

56575-1

31-03 at 09:31 AM

SIEMER&amp;ASSOC

2/14/2003

FAX: 5592750842

PAGE 1

1/4

Please read instructions on reverse before completing form.

Form Approved OMB No. 2070-0060



United States  
Environmental Protection Agency  
Washington, DC 20460

☐ Registration  
☒ Amendment  
☐ Other

OPP Identifier Number  
286405

## Application for Pesticide - Section I

1. Company/Product Number 56575-1	2. EPA Product Manager Cynthia Giles-Parker	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Copper Sulfate Crystallized	PM# (PM 22)	
5. Name and Address of Applicant (Include ZIP Code) Chem One, Inc. 8017 Richmond Rd. Suite 107 Houston, TX 77040-6519 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

## Section - II

<input checked="" type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____	NOTIFICATION FEB 14 2003
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.	
<input type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.	

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Additional wording related to fertilizer statement  
Fertilizer

## Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Metal <input checked="" type="checkbox"/> Plastic <input type="checkbox"/> Glass <input checked="" type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____	
* Certification must be submitted		If "Yes" Unit Packaging wgt.	No. per container	If "Yes" Package wgt.	No. per container
3. Location of Net Contents Information <input checked="" type="checkbox"/> Label <input checked="" type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input checked="" type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input checked="" type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input checked="" type="checkbox"/> Stenciled		<input type="checkbox"/> Other _____			

## Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)				
Name S.R. Slender Ph.D.		Title Regulatory Agent for Chem One		
		Telephone No. (Include Area Code) 559-275-0911		
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.			6. Date Application Received (Stamped)	
2. Signature 		3. Title Regulatory Agent for Chem One		
4. Typed Name S.R. Slender Ph.D.		5. Date January 16, 2003		



2/4 ✓  
8017 Pinemont #100  
Houston, Texas 77040-6519  
Tel: (713) 896-9966  
Fax: (713) 896-7540  
www.chemone.com

February 3, 2003

Document Processing Desk – Attn: Cynthia Giles-Parker  
U. S. Environmental Protection Agency  
Office of Pesticide Programs (7504C)  
Ariel Rios Building  
1200 Pennsylvania Avenue, N. W.  
Washington, D C 20460-0001

Subject: Chem One Ltd. Current (1/16/03) bag label- notification OOP ID #  
286405- Copper Sulfate Crystals, EPA REG No. 56576-1

Dear Ms. Cynthia Giles-Parker:

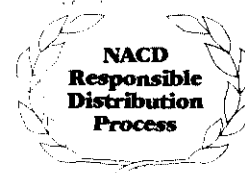
Enclosed please find the bag label with the wording added for notification OPP ID  
# 286405, submitted January 16, 2003 regarding fertilizer statements.

Regards,

A handwritten signature in cursive script, appearing to read 'Sue Palmer-Koleman'.

Sue Palmer-Koleman  
Chem Info Analyst  
(718-896-9966, ext 112)

cc: S. R. Siemer, Siemer and Assoc.



Quality • Responsibility • Stewardship  
File Number: NC2369

FIRST AID	
If on skin or clothing:	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 by mouth to mouth, if possible. Call a poison control center or doctor for further treatment advice.
If in eyes:	Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue to rinse eye. Call a poison control center or doctor for treatment advice.
If swallowed	Call 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 the poison control center or doctor. Do not give anything by mouth to an unconscious person.
Notes:	Have the product container or label with you when calling a poison control center or doctor, or going for treatment. In the event of a medical emergency, you may also contact the National Pesticide Information Center at 1-800-858-7378.

**PRECAUTIONARY STATEMENTS  
HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

**DANGER - PELIGRO**

**CORROSIVE:** Causes eye damage and irritation to the skin and mucous membranes. Harmful or fatal if swallowed. Do not get in eyes, on skin or on clothing. Do not breathe dust or spray mist. May cause skin sensitization reactions to certain individuals.

