

46723-2

p. 23

13F24

US ENVIRONMENTAL PROTECTION AGENCY OFFICE OF PESTICIDES PROGRAMS REGISTRATION DIVISION (75-767) WASHINGTON, DC 20460 NOTICE OF PESTICIDE: <input checked="" type="checkbox"/> REGISTRATION <input type="checkbox"/> REREGISTRATION <i>(Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended)</i>	EPA REGISTRATION NO. 46923-4 TERM OF ISSUANCE Conditional NAME OF PESTICIDE PRODUCT 4-4-10-10-10	DATE OF ISSUANCE NOV 24 1986
NAME AND ADDRESS OF REGISTRANT (Include ZIP code) 		
NOTE: Changes in labeling formula differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above U.S. EPA registration number.		
<p>On the basis of information furnished by the registrant, the above named pesticide is hereby Registered/Reregistered under the Federal Insecticide, Fungicide, and Rodenticide Act.</p> <p>A copy of the labeling accepted in connection with this Registration/Reregistration is returned herewith.</p> <p>Registration is in no way to be construed as an indorsement or approval of this product by this Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.</p> <p>This product is conditionally registered in accordance with FIFRA section 5(c)(7)(b) provided that you:</p> <ol style="list-style-type: none"> 1. Submit/submit all data required for registration/reregistration of your product under FIFRA section 5(c)(5) and the Agency is aware of all the benefits or risks related to such information. 2. Submit the labeling changes listed below and the Agency is aware of all the benefits or risks related to such information: <ol style="list-style-type: none"> a. Add the phrase "for registration" to the label. b. Under specific instructions for use add water . . . recommendations, change "6 pounds per acre" to "a maximum of 2.5 lb per acre" since this reflects the maximum recommended rate for disease control in these sites. <p><input type="checkbox"/> ATTACHMENT IS APPLICABLE</p>		
SIGNATURE OF APPROVING OFFICIAL		NOV 24 1986

- c. Modify first aid for swallowing as follows:

If Swallowed: Drink promptly a large quantity of milk, egg white, gelatin solution, or if these are not available, large quantities of water. Avoid alcohol.

Note to Physician: Probable mucosal damage may contraindicate the use of gastric lavage.

- d. Modify pesticide disposal language, replacing "Wastes . . . may be disposed of onsite" with the following:

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.

- e. For large crystals and small crystals, delete reentry statements.
- f. For Granular, Ag Crystals and Powder, delete "D" under General Instructions since those uses are not included elsewhere on labeling.
- g. Delete "Feed Grade" wherever it appears on labeling and replace it with "Fine Crystals."

3. Submit one (1) copy of final printed labeling before you release the product for shipment. Refer to the A-79 Enclosure for a further description of final printed labeling.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

A stamped copy of the labeling is enclosed for your records.

We are accepting the following alternate brand names (crystal sizes) under this registration.

Copper Sulfate Fine Crystals
Copper Sulfate Ag Crystals
Copper Sulfate Granular
Copper Sulfate Powder

Copper Sulfate Large Crystals
Copper Sulfate Small Crystals

Labeling must be as accepted under the conditions of this Notice.

Richard F. Mountfort *RFM*
Product Manager (23)
Fungicide-Herbicide Branch
Registration Division (TS-767C)

Enclosures



OLD BRIDGE CHEMICAL

ACCEPTED
with comments
NOV 24 1986
46923-4

COPPER SULFATE LAR

ACTIVE INGREDIENT:

COPPER SULFATE PENTAHYDRATE

9

INERT INGREDIENTS:

COPPER AS METALLIC NOT LESS THAN

2

18-5
DANGER/PELIGRO

PRECAUCION AL USUARIO: Si Usted no lee ingles, no use este producto hasta que la etiqueta haya sido explicado ampliamente.

KEEP OUT OF REACH OF CHILDREN

STATEMENT OF PRACTICAL TREATMENT

If swallowed: Call a physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with a finger. Do not induce vomiting or give anything by mouth to an unconscious person.

If splashed in eyes: Immediately flush eyes with plenty of water for at least 15 minutes and get medical attention.

If spilled on skin: Remove contaminated clothes and shoes and immediately wash skin with soap and plenty of water. See a physician.

PRECAUTIONARY STATEMENTS

Hazards to Humans & Domestic Animals

Danger: Causes severe eye and skin irritation. Harmful if absorbed through the skin or inhaled. May cause skin sensitization reactions in certain individuals. Avoid contact with the skin, eyes or clothing. Avoid breathing dust. Protective clothing, including goggles, should be worn. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and aquatic organisms. Do not apply directly to water except as directed under the specific instructions section. Drift and runoff from treated areas may be hazardous to fish and aquatic organisms in adjacent aquatic 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 in order 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 by cleaning of equipment or disposal of wastes. Consult your State Fish and Game Agency before applying this product to public waters. Permits may be required before treating such waters.

