OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION

WASHINGTON, D.C. 20460

October 10, 2025

Sarah Kuetemeier
Agent
BLUEWATER CHEMGROUP, INC.
PO Box 11383
Fort Wayne, IN 46857

Subject: Label Amendment - Registration Review Mitigation for Copper Compounds
Product Name: Blue Water Copper Sulfate
EPA Registration Number: 83190-2
Case Number: 477496
Application Dates: July 18, 2022

Dear Sarah Kuetemeier:

The Agency, in accordance with the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, has completed reviewing all the information submitted with your application to support the Registration Review of the above referenced product in connection with the Copper Compounds Interim Decision, and has concluded that your submission is acceptable. The label referred to above, submitted in connection with registration under FIFRA, as amended, is acceptable.

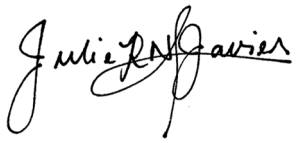
Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide, Fungicide, and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance Assurance.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling and must be used at your next label printing. You must

submit one copy of the final printed labeling before you release the product for shipment with the new labeling. In accordance with 40 CFR 152.130(c), you may distribute or sell this product under the previously approved labeling for 12 months from the date of this letter. After 12 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR 152.3.

If you have any questions about this letter, please contact Caleb Carr by phone at 202-566-0636, or via email at carr.caleb@epa.gov.

Sincerely,



Julie Javier, Team Leader
Risk Mitigation and Implementation Branch 4
Pesticide Re-Evaluation Division
Office of Pesticide Programs

ENCLOSURE: Stamped label

{Notes to Reviewer in Braces}
[Optional Text in Brackets]

{VERSION A – COMMERCIAL LABEL}

COPPER	GROUP	NOT CLASSIFIED	HERBICIDE

BLUE WATER
COPPER SULFATE

{Optional Graphic Image:}
[

]

ACCEPTED
Oct 10, 2025
Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 83190-2

ACTIVE INGREDIENT:
Copper Sulfate Pentahydrate (CAS #7758-99-8) 99.0%
OTHER INGREDIENTS:..... 1.0%
TOTAL..... 100.0%

Copper as metallic not less than 25%

KEEP OUT OF REACH OF CHILDREN

DANGER/PELIGRO

Si usted no etiende 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 back/side/other panel(s)/attached pamphlet for instructions and additional Precautionary Statements.)

[DOT
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CUPRIC SULFATE), 9, UN3077, PGIII, RQ**]**

NET WEIGHT: xx LB (xx kg)

{Notes to Reviewer in Braces}
[Optional Text in Brackets]

FIRST AID	
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 rinsing 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.
If on skin or clothing:	· Take off contaminated clothing. · Rinse skin immediately with plenty of water for 15-20 minutes. · Call 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 poison control center or doctor for further treatment advice.
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact the National Pesticide Information Center at 1-800-858-7378 for emergency medical information.	
Note to physician: Probable mucosal damage may contraindicate the use of gastric lavage.	

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
DANGER-PELIGRO

Corrosive. Causes irreversible eye damage. May be fatal if swallowed. Harmful if absorbed through skin. Do not get in eyes or on clothing. Avoid contact with skin.

For applications in waters destined for use as drinking water, those waters must receive additional and separate potable water treatment. Do not apply more than 1.0 ppm metallic copper (4 ppm Blue Water Copper Sulfate) in these waters.

PERSONAL PROTECTIVE EQUIPMENT

Mixers, loaders, applicators and other handlers must wear the following:

- long-sleeved shirt
- long pants
- shoes plus socks
- waterproof gloves
- protective eyewear such as goggles, face shield or safety glasses

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

{Notes to Reviewer in Braces}
[Optional Text in Brackets]

USER SAFETY RECOMMENDATIONS

Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Users should 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 pesticide is toxic to fish and aquatic invertebrates. Waters treated with this product may be hazardous to aquatic organisms. Treatment of aquatic weeds and algae can result in oxygen loss from decomposition of dead algae and weeds. This oxygen loss can cause fish and invertebrate suffocation. To minimize this hazard, do not treat more than ½ of the water body to avoid depletion of oxygen due to decaying vegetation. Wait at least 14 days between treatments. Begin treatment along the shore and proceed outwards in bands to allow fish to move into untreated areas. Consult with the State or local agency with primary responsibility for regulating pesticides before applying to public waters, to determine if a permit is required.