**PERSONAL PROTECTIVE EQUIPMENT**

Applicators and other handlers must wear: Long-sleeved shirt and long pants, chemical-resistant gloves made of any waterproof material, shoes plus socks, and protective eyewear. 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. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washing, use detergent and hot water. Keep and wash PPE separately from other laundry.

**USER SAFETY RECOMMENDATIONS:**

Users should: Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. 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.

**ENVIRONMENTAL HAZARDS**

This product is toxic to fish. 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 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 when the hardness of water increases. Do not contaminate water by cleaning of equipment or disposal of wastes. Consult your local State Fish and Game Agency before applying this product to public waters. Permits may be required before treating such waters.

**STORAGE AND DISPOSAL**

**PROHIBITIONS:** Do not contaminate water, food or feed by storage or disposal. Open burning and dumping is prohibited. Do not re-use empty container.

**STORAGE:** Keep pesticide in original container. Do not put concentrate or dilutions of concentrate in food or drink containers.

**PESTICIDE DISPOSAL:** Pesticide wastes are acutely hazardous. Improper disposal of excess 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.

**CONTAINER DISPOSAL:** Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

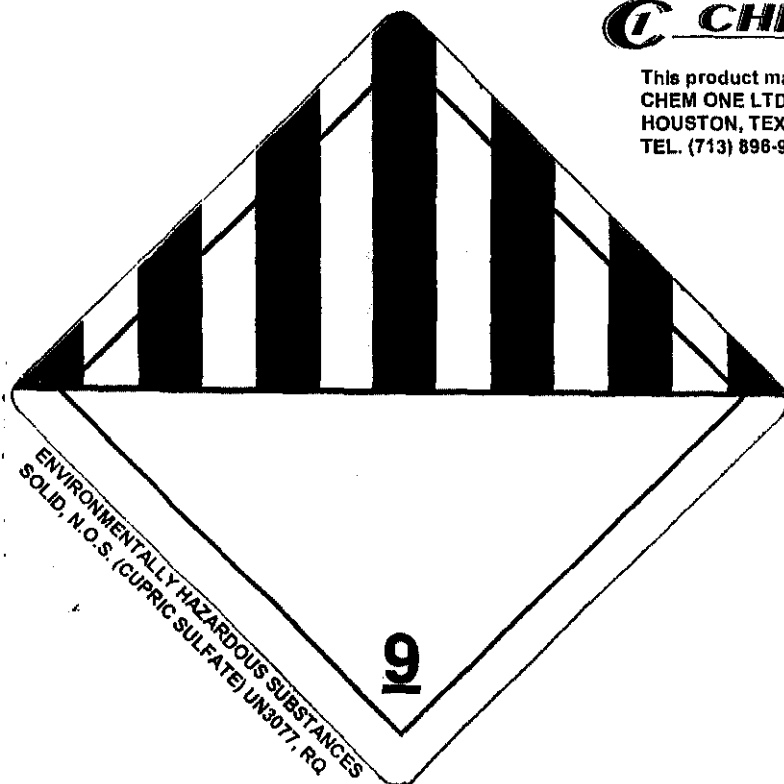
**STORAGE AND DISPOSAL**

**STORAGE:** Store in original container and place in a locked storage area.

**DISPOSAL:** If empty: Do not reuse this container. Do not reuse unless required for recycling. Place in trash. If partly filled: Call your local solid waste agency (or 1-800-CLEANUP or equivalent organization) for disposal instructions. Unless otherwise instructed, place in the trash. Never pour unused product down the drain or on the ground.



This product manufactured for:  
**CHEM ONE LTD.**  
**HOUSTON, TEXAS 77040-6519**  
**TEL. (713) 896-9966**



**Made in Mexico**

**FRA REG. NO. 56576-1**

**LPAEST. NO. MEX-001**

*current label 11/2/04*

## 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 requirements specific to your State or Tribe, consult the agency responsible for pesticide regulations.