ENDANGERED SPECIES RESTRICTIONS

It is a violation of Federal laws 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 following counties:

STATE	Species	(Bulletin No.)	COUNTY
CALIFORNIA	Solano Grass	(EPA/ES-85-13)	Solano
TENNESSEE	Slackwater Darter	(EPA/ES-85-04)	Lawrence Wayne Hancock
	Freshwater Mussels	(EPA/ES-85-07)	Claiborne Hawkins Sullivan
ALABAMA	Slackwater Darter	(EPA/ES-85-05)	Lauderdale Limestone Madison
VIRGINIA	Freshwater Mussels	(EPA/ES-85-06)	Grayson Smyth Scott Lee Washington

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.**



D.O.T. HAZARD CLASS
ORM-E
NA 9109
RQ 10/4.54

EPA Reg. No.
46923-4
EPA EST. NO.
46923-NJ-01

OLD BRIDGE CHEMICALS, INC.

P.O. Box 194
Old Bridge, New Jersey 08857

NET WT. 50 LBS.
(22.7 Kilos)

(See Back Panel for Directions For Use)

COPPER SULFATE

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

RE-ENTRY STATEMENT

Do not apply this product in such a manner as to directly or through drift expose workers or other persons. The area being treated must be vacated by unprotected persons. Do not enter treated areas without protective clothing until sprays have dried. Certain states require more restrictive reentry intervals for various crops treated with this product. Consult your State Department of Agriculture for further information.

Written or oral warnings must be given to workers who are expected to be in a treated area or in area about to be treated with this product. When oral warnings are given, warnings shall be given in a language customarily understood by workers. Written and oral warnings must include the following information: **DANGER:** Area treated with Copper Sulfate on (date of application). Do not enter without appropriate protective clothing until sprays have dried. Required Protective Clothing: long sleeved shirt and long legged pants. In case of accidental exposure, wash all exposed skin areas with plenty of soap and water. Because certain states may require restrictive re-entry intervals for various crops treated with this product, consult your State Department of Agriculture for further information.

STORAGE AND DISPOSAL

Store in a cool, dry place. Do not contaminate water, food or feed by storage or disposal. Open dumping is prohibited. Do not reuse empty container. If container is damaged, place container in a plastic bag. Shovel any spills into plastic bag and seal with tape. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Container disposal: Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application equipment. Then dispose of liner in a sanitary landfill or by incineration if allowed by State and local authorities.

FOR CONTROL OF ALGAE AND POTAMOGETON POND WEEDS IN IMPOUNDED WATERS, LAKES, PONDS, RESERVOIRS AND IRRIGATION SYSTEMS.

GENERAL INSTRUCTIONS

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

When using Old Bridge Copper Sulfate Pentahydrate to control algae, there are many factors to consider such as water hardness, temperature of the water, type and quantity of vegetation to be controlled and the amount of water flow. Algae can be controlled more easily and effectively if treatment with Copper Sulfate is made soon after plant growth has started. Under such circumstances, small amounts of Copper Sulfate can effectively control algae in water. However, if treatment is delayed until large amounts of algae are present, larger quantities of Copper Sulfate will be required. Control of algae in water systems is not always permanent. Usually algae is more difficult to control with Copper Sulfate when water temperatures are low. The dose rates for Old Bridge Copper Sulfate are based on a water temperature of 80 F. or higher. Larger quantities of Copper Sulfate will be required in hard water. Normally, larger quantities of Copper Sulfate will be required to kill algae in water that is flowing than in a body of stagnant water. If possible, curtail the flow of water before treatment and hold dormant for about three days after treatment or until plants have begun to die. When preparing a Copper Sulfate solution in water, it is best that the mixing vessel be made of plastic or glass. Metal containers lined with plastic or painted or enameled are permissible. Galvanized containers are to be avoided. It is usually best to treat algae on calm sunny days when heavy mats of filamentary algae are most likely to be floating on the surface where it can be sprayed directly. When in doubt about the concentration to be used, it is recommended to start with a lower concentration and gradually increase the concentration until the algae is killed.

CALCULATIONS FOR AMOUNT OF WATER AND COPPER SULFATE PENTAHYDRATE TO BE USED

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 at approximate 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_3 .

TO CONTROL ALGAE IN IMPOUNDED WATER, LAKES, PONDS, AND RESERVOIRS:

TO CONTROL ALGAE IN RICE FIELDS (Domestic and Wild): Application should be made when algae has 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 or dissolve in water and make a surface spray. Apply higher rate in deeper water (6 inches

TO CONTROL TADPOLE SHRIMP IN RICE FIELDS (Domestic and Wild): 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.

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 water (above 50 ppm alkalinity). Always consult State Fish and Game Agency before applying this product to municipal waters.