Fish Advisory Statement: This copper product is toxic to fish and aquatic organisms. Unlike most organic pesticides, copper is an element and will not break down in the environment and will therefore accumulate in sediment with repeated applications. Copper is a micronutrient, but its pesticidal application rate exceeds the amount of copper needed as a nutrient.
Certain water conditions including low pH (≤6.5), low dissolved organic carbon (DOC) levels (3.0 mg/L or lower), and "soft" waters (i.e., alkalinity less than 50 mg/L), increases the potential acute toxicity to non-target aquatic organisms.

{Stormwater Advisory Statement to be featured when packaged/labeled for Sewer Treatment—Root Destroyer:}

Stormwater Advisory Statement: This product may be applied for the purposes of root intrusion control in storm drains or storm sewers that can discharge directly or indirectly into ephemeral or permanent waterbodies. This product must not be used in any municipal or public storm sewer or "MS4" system, or any storm drain system otherwise covered under an NPDES MS4 discharge permit. Copper will accumulate with repeated applications in the waterbodies to which treated storm drains/sewers discharge.

To the extent possible, avoid simultaneous treatments of multiple drain systems that discharge to the same waterbody. Staggering applications to individual stormwater collection points to allow interceding storm events to clear the product from previously treated drains can help reduce the impact to aquatic organisms in receiving waterbodies. Development of and adherence to, a pesticide management plan for storm drains is encouraged.

{Notes to Reviewer in Braces}
[Optional Text in Brackets]

{Environmenal Hazards statement to be used when packaged/labeled for Sewer Treatment—Root Destroyer **only**:}

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and aquatic invertebrates and may contaminate water through runoff. This product has a potential for runoff for several months or more after application. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product. Certain water conditions including low pH (≤6.5), low dissolved organic carbon (DOC) levels (3.0 mg/L or lower), and "soft" waters (i.e., alkalinity less than 50 mg/L), increases the potential acute toxicity to non-target aquatic organisms.

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. Do not allow others to enter the treated areas until dusts have settled.

Do not use in residential ornamental fish ponds or other artificial aquaculture systems containing Koi or trout.

Mandatory Spray Drift Management

Ground Boom Application:

- Apply with the spray release height recommended by the manufacturer, but no more than 4 feet above the ground or crop canopy.
- Applicators are required to use a medium or coarser droplet size (ANSI/ASAE S572.3 FEB 2020).
- Do not apply when wind speeds exceed 15 miles per hour at the application site.
- Do not apply during temperature inversions.

SPRAY DRIFT ADVISORIES

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT. BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.

IMPORTANCE OF DROPLET SIZE

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

Controlling Droplet Size – Ground Boom

- Volume – Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- Pressure – Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- Spray Nozzle - Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

{Notes to Reviewer in Braces}
[Optional Text in Brackets]

BOOM HEIGHT – Ground Boom
Use the lowest boom height that is compatible with the spray nozzles that will provide uniform coverage. For ground equipment, the boom should remain level with the crop and have minimal bounce.
SHIELDED SPRAYERS
Shielding the individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.
TEMPERATURE AND HUMIDITY
When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.
TEMPERATURE INVERSIONS
Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Avoid applications during temperature inversions.
WIND
Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS. Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

RESISTANCE MANAGEMENT

Water bodies or management units should be scouted prior to application to identify the weed species present and their growth stage to determine if the intended application will be effective. Water bodies or management units should be scouted after application to verify that the treatment was effective.

Suspected herbicide-resistant weeds may be identified by these indicators:

- Failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds;
- A spreading patch of non-controlled plants of a particular weed species; and
- Surviving plants mixed with controlled individuals of the same species.

Report any incidence of non-performance of this product against a particular weed species to your [registrant]retailers or representative. If resistance is suspected, treat weed escapes with an herbicide having a different mechanism of action and/or use non-chemical means to remove escapes, as practical, with the goal of preventing further reproduction.

Implement the Early Detection, Rapid Response practice and Maintenance Control by using the following practices where possible:

- Identify weeds present in a management unit through scouting or history of the water body and understand the biology of target species.
- Applications should target weeds when populations are small and there is low biomass, early in the season to maximize efficacy.
- Applications should be made so that the herbicide contacts the weed. Use the appropriate application method for the use site/weed/chemical combination.
- Weed escapes should not be allowed to go to seed or produce asexual vegetative propagules.
- Use a diversified approach toward weed management. Whenever possible incorporate multiple weed-control practices such as mechanical control, biological management practices, and rotation of MOAs.

- Time applications to have the highest probability for control and minimize need for follow-up control measures. Apply during conditions that minimize herbicide degradation (light/temperature/microbes) and/or dissipation (water exchange).

Contact your local sales representative, local water management agency, or extension agent to find out if suspected resistant weeds to this MOA have been found in your region. If resistant biotypes of target weeds have been reported, use the application rates of this product specified for your local conditions. Tank mix products so that there are multiple effective mechanisms of actions for each target weed.