## 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, and 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), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard. Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours. PPE required for entry into treated areas that is permitted under the Worker Protection Standard 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 (such as polyvinyl chloride, nitrile rubber, or butyl rubber), 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. Applicators and other handlers who handle this pesticide for any use NOT covered by the Worker Protection Standard (40 CFR Part 170) must wear: long-sleeved shirt, chemical-resistant gloves made of any waterproof material (such as polyvinyl chloride, nitrile rubber, or butyl rubber), shoes plus socks, and protective eyewear.

## GENERAL INSTRUCTIONS FOR USE

Water hardness, temperature of the water, the type and amount of vegetation to be controlled, and the amount of water flow are to be considered in using Copper Sulfate to control algae. Begin treatment soon after plant growth has started. If treatment is delayed until a large amount of algae is present, larger quantities of Copper Sulfate will be required. Algal growth is difficult to control with Copper Sulfate when water temperatures are low or when the water conditions are hard water. Larger quantities of Copper Sulfate will be required to kill and control algae in water which is flowing than in a body of stagnant water. If possible, curtail the flow of water before treatment and hold dormant for approximately three days after treatment or until the algae have begun to die. When preparing a Copper Sulfate solution in water, the mixing container should be made of plastic or glass, or a painted, enameled, or copper lined metal container. It is usually best to treat algae on a sunny day when the heavy mats of filamentous algae are most likely to be floating on the surface where it can be sprayed directly. If there is some doubt about the concentration to apply, it is generally best to start with a lower concentration and to increase this concentration until the algae are killed.

Treatment of algae can result in oxygen loss from decomposition of dead algae. This loss can cause fish suffocation. Therefore, to minimize this hazard, treat one-third to one-half of the water area in a single operation and wait 10 to 14 days in between treatments. Begin treatments along the shore and proceed outward in bands to allow fish to move into untreated water. NOTE: If treated water is to be used as a source of potable water, the metallic copper residual must not exceed 1 ppm (4 ppm copper sulfate pentahydrate).

CALCULATIONS FOR THE AMOUNT OF WATER IMPOUNDED AND FOR THE AMOUNT OF COPPER SULFATE TO BE USED: Calculate water volume as follows: (1) Obtain surface area by measuring of regular shaped ponds or mapping of irregular ponds or by reference to previously recorded engineering data or maps. (2) Calculate average depth by sounding in a regular pattern and taking the mean of these readings or by reference to previously obtained data. (3) Multiply surface area in feet by average depth in feet to obtain cubic feet of water volume. (4) Multiply surface area in acres by average depth in feet to obtain total acre-feet of water volume.

CALCULATE WEIGHT OF WATER TO BE TREATED AS FOLLOWS: (1) Multiply volume in cubic feet by 62.4 to obtain total pounds of water, or (2) Multiply volume in acre feet by 2,720,000 to obtain pounds of water.

CALCULATIONS OF ACTIVE INGREDIENT TO BE ADDED: To calculate the amount of Copper Sulfate Pentahydrate needed to achieve the recommended concentration, multiply the weight of water by the recommended concentration of Copper Sulfate. Since recommended concentrations are normally given in parts per million (ppm), it will first be necessary to convert the value in parts per million to a decimal equivalent. For example, 2 ppm is the same as 0.00002 when used in this calculation. Therefore, to calculate the amount of Copper Sulfate Pentahydrate to treat 1 acre-foot of water with 2 ppm Copper Sulfate, the calculation would be as follows: 0.00002 X 2,720,000 = 5.44 lbs. Copper Sulfate Pentahydrate.

CALCULATION OF WATER FLOW IN DITCHES, STREAMS, AND IRRIGATION SYSTEMS: The amount of water flow in cubic feet per second is found by means of a weir or other measuring device.