ORGANISM	1/4 to 1/2 ppm*	1/2 to 1 ppm*	1 to 1 1/2 ppm*	1 1/2 to 2 ppm*
Cyanophyceae (Blue Green)	Anabaena Anacystis Aphanizomenon Gloeotricha Gomphosphaeria Plectonema Rivularia	Cylindrocapsa Oscillatoria Plectonema	Nostoc Phormidium	Calothrix Symploca
Chlorophyceae (Green)	Closterium Hydrodictyon Spirogyra Ulothrix	Botryococcus Cladophora Coelastrum Draparnaldia Enteromorpha Gloeocystis	Chlorella Crucigenia Desmidioides Golenkinia Oocystis Palmella	Ankistrodesmus Chara Nitella Scenedesmus

CALCULATIONS FOR AMOUNT OF WATER AND COPPER SULFATE PENTAHYDRATE TO BE USED

A. Calculate water volume as follows:

1. Obtain surface area by measuring regular shaped ponds or mapping irregular ponds or by use of previously recorded data or maps
2. Calculate average depth by sounding in a regular pattern and taking the mean of these readings or by use of previously recorded data.
3. Multiply surface area in square feet by average depth in feet to obtain cubic feet of water volume, or
4. Multiply surface area in acres by average depth in feet to obtain total acre feet of water volume.

B. Calculate weight of water to be treated as follows:

1. Multiply volume in cubic feet by 62.44 to obtain total pounds of water, or
2. Multiply volume in acre feet by 2,720,000 to obtain total pounds of water.

C. Calculate amount of Copper Sulfate Pentahydrate to add:

To calculate the weight of Copper Sulfate Pentahydrate needed to achieve the desired concentration, multiply the weight of water in pounds by the recommended concentration. Since the recommended concentrations are given in parts per million (ppm), first convert the value to a decimal equivalent. A value of 1 ppm is equivalent to 0.000001 as a decimal value. Thus the amount of Copper Sulfate Pentahydrate required to treat 1 acre-foot (2,720,000 pounds) of water with 1 ppm of Copper Sulfate Pentahydrate would be: $0.000001 \times 2,720,000 = 2.72$ lbs Copper Sulfate Pentahydrate.

D. To calculate water flow in ditches, streams and irrigation systems:

A weir or other measuring device should be used to determine the amount of water in cubic feet per second.

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 $\frac{1}{3}$ to $\frac{1}{2}$ of the water area in a single operation and wait 7 to 14 days between treatments. Begin treatments along the shore and proceed outwards 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).

SPECIFIC INSTRUCTIONS

TO CONTROL ALGAE AND THE POTOMOGETON 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 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.

LEAFY AND SAGO POND WEED CONTROL—Use the same continuous feeder, applying 16 to 24 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 through 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.



Manufactured by

OLD BRIDGE CHEMICALS, INC.

P.O. Box 194

Old Bridge, New Jersey 08857

EPA Reg. No. 46923-4

EPA Est. No. 46923-NJ-01

	<i>Staurastrum</i> <i>Ulothrix</i>	<i>Ceratium</i> <i>Draparnaldia</i> <i>Enteromorpha</i> <i>Gloecystis</i> <i>Microspora</i> <i>Tribonema</i> <i>Zygnema</i>	<i>Desmodium</i> <i>Golenkia</i> <i>Oocystis</i> <i>Palmella</i> <i>Pithophora</i> <i>Staurastrum</i> <i>Tetraedron</i>	<i>Nitzschia</i> <i>Scenedesmus</i>
Diatomaceae (Diatoms)	<i>Asterionella</i> <i>Fragilaria</i> <i>Melioria</i> <i>Navicula</i>	<i>Gomphonema</i> <i>Nitzschia</i> <i>Stephanodiscus</i> <i>Synedra</i> <i>Tabellaria</i>	<i>Achnanthes</i> <i>Cymbella</i> <i>Neldium</i>	
Protozoa (Flagellates)	<i>Dinobryon</i> <i>Synura</i> <i>Uroglena</i> <i>Volvox</i>	<i>Ceratium</i> <i>Cryptomonas</i> <i>Euglena</i> <i>Glenodinium</i> <i>Mallomonas</i>	<i>Chlamydomonas</i> <i>Hawmatococcus</i> <i>Peridinium</i>	<i>Eudorina</i> <i>Pancorina</i>

$\frac{1}{4}$ - $\frac{1}{2}$ ppm = 67 - 13 lbs/acre ft. $\frac{1}{2}$ - 1ppm = 13 - 26 lbs/acre ft. 1 - $\frac{1}{2}$ ppm = 26 - 39 lbs/acre ft.

$1\frac{1}{2}$ - 2 ppm = 39 - 532 lbs/acre ft.

CONDITIONS OF SALE LIMITED WARRANTY AND LIMITATIONS OF LIABILITY AND REMEDIES

The directions for use of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Old Bridge or the seller. All such risks shall be assumed by the purchaser and user.

Old Bridge warrants that this product conforms to the chemical description on the label and is reasonably fit for the purpose referred to in the directions for use subject to the inherent risks referred to above. Old Bridge makes no other warranty or representation of any kind, express or implied, concerning the product, including NO IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE, and no such warranties shall be implied by the law.