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 48 hours.

PPE required for early 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, shoes plus socks, waterproof gloves, 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.

Do not enter or allow others to enter treated areas until dusts and sprays have settled.

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal. Open dumping is prohibited. Do not reuse empty container.
PESTICIDE 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: Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration or, offer for recycling, if available, or if allowed by State and Local

authorities, by burning. If burned, stay out of smoke.
If Plastic Container [≤ 5 GAL]: Nonrefillable container. Do not reuse or refill this container. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or reconditioning, if available, or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by State and Local authorities, by burning. If burned, stay out of smoke.
If Plastic Container [> 5 GAL] Nonrefillable container. Do not reuse or refill this container. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling or reconditioning, if available, or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by State and Local authorities, by burning. If burned, stay out of smoke.

INSTRUCTIONS FOR USE
ALGAE CONTROL

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. Aerial applications are prohibited.

Aquatic Uses (excluding swimming pools, spas, hot tubs, fountains and aquatic agriculture) Waters treated with this product may be hazardous to aquatic organisms. Treatment of aquatic weeds and algae can result in oxygen loss from decomposition of dead biomass. This oxygen loss can cause fish and invertebrate suffocation. To minimize this hazard, do not treat more than ½ of the water body and wait at least 14 days between treatments to avoid depletion of oxygen due to decaying vegetation (excluding water infrastructure and constructed conveyances such as drainage and irrigation canals, ditches and pipelines or intakes and aqueducts for drinking water or irrigation use).Begin treatment along the shore and proceed outward in bands to allow fish to move into untreated areas. Consult with the state or local agency with primary responsibility for regulating pesticides before applying to public waters to determine if a permit is required.

Application of algaecides to high density booms of cyanobacteria can result in the release of intracellular contents into the water. Some of these intracellular compounds are known mammalian hepato- and nervous system toxins. Therefore, to minimize the risk of toxin leakage, manage cyanobacteria effectively in order to avoid applying this product when blooms of toxin-producing cyanobacteria are present at high density. In situations where rapidly reproducing toxic algal species pose a public health threat to drinking or recreational water resources, applicators must receive authorization from applicable state, local or tribal water resources authorities to apply copper at intervals shorter than 14 days should the circumstance demand.

Certain water conditions including low pH (≤6.5), low dissolved organic carbon (DOC) levels (3.0 mg/L or lower), and “soft” waters (i.e., alkalinity less than 50 mg/L), increases the potential acute toxicity to

non-target aquatic organisms. The application rates on this label are appropriate for water with pH values >6.5, DOC levels >3.0 mg/L, and alkalinity greater than 50 mg/L. Avoid treating waters with pH values <6.5, DOC levels<3.0 mg/L, and alkalinity less than 50 ppm (e.g., soft or acid waters), as trout and other sensitive species of fish may be killed under such conditions if present.

Consult your state department of natural resources or fish and game agency before applying this product to public waters. Permits may be required before treating such waters.

Pre-Application Dose Determination: For algae and aquatic plant treatments, applicators should conduct initial dose determination tests simulating a full-scale treatment program to determine the minimum efficacious concentrations for eliminating the target species, unless an effective dose is already known for the given target pest population.

Applications to Whole Water Body: Maximum annual application rate of 87.6 lbs. of Copper Sulfate (21.9 lbs. of metallic copper) per acre-foot (8 applications per year at up to 1 ppm). This rate/frequency is calculated based on staggering the treatment of each half of the water body every 14 days ((at a rate of 10.96 lbs. of Copper Sulfate (2.74 lbs. metallic copper) per acre-foot = 1 ppm)) for eight months (244 days). In situations where rapidly reproducing toxic algal species pose a public health threat to drinking or recreational water resources, applicators must receive authorization from applicable state, local or tribal water resources authorities to apply in excess of 87.6 lbs. of Copper Sulfate (21.9 lbs. of metallic copper) per acre-foot (8 applications per year at up to 1 ppm).

Applications to Waterbody Sections: Maximum annual rate of 186.4 lbs. of Copper Sulfate (46.6 lbs. of metallic copper) per acre-foot per year (17 applications per year at up to 1 ppm). This rate/frequency is calculated based on the maximum number of possible applications allowed based on a 14-day minimum ((at a rate of 10.96 lbs. Copper Sulfate (2.74 lbs. metallic copper) per acre-foot = 1 ppm) retreatment interval for eight months (244 days)). Do not apply more than 11.65 lbs. Copper Sulfate (46.6 lbs. of metallic copper) to a water management unit, regardless of the pest(s) targeted by applications. In situations where rapidly reproducing toxic algal species pose a public health threat to drinking or recreational water resources, applicators must receive authorization from applicable state, local or tribal water resources authorities to apply in excess of 186.4 lbs. Copper Sulfate (46.6 lbs. of metallic copper) per acre-foot per year for a single water management unit.

