**TO CONTROL ALGAE AND BACTERIAL ODOR IN SWIMMING POOLS**

0.25 to 0.50 ppm	0.50 to 1.00 ppm	1.00 to 1.50 ppm	1.50 to 2.00 ppm
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**CYANOPHYCEAE ORGANISM (Blue Green)**

Anabaena Anacystis Aphanizomenon Gloeotrichia Gomphosphaeria Polycystis Rivularia	Cylindrospermum Oscillatoria Plectonema	Nostoc Phormidium	Calothrix Symploca
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**CHLOROPHYCEAE ORGANISM (Green)**

Closterium Hydrodictyon Spirogyra Ulothrix	Botryococcus Cladophora Coelastrum Drapamaldia Enteromorpha Gloeocystis Microspora Tribonema Zygnema	Chlorella Cruicigenia Desmidiium* Golenkinia Oocystis Palmella Pithophora* Staurastrum Tetaedron	Ankistrodesmus Chara* Nitella* Scenedesmus
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**DIATOMACEAE ORGANISM (Diatoms)**

Asterionella Fragilaria Melonias* Navicula	Gomphonema Nitzschia Stephanodiscus Synedra Tabellaria	Achnanthes Cymbella Neidium	
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**PROTOZOA ORGANISM (Flagellates)**

Dinobryon Synura Uroglena*	Ceratium Cryptomonas Euglena Glenodinium Mallomonas	Chlamydomonas Haematococcus* Peridinium	Eudonna* Pandonna*
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\*NOT FOR USE IN CA

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#### TO CONTROL ALGAE AND BACTERIAL ODOR IN SWIMMING POOLS (Cont.)

Apply 1 to 2 pounds of this product per 60,000 gallons (8,000 cubic feet) of water. This will result in a concentration of 0.5 to 1 ppm of dissolved copper. Dissolve the required amount of copper sulfate in a plastic container and pour the solution into the pool. Use the higher rate where visible algae are present. For maintenance dosages, use the lower rate. Repeat the lower rate to control the recurrence of algae and avoid the buildup of copper. This product may be used to help control pool odors and algae during the Winter months. Apply the higher rate while the pool is not being used during the Winter. Treated pool effluent should not be discharged where it will drain into lakes, streams, ponds or public water.

#### TO CONTROL ALGAE AND BACTERIAL ODOR IN SEWAGE LAGOONS AND PITS (Except CA)

Application rates may vary depending on amounts of organic matter in effluent streams or retention ponds. Use 2 pounds of this product in 60,000 gallons (8,000 cubic feet) of effluent to yield 1 ppm of dissolved copper. Dosage levels may vary depending upon organic load.

**Other Organic Sludges:** This product solution must be thoroughly mixed with sludge. Dissolve 2 pounds in 1 to 2 gallons of water and apply to each 30,000 gallons of sludge.

Useful formulas for calculating water volume and flow rates:

Multiply the water volume in cubic feet times 7.5 to obtain gallons.

**Note:** 1 C.F.S./hour = 27,000 gallons  
1 acre-foot = 326,000 gallons

#### TO CONTROL ALGAE AND BACTERIAL ODOR IN WATERSCAPES, DECORATIVE POOLS AND FOUNTAINS

Apply in the Spring or early Summer when algae and bacteria first appear. The dosages are variable and depend upon algae/bacteria species, water hardness, water temperature, amount of algae and bacteria present as well as whether water is clear, turbid, flowing or static. Preferably, the water should be clear with temperatures above 60°F. Higher dosages are required at lower water temperatures, higher algae and bacteria concentrations and for hard waters. For each 7,500 gallons of water, dissolve 0.25 pound of this product in one gallon of water. Pour the solution into the water to be treated. Several application points speed up dispersal. Static water requires less chemical than does flowing water. If uncertain about the dosage, begin with a lower dose and increase until control is achieved or until the maximum allowable level of copper has been reached.

### STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage and disposal.

**PESTICIDE STORAGE:** Store unused product in original container only in a cool, dry area out of reach of children and animals. Store copper sulfate solution in stainless steel, fiberglass, polypropylene, PVC or plastic equipment. Do not use mild steel, nylon, brass or copper. Keep away from galvanized pipe and nylon equipment. If container or bag is damaged, place the container or bag in a plastic bag. Shovel any spills into plastic bags and seal with tape. In the event copper sulfate solution is spilled, neutralize with limestone or baking soda before disposal. The copper sulfate solution may deteriorate concrete.

**PESTICIDE DISPOSAL:** Pesticide wastes are acutely hazardous. Improper disposal of pesticide, spray mixture or rinsate 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. Open dumping is prohibited.

**CONTAINER DISPOSAL:** Do not reuse empty container. Completely empty liner by shaking and tapping sides at bottom to loosen clinging particles. Place the pesticide into application equipment. Then dispose of liner in a sanitary landfill or, by incineration if allowed by State and Local authorities. If burned, stay out of smoke.

### WARRANTY—CONDITION OF SALE

OUR RECOMMENDATIONS FOR USE of this product are based upon tests believed reliable. Follow directions carefully. Timing and method of application, weather and crop conditions, mixtures with other chemicals not specifically recommended and other influencing factors in the use of this product are beyond the control of the Seller. Buyer assumes all risks of use, storage and handling of this material not in strict accordance with directions given herewith. In no case shall the Manufacturer or the Seller be liable for consequential, special or indirect damages resulting from the use or handling of this product when such use and/or handling is not in strict accordance with directions given herewith. The foregoing is a condition of sale by the Seller and is accepted as such by the Buyer.