The exclusive remedy against Old Bridge for any cause of action relating to the handling or use of this product is a claim for damage and in no event shall damages or any other recovery of any kind against Monterey Chemical Company exceed the price of the product which causes the alleged loss, damage, injury, or other claim. Old Bridge shall not be liable and any and all claims against Old Bridge are waived, for special, indirect, incidental, or consequential damages or expenses, of any nature, including, but not limited to, loss of profits or income, and crop or property loss or damage, whether or not based on Old Bridge's negligence, breach of warranty, strict liability in tort or any other cause of action.

Old Bridge and the seller offer this product and the buyer and user accept it, subject to the foregoing conditions of sale and limitations of warranty, liability and remedies which may only be varied by agreement in writing signed by a duly authorized representative of Old Bridge.

TO CONTROL ALGAE IN IMPOUNDED WATER, LAKES, PONDS AND RESERVOIRS:

There are several methods by which to apply Old Bridge Copper Sulfate to impounded water. Probably the simplest and most satisfactory method is to dissolve the Copper Sulfate crystals in water and to spray this solution over the body of water. 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. Old Bridge Copper Sulfate Ag Crystals, Feed Grade or Powder are preferred for this particular method of application. A specially equipped air blower can be used to discharge these size crystals at a specific rate over the surface of the water. When using this method, the wind direction is an important factor. Do not use this method unless completely familiar with this type of application. Old Bridge Copper Sulfate Ag Crystals and Granular grades are also designed to be used as a dry application from airplanes using 6 pounds per acre. 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 shoeline 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. Old Bridge Copper Sulfate Large Crystals or Small Crystals should be used for this method since they dissolve slowly and evenly.

104 d



OLD BRIDGE CHEMICALS

ACCEPTED
with comments
NOV 24 1986
46423.4

COPPER SULFATE

SMALL CRY
(1/2 to 3/4-inch)

ACTIVE INGREDIENT:	
COPPER SULFATE PENTAHYDRATE	99.0%
INERT INGREDIENTS:	
COPPER AS METALLIC NOT LESS THAN	1.0%
	25.2%

DANGER/PELIGRO

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KEEP OUT OF REACH OF CHILDREN

STATEMENT OF PRACTICAL TREATMENT

If swallowed: Call a physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with a finger. Do not induce vomiting or give anything by mouth to an unconscious person.

If spilled in eyes: Immediately flush eyes with plenty of water for at least 15 minutes and get medical attention.

If spilled on skin: Remove contaminated clothes and shoes and immediately wash skin with soap and plenty of water. See a physician.

PRECAUTIONARY STATEMENTS

Hazards to Humans & Domestic Animals

Danger: Causes severe eye and skin irritation. Harmful if absorbed through the skin or inhaled. May cause skin sensitization reactions in certain individuals. Avoid contact with the skin, eyes or clothing. Avoid breathing dust. Protective clothing, including goggles, should be worn. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

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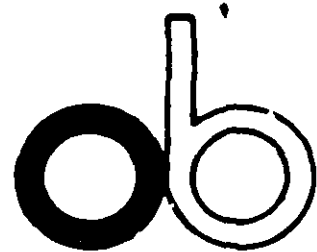
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OLD BRIDGE CHEMICALS, INC.

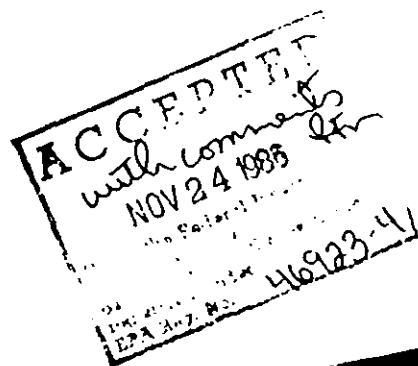
P.O. Box 194
Old Bridge, New Jersey 08857

NET WT. 50 LBS.
(22.7 Kilos)

(See Back of Container for Directions For Use)



OLD BRIDGE CHEMICALS, INC.



**COPPER
SULFATE**

FEED GRADE
(mesh: -35)

ACTIVE INGREDIENT:
COPPER SULFATE PENTAHYDRATE
INERT INGREDIENTS:
COPPER AS METALLIC NOT LESS THAN

99.0%
1.0%
25.2%

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DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

RE-ENTRY STATEMENT

Do not apply this product in such a manner as to directly or through drift expose workers or other persons. The area being treated must be vacated by unprotected persons. Do not enter treated areas without protective clothing until sprays have dried. Certain states require more restrictive reentry intervals for various crops treated with this product. Consult your State Department of Agriculture for further information.