Applications to Control Algae in Catfish Ponds: Copper can be applied throughout the spring and summer when water temperatures are consistently above 70°F when total alkalinity and hardness concentrations fall between 100 and 300 mg/L as CaCO3. Applications are no longer needed in the fall after fish are harvested or the average water temperatures fall below 70°F. Apply mid-morning at a rate of 1.24 lbs. Copper Sulfate (0.31 lb. metallic copper) per acre-foot (0.11 ppm metallic copper). Use copper only if you plan to harvest fish before fall and anticipate problems with off-flavoring algae.

Do not make routine copper treatments for algae control in fingerling ponds or in broodfish ponds because off-flavors are not a problem in those fish. Do not use this treatment regimen in waters of low hardness and alkalinity (less than 50 ppm as CaCO3) because copper may stress or kill fish.

Water hardness, water temperature, the type and amount of vegetation to be controlled, and the amount of water flow must 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. Generally, larger quantities of Copper Sulfate will also be required to control algae growth when water temperatures are low (below 60ºF), in hard water, and in water that is free flowing. 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. For best results, 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. When in doubt about the concentration required for control, first use the lower concentration. If needed, gradually increase to the higher concentration until the algae are killed.

CALCULATIONS FOR AMOUNT OF WATER AND AMOUNT OF 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 the surface area in square feet by average depth in feet to obtain cubic feet of water volume, or 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 multiply volume in acre feet by 2,720,000 to obtain total pounds of water.

C. Calculate water flow in ditches, streams and irrigation systems:

1. The amount of water flow in cubic feet per second is found by means of a weir or other measuring device.

D. Calculate amount of Copper Sulfate to add:

1. To calculate the weight of Copper Sulfate needed to achieve the recommended concentration, multiply the weight of water in pounds by the recommended concentration of Copper Sulfate.
   a. Since the recommended concentrations are given in parts per million (ppm) of product, first convert the value to a decimal equivalent. For example, a value of 1 ppm is equivalent to 0.000001 as a decimal value. Thus the amount of Copper Sulfate required to treat 1 acre-foot (2,720,000 pounds) of water with 1 ppm of Copper Sulfate would be: 0.000001 x 2,720,000 = 2.72 lbs. Copper Sulfate (0.68 lb. metallic copper).

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 gal.; 1 acre ft. = 326,000 gal.

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 as follows:

FOR ALGAE CONTROL – Begin continuous addition of Copper Sulfate when water is first turned into the system and continue throughout the irrigation system, applying 0.1 to 0.2 lb. copper sulfate (0.025 to 0.05 lb. metallic copper) per hour per cubic ft per second for 12 hours of each 24 hours. Maximum application rate is 4 ppm copper sulfate (1 ppm metallic

copper). Note: 4 ppm copper sulfate = 10.88 lbs. copper sulfate/acre ft. (2.72 lbs. metallic copper/acre ft.)

FOR LEAFY AND SAGO POND WEED CONTROL – Use the same continuous feeder, applying 0.5 to 0.9 lb. Copper Sulfate (0.125 to 0.225 lb. metallic copper) per hour per cubic foot per second for 12 hours of each 24 hours. Maximum application rate is 4 ppm copper sulfate (1 ppm metallic copper). 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 of a mechanical means to remove excess growth. In either case, resume Copper Sulfate addition as soon as possible.

TO CONTROL ALGAE IN IRRIGATION CONVEYANCE SYSTEMS USING THE PULSE APPLICATION METHOD: Maximum annual application rate is 13 lbs. metallic copper (26.26 gals. of Copper Sulfate) per year per 5 miles of conveyance per cubic foot per second (CFS). Apply Copper Sulfate into irrigation conveyance system or lateral at up to a maximum rate of 0.5 lb. metallic copper (1.0 gals. of Copper Sulfate) per cubic foot per second of water per 5 to 30-mile treatment depending on water hardness, alkalinity and algae concentration. This method may only be used in constructed irrigation conveyance systems, laterals and aqueducts.