## SPECIFIC INSTRUCTIONS

## SEWER TREATMENT - ROOT DESTROYER

ROOT CONTROL GENERAL INFORMATION: Plant roots can penetrate through small cracks and poorly sealed joints of sewer lines. If not controlled, these small roots will continue to grow larger in number causing breakage, reduced flow, and eventually, flow stoppage. Copper sulfate has been known to be an effective means to control roots in residential and commercial sewers.

## COMMERCIAL, INSTITUTIONAL, AND MUNICIPAL SEWERS:

ROOT CONTROL IN SEWERS: As a preventive measure, apply into each junction or terminal manhole 2 pounds of Copper Sulfate Crystals every 8 to 12 months. At time of reduced flow (some water flow is essential), add copper sulfate. If flow has not completely stopped, but has a reduced flow due to root masses, add Copper Sulfate Crystals in the next manhole above the reduced flow area. For complete stoppage, penetrate the mass with a rod to enable some flow before treatment.

ROOT CONTROL IN STORM DRAINS: Apply when water flow is light. If no water flow, as in dry weather, use a hose to produce a flow. Apply 2 pounds Copper Sulfate Crystals per drain per year. It may be necessary to repeat treatments 3 to 4 times, at 2 week intervals, if drains become plugged.

SEWER PUMPS AND FORCE MAINS: At the storage well inlet, place a cloth bag containing 2 pounds of Copper Sulfate Crystals. Repeat as necessary.

RESIDENTIAL OR HOUSEHOLD SEWER SYSTEMS: When a reduced water flow is first noticed, and root growth is thought to be the cause, treat with Copper Sulfate Crystals. It is important not to wait until a stoppage occurs because some water flow is necessary to move the Copper Sulfate Crystals to the area of root growth. Usually, within 3 to 4 weeks, after roots have accumulated sufficient copper sulfate, the roots will die and begin to decay and water flow should increase. As the roots regrow, follow-up treatments with copper sulfate will be required. Applications may be made each year in the spring after plant growth begins, during late summer or early fall, or any time a reduced water flow, thought to be caused by root growth, occurs. Apply 2-6 pounds Copper Sulfate Crystals two times a year to household sewers. Add Copper Sulfate Crystals to sewer line by pouring about 1/4 pound increments into the toilet bowl nearest the sewer line and flush, repeat this process until recommended dose has been added, or remove cleanout plug and pour entire recommended quantity directly into the sewer line. Replace the plug and flush the toilet several times.

ROOT CONTROL IN SEPTIC TANK AND LEACH LINES AND LEACH LINE PIPES: SEPTIC TANKS - The majority of the copper sulfate will settle in the septic tank itself and little will pass into the leach lines. To treat leach line pipes, add 2 to 6 pounds of Copper Sulfate Crystals to the distribution box located between the septic tank and the leach lines. To achieve effective root control in the leach lines it is necessary to transfer Copper Sulfate Crystals from the septic tank to the leach lines. A cleanout plug opening may need to be installed if the distribution box does not have an opening leading to the leach lines.

\*NOTE: Do not apply Copper Sulfate Crystals through sink or tub drains as it will corrode the metal drains.

\*NOTE: Copper sulfate added to an active 300 gallon septic tank at 2, 4 and 6 pounds per treatment will temporarily reduce bacterial action, but it will return to normal approximately 15 days after treatment. Trees and shrubbery growing near a treated line normally are not affected due to only a small portion of their roots being in contact with the copper sulfate. The copper sulfate kills only those roots inside the leach line.

\*NOTE: Do not use as a sewer additive where prohibited by State law. State law prohibits the use of this product in sewage systems in the State of Connecticut. \*NOTE: Not for sale or use in the California counties of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma for root control in sewers.

TO CONTROL ALGAE AND THE POTOMOGONETON POND WEEDS, LEAFY AND SAGO, IN IRRIGATION SYSTEMS: Once the amount of Copper Sulfate required for treating ditches or streams has been calculated, use a continuous application method, selecting proper equipment to supply Copper Sulfate granular crystals as follows:

FOR ALGAE CONTROL - Begin continuous addition application of granular Copper Sulfate when water is first turned into the system and continue throughout the irrigation system, applying 0.1 to 0.2 pounds per cubic foot per second per day.