Written or oral warnings must be given to workers who are expected to be in a treated area or in area about to be treated with this product. When oral warnings are given, warnings shall be given in a language customarily understood by workers. Written and oral warnings must include the following information: DANGER: Area treated with Copper Sulfate on (date of application). Do not enter without appropriate protective clothing until sprays have dried. Required Protective Clothing: long sleeved shirt and long legged pants. In case of accidental exposure, wash all exposed skin areas with plenty of soap and water. Because certain states may require restrictive re-entry intervals for various crops treated with this product, consult your State Department of Agriculture for further information.

STORAGE AND DISPOSAL

Store in a cool, dry place. Do not contaminate water, food or feed by storage or disposal. Open dumping is prohibited. Do not reuse empty container. If container is damaged, place container in a plastic bag. Shovel any spills into plastic bag and seal with tape. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Container disposal: Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application environment. Then dispose of liner in a sanitary landfill or by incineration if allowed by State and local authorities.

GENERAL INSTRUCTIONS

CONTROL ALGAE IN IMPOUNDED WATER, LAKES, PONDS, AND RESERVOIRS

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

When using Old Bridge Copper Sulfate Pentahydrate to control algae, there are many factors to consider such as water hardness, temperature of the water, type and quantity of vegetation to be controlled and the amount of water flow. Algae can be controlled more easily and effectively if treatment with Copper Sulfate is made soon after plant growth has started. Under such circumstances, small amounts of Copper Sulfate can effectively control algae in water. However, if treatment is delayed until large amounts of algae are present, larger quantities of Copper Sulfate will be required. Control of algae in water systems is not always permanent. Usually algae is more difficult to control with Copper Sulfate when water temperatures are low. The dose rates for Old Bridge Copper Sulfate are based on a water temperature of 60°F. or higher. Larger quantities of Copper Sulfate will be required in hard water. Normally, larger quantities of Copper Sulfate will be required to kill algae in water that is flowing than in a body of stagnant water. If possible, curtail the flow of water before treatment and hold dormant for about three days after treatment or until plants have begun to die. When preparing a Copper Sulfate solution in water, it is best that the mixing vessel be made of plastic or glass. Metal containers lined with plastic or painted or enameled are permissible. Galvanized containers are to be avoided. It is usually best to treat algae on calm sunny days when heavy mats of filamentary algae are most likely to be floating on the surface where it can be sprayed directly. When in doubt about the concentration to be used, it is recommended to start with a lower concentration and gradually increase the concentration until the algae is killed.

CALCULATIONS FOR AMOUNT OF WATER AND COPPER SULFATE PENTAHYDRATE TO BE USED

A. Calculate water volume as follows:

1. Obtain surface area by measuring regular shaped ponds or mapping irregular ponds or by use of previously recorded data or maps.
2. Calculate average depth by sounding in a regular pattern and taking the mean of these readings or by use of previously recorded data.

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 water (above 50 ppm alkalinity). Always consult State Fish and Game Agency before applying this product to municipal waters.

ORGANISM	1/4 to 1/2 ppm*	1/2 to 1 ppm*	1 to 1 1/2 ppm*	1 1/2 to 2 ppm*
Cyanophyceae (Blue Green)	Anabaena Anacystis Aphanizomenon Gloeotrichia Gomphospheria Polycystis Rivularia	Cylindrocapsa Oscillatoria Plectonema	Nostoc Phormidium	Calothrix Symploca
Chlorophyceae (Green)	Closterium Hydrodictyon Spirogyra Ulothrix	Botryococcus Cladophora Coelastrum Draparnalia Enteromorpha Gloerocystis Microspora Tribonema Zygnema	Chlorella Crucigenia Desmidioides Golenkinia Oocystis Palmella Pithophora Staurostrum Tetraedron	Ankistrodesmus Chara Nitella Scenedesmus
Diatomaceae (Diatoms)	Asterionella Fragilaria Melosira Navicula	Gomphonema Nitzschia Stephanodiscus Synedra Tabellaria	Achnanthes Cymbella Nekium	
Protozoa (Flagellates)	Dinobryon Synura Uroglena Volvox	Ceratium Cryptomonas Euglena Glenodinium Mallomonas	Chlamydomonas Hawthornococcus Peridinium	Eudorina Pandora

*1/4 - 1/2 ppm = 07 - 13 lbs/acre ft. *1/2 - 1 ppm = 13 - 26 lbs/acre ft. *1 - 1 1/2 ppm = 26 - 39 lbs/acre ft.

*1 1/2 - 2 ppm = 39 - 52 lbs/acre ft.

SEWER TREATMENT—ROOT DESTROYER

- A. For Partial Stoppage—Add 1/2 pound of Copper Sulfate to sewer or drain and flush toward blockage with 5 gallons of water. Repeat at 6 month intervals to prevent growth of new roots.
- B. For Complete Stoppage—Physically remove the root blockage and repeat as above.

WOOD TREATMENT (green, peeled posts)—fungus decay rot.