TO CONTROL ALGAE IN IMPOUNDED WATER, LAKES, PONDS, AND RESERVOIRS: There are several methods by which to apply Copper Sulfate to impounded water. Probably the simplest and most satisfactory method is to dissolve the Copper Sulfate in water and spray the solution over the body of the water. A small pump mounted in a boat can easily be used for this purpose. Another method is to broadcast the Copper sulfate granules directly on the water surface from a properly equipped boat. A specially equipped air blower can be used to discharge the product 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. Where the situation permits, a tear-resistant permeable bag may be towed via watercraft to disperse Copper Sulfate into the upper water column for treatment of weeds and algae. Operators should ensure the application path is clear of any obstacles that may rupture or otherwise damage the bag containing the Copper Sulfate once deployed. 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 granules have been dissolved. Large or medium sized Copper Sulfate granules should be used with this method since they dissolve slowly and evenly. Copper Sulfate can also be applied to impounded waters by injecting a copper sulfate solution in water via a piping system. **Note**: Maximum application rate is 4 ppm copper sulfate (1 ppm metallic copper). Minimum retreatment interval is 14 days.

{Notes to Reviewer in Braces}
[Optional Text in Brackets]

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 then 50 ppm methyl orange alkalinity) and higher concentration in hard waters (above 50 ppm alkalinity). Always consult State Fish and Game Agency before applying this product to municipal waters.

Concentrations of copper sulfate in water:

ORGANISM	**¼ to ½ ppm***	**½ to 1 ppm***	**1 to 1½ ppm***	**1½ to 2 ppm***
Cyanophyceae (Blue Green)	Anabaena Anacystis Aphanizomenon Gloeotrichia Gomphosphaeria Polycystis Rivularia	Cylindrospermum Oscillatoris Plectonema	Nostoc Phormidium	Calothrix Symploca
Chlorophyceae (Green)	Closterium Hydrodictyon Spirogyra Ulothrix	Botryococcus Cladophora Coelastrum Draparnaldia Enteromorpha Gloeocystis Microspora Tribonema Zygnema	Chlorella Crucigenia Desmidium Golenkinia Oocystis Palmella Pithophora Staurastrum Tetraedron	Ankistrodesmus Chara Nitella Scenedesmus
Diatomaceae (Diatoms)	Asterionella Fragilaria Melosira Navicula	Gomphonema Nitzschia Stephanodiscus Synedra Tabellaria	Achnanthes Cymbella Neidium	
Protozoa (Flagellates)	Dinobryon Synura Uroglena Volvox	Ceratium Cryptomonas Euglena Glenodinium Mallomonas	Chlamydomonas Hawmatococcus Perdinium	Eudorina Pandorina

*¼ - ½ ppm (0.0625 -0.125 ppm metallic copper) = 0.68 - 1.36 lbs/acre ft. Copper Sulfate (0.17 – 0.34 lb/acre ft metallic copper)
*½ - 1.0 ppm (0.125 -0.25 ppm metallic copper) = 1.36 - 2.72 lbs/acre ft Copper Sulfate (0.34 – 0.68 lb/acre ft metallic copper)
*1.0 - 1½ ppm (0.25 -0.375 ppm metallic copper) = 2.72 - 4.08 lbs/acre ft Copper Sulfate (0.68 – 1.02 lbs/acre metallic copper)
*1½- 2.0 ppm (0.375 -0.50 ppm metallic copper) = 4.08 - 5.44 lbs/acre ft Copper Sulfate (1.02 – 1.36 lbs/acre metallic copper)

CONTROL OF ALGAE & BACTERIAL ODOR IN SEWAGE LAGOONS AND PITS (except California): Application rates may vary depending on amount of organic matter in effluent system or retention ponds. Use 2 lbs. of Copper Sulfate (0.5 lb. metallic copper) in 60,000 gal. (8,000 cu. ft.) of effluent to yield 1 ppm of dissolved copper. Dosage levels may vary depending upon organic load. Other Organic Sludge: Copper Sulfate solution must be thoroughly mixed with sludge. Dissolve 2 lbs. Copper Sulfate (0.5 lb. metallic copper) in 1-2 gal. of water and apply to each 60,000 gals of sludge. Maximum application rate is 4 ppm copper sulfate (1 ppm metallic copper). Minimum retreatment interval is 14 days.

CONTROL OF 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 at the first sign of algae after the field has been flooded and prior to the algae's leaving the soil surface and rising to the water surface. Apply to the water surface as either crystals or

dissolve in water and make a surface spray. For a 3-inch flood depth, apply Copper Sulfate Crystals at a rate of 2.72 lbs. (0.68 lb. metallic copper) per acre. Likewise, for a 6- inch flood depth, use 5.44 lbs. Copper Sulfate (1.36 lbs. metallic copper) per acre. Adjust the rate according to average water depth, not to exceed the maximum application rate of 4 ppm copper sulfate (1 ppm metallic copper), which is equivalent to 10.88 lbs. copper sulfate (2.75 lbs. metallic copper) per acre foot of water. Do not exceed 22 lbs. Copper Sulfate (5.48 lbs. of metallic copper) per acre-foot per year.