FOR LEAFY AND SAGO POND WEED CONTROL - Use the same continuous feeder, applying 1.5 to 2.4 pounds Copper Sulfate Pentahydrate per cubic foot per second per day. NOTE: For best control of leafy and sago pond weed, it is essential to begin Copper Sulfate additions when water is first turned into the system or ditch to be treated and to continue throughout the irrigation system. Copper Sulfate becomes less effective as the alkalinity increases. Its effectiveness is significantly reduced when the bicarbonate alkalinity exceeds 150 ppm. Should Copper Sulfate fail to control pond weeds satisfactorily, it may be necessary to treat the ditch with either a suitable approved herbicide or use a mechanical means to remove excess growth. In either case, resume Copper Sulfate addition as soon as possible.

TO CONTROL ALGAE IN IMPOUNDED WATERS, LAKES, PONDS AND RESERVOIRS: There are several methods by which to apply Copper Sulfate to impounded water. Probably the most satisfactory and simplest method is to dissolve the Copper Sulfate crystals in water and to spray this water over the body of water from a boat. A small pump mounted in the boat can easily be used for this purpose. Fine crystals may be broadcast directly on the water surface from a properly equipped boat. A specially equipped air blower can be used to discharge fine crystals at a specific rate over the surface of the water. When using this method, the direction of the wind is an important factor. Do not use this method unless completely familiar with this type of application. Where the situation permits, Copper Sulfate may be applied under the water by dragging burlap bags containing Copper Sulfate. The crystals are placed in burlap bags 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. Care should be taken that the course of the boat is such as to cause even distribution of the chemical. In large lakes, it is customary for the boat to travel in parallel lines about 20 to 100 feet apart. Continue dragging the burlap bags over the treated area until the minimum dosage is achieved and all crystals have been dissolved. Large or medium size crystals that dissolve slowly should be used with this method. Copper Sulfate can be applied to impounded waters by injecting a copper sulfate solution in water via a piping system.

CONTROL OF ALGAE AND BACTERIAL ODOR IN SEWAGE LAGOONS AND PITS (Except California):

Application rates may vary depending on amounts of organic matter in effluent stream or retention ponds. Use 2 lbs. of Copper Sulfate Crystals in 60,000 gals. (6,000 cu. ft.) of effluent to yield 1 ppm of dissolved copper. Dosage levels may vary depending upon organic load. Other Organic Sludges: Copper Sulfate Crystal solution must be thoroughly mixed with sludge. Dissolve 2 lbs. in 1-2 gals. of water and apply to each 30,000 gals. of sludge.

Useful formulas for calculating water volume flow rates: Multiply the water volume in cu. ft. times 7.5 to obtain gallons. Note: 1 C.F.S./hr. = 27,000 Gals. 1 Acre Foot = 326,000 Gals.

TO CONTROL ALGAE IN IRRIGATION CONVEYANCE SYSTEMS USING THE SLUG APPLICATION METHOD: Make an addition (dump) of Copper Sulfate into the irrigation ditch or lateral at 0.25 to 2.0 lbs. per cubic foot per second of water per treatment. Repeat in two-week intervals as required. Depending on water hardness, alkalinity and algae concentration, a dump is usually required every 5 to 30 miles. Effectiveness of Copper Sulfate decreases as the bicarbonate alkalinity increases and is significantly reduced when the alkalinity exceeds approximately 150 ppm as CaCO<sub>3</sub>.

TO CONTROL ALGAE IN RICE (Domestic and Wild) FIELDS: Application should be made when algae have formed on the soil surface in the flooded field. Applications are most effective when made prior to the algae's leaving the soil surface and rising to the water surface. Apply 10-15 pounds Copper Sulfate Pentahydrate to the water surface as either crystals or dissolve in water and make a surface spray. Apply higher rate in deeper water (6 inches or greater).