Prepare a solution of 180 pounds of sodium chromate in each 26 gallons of water to be used and a separate second solution of 180 pounds of Copper Sulfate in each 24 gallons of water to be used; soak the peeled, green posts, butt and down first in the copper sulfate solution for 3 days, then butt and down in sodium chromate solution for 2 days, and finally, turn the posts upside down in the sodium chromate solution for 1 additional day. Remove and rinse posts with clear water.

BORDEAUX MIXTURE

HOW TO UNDERSTAND BORDEAUX FORMULATIONS:

If the Bordeaux Mixture instructions read 10-10-100, the first figure means the number of pounds of Copper Sulfate Pentahydrate. The second figure means the pounds of hydrated spray lime, and the third figure, the gallons of water to be used. Use as a full coverage spray to runoff.

HOW TO PREPARE A BORDEAUX MIXTURE:

To prepare a Bordeaux Mixture, fill a tank with water, one-quarter full. Then with an agitator running, mix Old Bridge Copper Sulfate through a copper, bronze, stainless steel or plastic screen. Add water so the tank is three-quarters full. Mix in the hydrated spray lime through the screen, and finish filling the tank with water.

- 120
- water volume
- B. Calculate weight of water to be treated as follows:
1. Multiply volume in cubic feet by 62.44 to obtain total pounds of water, or
 2. Multiply volume in acre feet by 2,720,000 to obtain total pounds of water
- C. Calculate amount of Copper Sulfate Pentahydrate to add:
- To calculate the weight of Copper Sulfate Pentahydrate needed to achieve the desired concentration, multiply the weight of water in pounds by the recommended concentration. Since the recommended concentrations are given in parts per million (ppm), first convert the value to a decimal equivalent. A value of 1 ppm is equivalent to 0.000001 as a decimal value. Thus the amount of Copper Sulfate Pentahydrate required to treat 1 acre-foot (2,720,000 pounds) of water with 1 ppm of Copper Sulfate Pentahydrate would be: $0.000001 \times 2,720,000 = 2.72$ lbs Copper Sulfate Pentahydrate
- To calculate water flow in ditches, streams and irrigation systems:
- A weir or other measuring device should be used to determine the amount of water in cubic feet per second.

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 $\frac{1}{2}$ to $\frac{1}{2}$ of the water area in a single operation and wait 7 to 14 days between treatments. Begin treatments along the shore and proceed outwards 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)

SPECIFIC INSTRUCTIONS

TO CONTROL ALGAE IN IMPOUNDED WATER, LAKES, PONDS, AND RESERVOIRS:

TO CONTROL ALGAE IN RICE FIELDS (Domestic and Wild): Application should be made when algae has 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 or dissolve in water and make a surface spray. Apply higher rate in deeper water (6 inches).

CONTROL OF TADPOLE SHRIMP IN FLOODED RICE FIELDS (Domestic and Wild): Old Bridge Copper Sulfate Pentahydrate is recommended for the control of Tadpole Shrimp in rice fields. Copper Sulfate should be applied at a rate of 10 to 15 pounds per acre by mixing with 50 gals. of water and applying as a uniform surface spray using boat, plane or other professional means and pressurized spray device. This product is also designed to be used as a dry application from airplanes, using 10 to 15 pounds per acre. Use at the first indication of infestation after the field has been flooded to a depth of 6 to 8 inches. Old Bridge Copper Sulfate Pentahydrate is especially made for maximum solubility in this volume of water.



Manufactured by

OLD BRIDGE CHEMICALS, INC.

P.O. Box 194

Old Bridge, New Jersey 08857

Almonds, Apricots, Cherries, Peaches, Nectarines, Plums, Prunes: Brown Rot Blight - Prepare a 10-10-100 Bordeaux Mixture and apply as a dormant spray in late fall or early spring.

Almonds, Apricots, Cherries, Peaches, Nectarines, Plums, Prunes: Brown Rot Blight - Prepare a 10-10-100 Bordeaux Mixture and apply when buds begin to swell.

Sour Cherries: Leaf Spot - Prepare a 10-10-100 Bordeaux Mixture and apply as a full coverage spray after petal fall or as recommended by the State Extension Service.

Lemons, Oranges, Grapefruit: Phytophthora Brown Rot - Prepare a 3-4-1/2-100 Bordeaux Mixture where there is no history of copper injury or a 3-2-6-100 (Zinc Sulfate-Copper Sulfate-Hydrated Lime-Gallons of Water) Bordeaux Mixture. Spray 6 gallons on skirt of tree 3 to 4 feet high and 2 to 4 gallons on trunk and ground under the tree. If P. hibernalis is present, use 10 to 25 gallons to completely cover each tree. Apply in November or December just before or after first rain. In severe Brown Rot season, apply second application in January or February.

Lemons, Oranges, Grapefruit: Septoria Fruit and Leaf Spot (Central California), Brown Rot, Zinc and Copper deficiencies - Prepare a 3-2-6-100 Bordeaux Mixture (Zinc Sulfate-Copper Sulfate-Hydrated Lime-Gallons of Water) and use 10 to 15 gallons to completely cover each tree. Apply in October, November or December just before or after first rain.