CONTROL OF TADPOLE SHRIMP IN RICE FIELDS: Tadpole shrimp in rice fields may be effectively controlled by the prompt and proper use of Copper Sulfate Crystals. After the rice field has been flooded, Copper Sulfate Crystals should be uniformly applied at the first sign of infestation. For a 3-inch flood depth, apply 6.8 lbs Copper Sulfate (1.7 lbs. metallic copper) per acre. For a flood depth of 6 inches, use 13.6 lbs. Copper Sulfate (3.4 lbs metallic copper) per acre. Adjust the rate according to average water depth, not to exceed the maximum application rate of 10 ppm copper sulfate (2.5 ppm metallic copper), which is equivalent to 27.2 lbs. Copper Sulfate (6.8 lbs. metallic copper) per acre foot of water. Do not exceed 54.8 lbs. Copper Sulfate (13.7 lbs. of metallic copper) per acre-foot per year.

For simultaneous control of tadpole shrimp and algae in rice fields, do not exceed 54.8 lbs. Copper Sulfate (13.7 lbs. of metallic copper) per acre-foot per year.

SEWER TREATMENT – ROOT DESTROYER

State law prohibits the use of this product in sewage systems in the State of Connecticut and in the following counties of California: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano and Sonoma. Not for sale or use in septic systems in the state of Florida.

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 eventual flow stoppage. Copper Sulfate is an effective means to control roots in residential and commercial sewers.

Do not apply more than the maximum annual application rate of 4 lbs. Copper Sulfate per linear foot per year (1 lb metallic copper per linear foot per year). Do not apply Copper Sulfate through sink or tub drains, as it will corrode the metal drains. Copper Sulfate added to an active 300 gallon septic tank at up to 2 lbs. (0.5 lb. metallic copper) 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; only those roots inside the leach line are killed.

{Notes to Reviewer in Braces}
[Optional Text in Brackets]

{Optional Claim/Graphics when labeled for Sewer Treatment use (may be featured on front panel label or within body of label:}

[KEEP WATER FLOWING

]

COMMERCIAL, INSTITUTIONAL & MUNICIPAL USE:
Maximum annual application rate of 2 lbs. Copper Sulfate (0.5 lb. metallic copper) per drain per year. This product may not be used in municipal or public storm drains and storm sewers.

A. Root Control in Sewers: As a preventive measure and at times of reduced flow (some water flow is essential), apply up to 2 lbs. of Copper Sulfate (0.5 lb. metallic copper) into each junction or terminal manhole every 6-12 months. For reduced flow due to root masses, add Copper Sulfate in the next manhole above the reduced flow area. For complete stoppage, first penetrate the mass with a rod to enable some flow before treatment.
B. 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 up to 2 lbs. of Copper Sulfate (0.5 lb. metallic copper) per drain, every 6-12 months.
C. Sewer Pumps and Force Mains: At the storage well inlet, place a cloth bag containing up to 2 lbs. of Copper Sulfate (0.5 lb. metallic copper) every 6-12 months.

RESIDENTIAL OR HOUSEHOLD USE:

A. Root Control in Sewer Systems: It is important to treat with Copper Sulfate when reduced flow is first noticed and root growth is thought to be the cause. Do not wait until complete stoppage occurs; some flow is necessary to move the Copper Sulfate to the area of root growth. After roots have accumulated sufficient Copper Sulfate (usually 3-4 weeks), the roots will die and begin to decay, and water flow should increase. Follow-up treatments with Copper Sulfate will be required for regrowth of roots. Apply up to 2 lbs. Copper Sulfate (0.5 lb. metallic copper) two times per year – in the spring after plant growth begins and during late summer or early fall – or anytime a reduced water flow thought to be caused by root growth occurs. Using one-half pound increments, pour Copper Sulfate into the toilet bowl nearest the sewer line and flush; repeat this process until the recommended dose has been added. Or, remove cleanout plug and pour entire recommended amount directly into the sewer line; replace plug and flush the toilet several times.
B. Roots Control in Septic Tanks, Leach Lines & Leach Line Pipes: 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 up to 2 lbs. of Copper Sulfate (0.5 lb. metallic copper) 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 from the septic tank to the leach lines. A cleanout plus 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 lbs. (0.5 lb. metallic copper) 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. 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. Not for sale or use in septic systems in the States of Florida and Massachusetts.