TO CONTROL TADPOLE SHRIMP IN RICE FIELDS: Application should be made to the flooded fields any time the pest appears from planting time until the seedlings are well rooted and have emerged through the water. Apply 5-10 pounds Copper Sulfate Pentahydrate crystals per acre. The use rate per acre should be determined by the water depth and flow. Use the lower rate at minimum flow and water depth and the higher rate when water depth and flow are maximum.

STATE	SPECIES	BULLETIN No.	COUNTY	STATE	SPECIES	BULLETIN No.	COUNTY
CALIFORNIA	Solano grass	EPAS-85-13	Solano	ALABAMA	Slackwater darter	EPAS-85-05	Leudersdale Madison Limestone
TENNESSEE	Slackwater darter	EPAS-85-04	Hancock Lawrence Wayne	VIRGINIA	Freshwater mussels	EPAS-85-06	Grayson Lee Scott Smyth Washington
TENNESSEE	Freshwater mussels	EPAS-85-07	Calhoun Hawkins Sullivan				

ENDANGERED SPECIES RESTRICTIONS: It is a violation of Federal Law to use any pesticide in a manner that results in the death of an endangered species or adverse modification of their habitat. The use of this product may pose a hazard to certain Federally designated endangered species known to occur in specific areas within the above counties. \*\*\*PLEASE NOTE\*\*\* Before using this product in the above counties you must obtain the EPA Bulletin specific to your area. This Bulletin identifies areas within these counties where the use of this pesticide is prohibited, unless specified otherwise. The EPA Bulletin is available from either your County Agricultural Extension Agent, the Endangered Species Specialist in your State Wildlife Agency Headquarters, or the appropriate Regional Office of the U. S. Fish and Wildlife Service. THIS BULLETIN MUST BE REVIEWED PRIOR TO PESTICIDE USE.

COPPER SULFATE REQUIRED FOR TREATMENT OF DIFFERENT GENERA OF ALGAE: The genera of algae listed below are commonly found in waters of the United States. Use the lower recommended rate in soft waters (less than 50 ppm methyl orange alkalinity) and the higher concentration in hard waters (above 60 ppm alkalinity). Always consult State Fish and Game Agency before applying this product to municipal waters.

ORGANISM	1/4 to 1/2 ppm = 87 - 1.3 lbs/acre ft	1/4 to 1 ppm = 1.3 - 2.6 lbs/acre ft	1 to 1 1/2 ppm = 2.6-3.9 lbs/acre ft	1 1/2 - 2 ppm = 3.9 - 6.32 lbs/acre ft
Cyanophyceae (Blue-green)	Anabaena Gloeotrichia Rivularia Anacystis Gomphosphaeria Aphanizomenon Polycystis	Cylindrocapsa Oscillatoria Plectononema	Nostoc Phormidium	Calothrix Symploca
Chlorophyceae (Green)	Closterium Hydrocladon Spirogyra Ulothrix	Bolyococcus Enteromorpha Zygnema Cladophora Gloeocystis Coelastrum Microspora Drepanella Tribonema	Chlorella Crucigenia Desmidiu Golenkinia Staurastrum	Ankistrodesmus Chara Nitella Scenedesmus
Diatomeae (Diatoms)	Asterionella Fragilaria Melosira Navicula	Gomphonema Tabellaria Nitzschia Stephanodiscus Synedra	Achnanthes Cymbella Nitzschia	
Protozoa (Flagellates)	Dinobryon Volvox Synura Uroglanis	Ceratium Glenodinium Cryptomonas Mallomonas Euglenas	Chlamydomonas Peridinium Haematococcus	Eudorina Pandorina