Walnuts: Walnut Blight - Apply 15 pounds Copper Sulfate with 10 pounds of Hydrated Lime in 100 gallons of water plus 1/2 gallon summer oil emulsion. Apply in early pre-bloom 10 to 20% pistillate (not when catkin blooms are showing) just before or after rain. Use only if Bordeaux Mixture has been proven to be non-phytotoxic in your area.

CONDITIONS OF SALE LIMITED WARRANTY AND LIMITATIONS OF LIABILITY AND REMEDIES

The directions for use of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Old Bridge or the seller. All such risks shall be assumed by the purchaser and user.

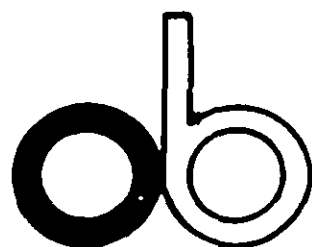
Old Bridge warrants that this product conforms to the chemical description on the label and is reasonably fit for the purpose referred to in the directions for use subject to the inherent risks referred to above. Old Bridge makes no other warranty or representation of any kind, express or implied, concerning the product, including NO IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE, and no such warranties shall be implied by the law.

The exclusive remedy against Old Bridge for any cause of action relating to the handling or use of this product is a claim for damage and in no event shall damages or any other recovery of any kind against Monterey Chemical Company exceed the price of the product which causes the alleged loss, damage, injury, or other claim. Old Bridge shall not be liable and any and all claims against Old Bridge are waived, for special, indirect, incidental, or consequential damages or expenses, of any nature, including, but not limited to, loss of profits or income, and crop or property loss or damage, whether or not based on Old Bridge's negligence, breach of warranty, strict liability in tort or any other cause of action.

Old Bridge and the seller offer this product and the buyer and user accept it, subject to the foregoing conditions of sale and limitations of warranty, liability and remedies which may only be varied by agreement in writing signed by a duly authorized representative of Old Bridge.

EPA Reg. No. 46923-4
EPA Est. No. 46923-NJ-01

There are several methods by which to apply Old Bridge Copper Sulfate to impounded water. Probably the simplest and most satisfactory method is to dissolve the Copper Sulfate crystals in water and to spray this solution over the body of water. 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. Old Bridge Copper Sulfate Ag Crystals, Feed Grade or Powder are preferred for this particular method of application. A specially equipped air blower can be used to discharge these size crystals at a specific rate over the surface of the water. When using this method, the wind direction is an important factor. Do not use this method unless completely familiar with this type of application. Old Bridge Copper Sulfate Ag Crystals and Granular grades are also designed to be used as a dry application from airplanes using 6 pounds per acre. 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 shoeline 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. Old Bridge Copper Sulfate Large Crystals or Small Crystals should be used for this method since they dissolve slowly and evenly.



OLD BRIDGE CHEMICALS, INC.

ACCEPTED
with comments
NOV 24 1986
U.S. EPA Regional Office
Philadelphia
EPA Region III
46923-4

**COPPER
SULFATE**

Ag CRY
(mesh:)

ACTIVE INGREDIENT:**COPPER SULFATE PENTAHYDRATE****99.0%****INERT INGREDIENTS:****1.0%****COPPER AS METALLIC NOT LESS THAN****25.2%****DANGER/PELIGRO****PRECAUCION AL USUARIO:** Si Usted no lee ingles, no use este producto hasta que le etiqueta haya sido explicado ampliamente.**KEEP OUT OF REACH OF CHILDREN****STATEMENT OF PRACTICAL TREATMENT**

If swallowed: Call a physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with a finger. Do not induce vomiting or give anything by mouth to an unconscious person.

If splashed in eyes: Immediately flush eyes with plenty of water for at least 15 minutes and get medical attention.

If spilled on skin: Remove contaminated clothes and shoes and immediately wash skin with soap and plenty of water. See a physician.

PRECAUTIONARY STATEMENTS**Hazards to Humans & Domestic Animals**

Danger: Causes severe eye and skin irritation. Harmful if absorbed through the skin or inhaled. May cause skin sensitization reactions in certain individuals. Avoid contact with the skin, eyes or clothing. Avoid breathing dust. Protective clothing, including goggles, should be worn. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and aquatic organisms. Do not apply directly to water except as directed under the specific instructions section. Drift and runoff from treated areas may be hazardous to fish and aquatic organisms in adjacent aquatic 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 in order 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 by cleaning of equipment or disposal of wastes. Consult your State Fish and Game Agency before applying this product to public waters. Permits may be required before treating such waters.

ENDANGERED SPECIES RESTRICTIONS

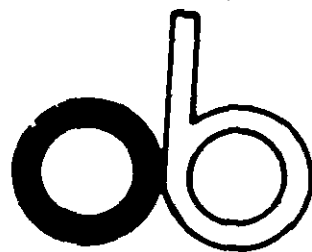
It is a violation of Federal laws to use any pesticide in a manner that results in the death of an endangered species or adverse modification of their habitat.