***NOTE:** For all sewer line treatment applications do not use more than 2 lbs copper sulfate (0.5 lbs. metallic copper) per application. Minimum retreatment interval is 6 months. Make no more than two applications per calendar year. Do not exceed 8 lbs copper sulfate (2 lbs metallic copper) per year.

SCHISTOSOME-INFECTED FRESH WATER SNAILS:

For recreational lakes, reservoirs and ponds 5.32-13.3 lbs./acre-ft. Copper Sulfate (1.33-3.325 lbs. metallic copper) (i.e., 2-5 ppm copper sulfate) is usually sufficient for treatment of Schistosome-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 temperature is at least 60ºF. Do not allow swimming for at least 12 hours following treatment. If this higher dosage is used, do not allow swimming for 48 hours after treatment. With either dosage, a second application may be made if necessary, 10 to 14 days later. DO NOT make more than 2 applications a season. Broadcast application using boat, aircraft, or hand equipment with power or hand seeder or underwater dispenser. Do not exceed 1 ppm copper (4 ppm copper sulfate) in water destined for drinking water sources. This labeling must be in the possession of the user at the time of application.

[For 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 a 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 Dept. 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.]

{Notes to Reviewer in Braces}
[Optional Text in Brackets]

WARRANTY

Read and follow all package directions carefully. To the extent consistent with applicable law, purchaser and user assume all risks associated with improper use, or application or other factors beyond Bluewater Chemgroup's control. Bluewater Chemgroup 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 risks referred to above. To the extent consistent with applicable law, BLUEWATER CHEMGROUP MAKES NO AND THE LAW SHALL NOT FIND ANY EXPRESSED OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE. To the extent consistent with applicable law, purchaser's and user's sole remedy against Bluewater Chemgroup for any cause of action related to the handling or use of this product shall be for damages, the amount of which shall not exceed the price paid for the product that causes the alleged loss, damages, injury or other claim. To the extent consistent with applicable law, in no event shall Bluewater Chemgroup be liable for special indirect, incidental or consequential damages or expenses.
By purchasing or using this product purchaser or user accept the foregoing conditions of sale and limitation of warranty, liability and remedies.

BLUEWATER CHEMGROUP, INC.
P.O. Box 11384
Fort Wayne, IN 46857

{Batch Code inserted at production}

{Notes to Reviewer in Braces}
[Optional Text in Brackets]

{VERSION B – NON-COMMERCIAL LABEL}

BLUE WATER
COPPER SULFATE

{Optional Graphic Image:}
[

]

[Don’t Let Tree Roots Destroy Your Septic/Sewer]
[Don’t Let Tree Roots Interrupt Your Flow]

ACTIVE INGREDIENT:
Copper Sulfate Pentahydrate (CAS #7758-99-8) 99.0%
OTHER INGREDIENTS:..... 1.0%
TOTAL..... 100.0%
Copper as metallic not less than 25%

KEEP OUT OF REACH OF CHILDREN

DANGER/PELIGRO

Si usted no etiende 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 back/side/other panel(s)/attached pamphlet for instructions and additional Precautionary Statements.)

[DOT
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CUPRIC SULFATE), 9, UN3077, PGIII, RQ**]**

NET WEIGHT: xx LB (xx k)

{Notes to Reviewer in Braces}
[Optional Text in Brackets]

FIRST AID	
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 rinsing 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.
If on skin or clothing:	· Take off contaminated clothing. · Rinse skin immediately with plenty of water for 15-20 minutes. · Call 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 poison control center or doctor for further treatment advice.
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact the National Pesticide Information Center at 1-800-858-7378 for emergency medical information.	

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
DANGER-PELIGRO

Corrosive. Causes irreversible eye damage. May be fatal if swallowed. Harmful if absorbed through skin. Do not get in eyes or on clothing. Avoid contact with skin.

For applications in waters destined for use as drinking water, those waters must receive additional and separate potable water treatment. Do not apply more than 1.0 ppm metallic copper (4 ppm Blue Water Copper Sulfate) in these waters.

PERSONAL PROTECTIVE EQUIPMENT

Applicators and other handlers must wear the following:

- long-sleeved shirt
- long pants
- shoes plus socks
- waterproof gloves
- protective eyewear such as goggles, face shield or safety glasses

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

{Notes to Reviewer in Braces}
[Optional Text in Brackets]

USER SAFETY RECOMMENDATIONS

Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Users should 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 pesticide is toxic to fish and aquatic invertebrates. Waters treated with this product may be hazardous to aquatic organisms. Treatment of aquatic weeds and algae can result in oxygen loss from decomposition of dead algae and weeds. This oxygen loss can cause fish and invertebrate suffocation. To minimize this hazard, do not treat more than ½ of the water body to avoid depletion of oxygen due to decaying vegetation. Wait at least 14 days between treatments. Begin treatment along the shore and proceed outwards in bands to allow fish to move into untreated areas. Consult with the State or local agency with primary responsibility for regulating pesticides before applying to public waters, to determine if a permit is required.