## SCHISTOSOME-INFECTED FRESH WATER SNAILS

For recreational lakes, reservoirs, and ponds, 5.32-13.3 lbs/acre-ft Copper Sulfate Crystals (i.e., 2-5 ppm copper sulfate), is usually sufficient for treatment of Schistosomus-infected fresh water snails. Use surface area in acres multiplied by average depth in feet to determine water volume and application rate. Apply only along shoreline swimming areas and/or to infected snail beds on calm sunny day when water temp is at least 80°F. Not allowing swimming for at least 12 hrs following treatment is recommended. If this lower dosage is not sufficient, up to 32 ppm copper sulfate, i.e., 87 lbs/acre (= 2 lbs/1000 sq ft) bottom surface area can be applied. Not allowing swimming for 48 hrs is recommended. Using either dosage, a second application may be made if necessary, 10 to 14 days later. DO NOT make more than two applications a season. Broadcast application using boat, aircraft, or hand equipped with power or hand seeder or underwater dispenser. Do not exceed 1 ppm copper Sulfate in potable water systems. This labeling must be in the possession of the user at the time of pesticide application. NOTE: In the State of New York - For use in recreational lakes, reservoirs and ponds ONLY in areas where infected snail beds have been identified. Apply medium grade crystals by hand broadcast method of application only. This product is restricted use pesticide in New York State. Pesticide applicator certification or a special use permit is required for sale, possession, or use. Each individual treatment must be approved by the Department of Environmental Conservation. Therefore, you must contact the Pesticide Control Specialist at the appropriate regional office of the Department 30 days in advance of the proposed treatment.

## FOOT BATHS FOR CATTLE

Foot baths of Copper Sulfate Crystals can be used as an aid in the treatment of hoof rot in cattle. Prior to treatment, a veterinarian should be consulted to confirm presence of hoof rot. Animals may be walked through a foot bath of 2% (add 2 lbs copper sulfate to 11.8 gals water) to 5% (add 5 lbs copper sulfate to 11.4 gals water) aqueous solution with an immersion time of 5 to 20 min twice daily for a period of time as prescribed by a veterinarian. Keep foot baths clean during treatment period. Do not allow cattle to drink from foot baths as copper sulfate is highly toxic. Follow instructions under Storage and Disposal when solutions are discarded at end of treatment period.

## Washington State Copper Fertilizer Recommendations\*

Crop	Pounds per Acre				
	Sands & B&C	Sands & Band	L, S, C & B&C	L, S, C & Band	Organic B&C
Letuce, onion, spinach	10	2	12	3	13
Carrot, cauliflower, celery, alfalfa, clover, corn, oat, radish, sudan grass, wheat	4	2	6	2	12
Asparagus, barley, beans, beal, broccoli, milk, pea, potato, pig, soybean	0	0	0	0	0

\*Recommendations are for inorganic sources of copper. Copper chelates can also be used at 1/16 of the rates recommended above. Do not apply copper unless a deficiency has been verified by plant analysis.

Washington, Oregon, and California Fertilizer Use: Information received by the Washington State Dept. of Agriculture regarding the components in this product is available on the Internet at <http://www.wa.gov/agric>. Information regarding the contents and levels of metals in this product is available at the Oregon Dept. of Agriculture Internet site: <http://oda.state.or.us/fertilizer>.

NOTICE: CHEM ONE LTD. warrants that this product in its unopened package conforms to the chemical description on the label. THERE ARE NO OTHER WARRANTIES EXPRESS OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. This warranty does not extend to the handling or use of this product contrary to label instructions or under abnormal conditions or under conditions not reasonably foreseeable to seller and buyer. Assume all risk of any such use.

CHEM ONE LTD.  
8017 Pinemont Drive, Suite 100  
HOUSTON, TEXAS 77040-6519  
TEL: (713) 896-9966

ENVIRONMENTALLY HAZARDOUS SUBSTANCES  
SOLID, N.O.S. (CUPRIC SULFATE) UN3077, RQ

Current label  
1/17/03