The use of this product may pose a hazard to certain Federally designated endangered species known to occur in specific areas within the following counties:

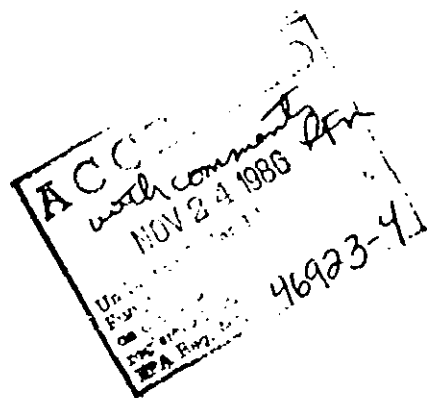
STATE	Species	(Bulletin No.)	COUNTY
CALIFORNIA	Solano Grass	(EPA/ES-85-13)	Solano
TENNESSEE	Slackwater Darter	(EPA/ES-85-04)	Lawrence Wayne Hancock
	Freshwater Mussels	(EPA/ES-85-07)	Chabonne Hawkins Sullivan
ALABAMA	Slackwater Darter	(EPA/ES-85-05)	Lauderdale Limestone Madison
VIRGINIA	Freshwater Mussels	(EPA/ES-85-06)	Grayson Smyth Scott Lee Washington

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.**

**D.O.T. HAZARD CLASS****ORM-E****NA 9109****RQ 10/4.54****EPA Reg. No.****46923-4****EPA EST. NO.****46923-NJ-01****OLD BRIDGE CHEMICALS, INC.****P.O. Box 194****Old Bridge, New Jersey 08857****NET WT. 50 LBS.**
(22.7 Kilos)**(See Back Panel for Directions For Use)**
Additional Information:



OLD BRIDGE CHEMICALS, INC.



**COPPER
SULFATE**

GRANULAR
(mesh: -6 +16)

ACTIVE INGREDIENT:**COPPER SULFATE PENTAHYDRATE****99.0%****INERT INGREDIENTS:****COPPER AS METALLIC NOT LESS THAN****1.0%****25.2%****DANGER/PELIGRO****PRECAUCION AL USUARIO:** Si Usted no lee ingles, no use este producto hasta que le etiqueta haya sido explicado ampliamente.**KEEP OUT OF REACH OF CHILDREN****STATEMENT OF PRACTICAL TREATMENT**

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PRECAUTIONARY STATEMENTS**Hazards to Humans & Domestic Animals**

Danger: Causes severe eye and skin irritation. Harmful if absorbed through the skin or inhaled. May cause skin sensitization reactions in certain individuals. Avoid contact with the skin, eyes or clothing. Avoid breathing dust. Protective clothing, including goggles, should be worn. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

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ENDANGERED SPECIES RESTRICTIONS

It is a violation of Federal laws 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 following counties:

STATE	Species	(Bulletin No.)	COUNTY
CALIFORNIA	Solano Grass	(EPA/ES-85-13)	Solano
TENNESSEE	Slackwater Darter	(EPA/ES-85-04)	Lawrence Wayne Hancock
	Freshwater Mussels	(EPA/ES-85-07)	Claiborne Hawkins Sullivan
ALABAMA	Slackwater Darter	(EPA/ES-85-05)	Lauderdale Limestone Madison
VIRGINIA	Freshwater Mussels	(EPA/ES-85-06)	Grayson Smyth Scott Lee Washington

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**D.O.T. HAZARD CLASS****ORM-E****NA 9109****RQ 10/4.54****EPA Reg. No.****46923-4****EPA EST. NO.****46923-NJ-01****OLD BRIDGE CHEMICALS, INC.****P.O. Box 194****Old Bridge, New Jersey 08857**



OLD BRIDGE CHEMICALS, INC.

ACCEPTED
with comments
NOV 24 1980

46923-4

**COPPER
SULFATE**

POWDER
(mesh: -100)

ACTIVE INGREDIENT:**COPPER SULFATE PENTAHYDRATE****99.0%****INERT INGREDIENTS:****COPPER AS METALLIC NOT LESS THAN****1.0%****25.2%****DANGER/PELIGRO**

PRECAUCION AL USUARIO: Si Usted no lee ingles, no use este producto hasta que le etiqueta haya sido explicado ampliamente.

KEEP OUT OF REACH OF CHILDREN**STATEMENT OF PRACTICAL TREATMENT**

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D.O.T. HAZARD CLASS
ORM-E
NA 9109
RQ 10/4.54

EPA Reg. No.
46923-4
EPA EST. NO.
46923-NJ-01

OLD BRIDGE CHEMICALS, INC.

P.O. Box 194
Old Bridge, New Jersey 08857

NET WT. 50 LBS.
(22.7 Kilos)

(See Back Panel for Directions For Use)