Fish Advisory Statement: This copper product is toxic to fish and aquatic organisms. Unlike most organic pesticides, copper is an element and will not break down in the environment and will therefore accumulate in sediment with repeated applications. Copper is a micronutrient, but its pesticidal application rate exceeds the amount of copper needed as a nutrient.

Certain water conditions including low pH (≤6.5), low dissolved organic carbon (DOC) levels (3.0 mg./L or lower), and "soft" waters (i.e., alkalinity less than 50 mg/L), increases the potential acute toxicity to non-target aquatic organisms.

[When packaged/labeled for Sewer Treatment—Root Destroyer only:

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and aquatic invertebrates and may contaminate water through runoff. This product has a potential for runoff for several months or more after application. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product. Certain water conditions including low pH (≤6.5), low dissolved organic carbon (DOC) levels (3.0 mg/L or lower), and "soft" waters (i.e., alkalinity less than 50 mg/L), increases the potential acute toxicity to non-target aquatic organisms.]

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 adults, children or pets, either directly or through drift. Do not allow adults, children, or pets to enter the treated area until dusts have settled.

General Precautions and Restrictions: Do not enter or allow adults, children or pets to enter treated areas until dusts have settled.

{Notes to Reviewer in Braces}
[Optional Text in Brackets]

Do not use in residential ornamental fish ponds or other artificial aquaculture systems containing Koi or trout.

Aquatic Uses (excluding swimming pools, spas, hot tubs, fountains and aquatic agriculture) Waters treated with this product may be hazardous to aquatic organisms. Treatment of aquatic weeds and algae can result in oxygen loss from decomposition of dead biomass. This oxygen loss can cause fish and invertebrate suffocation. To minimize this hazard, do not treat more than ½ of the water body and wait at least 14 days between treatments to avoid depletion of oxygen due to decaying vegetation (excluding water infrastructure and constructed conveyances such as drainage and irrigation canals, ditches and pipelines or intakes and aqueducts for drinking water or irrigation use). Begin treatment along the shore and proceed outward in bands to allow fish to move into untreated areas. Consult with the state or local agency with primary responsibility for regulating pesticides before applying to public waters to determine if a permit is required.

Application of algaecides to high density booms of cyanobacteria can result in the release of intracellular contents into the water. Some of these intracellular compounds are known mammalian hepato- and nervous system toxins. Therefore, to minimize the risk of toxin leakage, manage cyanobacteria effectively in order to avoid applying this product when blooms of toxin-producing cyanobacteria are present at high density. In situations where rapidly reproducing toxic algal species pose a public health threat to drinking or recreational water resources, applicators must receive authorization from applicable state, local or tribal water resources authorities to apply copper at intervals shorter than 14 days should the circumstance demand.

Certain water conditions including low pH (≤6.5), low dissolved organic carbon (DOC) levels (3.0 mg/L or lower), and "soft" waters (i.e., alkalinity less than 50 mg/L), increases the potential acute toxicity to non-target aquatic organisms. The application rates on this label are appropriate for water with pH values >6.5, DOC levels >3.0 mg/L, and alkalinity greater than 50 mg/L. Avoid treating waters with pH values <6.5, DOC levels<3.0 mg/L, and alkalinity less than 50 ppm (e.g., soft or acid waters), as trout and other sensitive species of fish may be killed under such conditions if present.

Consult your state department of natural resources or fish and game agency before applying this product to public waters. Permits may be required before treating such waters.

Pre-Application Dose Determination: For algae and aquatic plant treatments, applicators should conduct initial dose determination tests simulating a full-scale treatment program to determine the minimum efficacious concentrations for eliminating the target species, unless an effective dose is already known for the given target pest population.

Applications to Whole Water Body: Maximum annual application rate of 87.6 lbs. Copper Sulfate (21.9 lbs. of metallic copper) per acre-foot (8 applications per year at up to 1 ppm). This rate/frequency is calculated based on staggering the treatment of each half of the water body every 14 days ((at a rate of 10.96 lbs. of Copper Sulfate (2.74 lbs. metallic copper) per acre-foot = 1 ppm)) for eight months (244 days). In situations where rapidly reproducing toxic algal species pose a public health threat to drinking or recreational water resources, applicators must receive authorization from applicable state, local or tribal water resources authorities to apply in excess of 87.6 lbs. Copper Sulfate (21.9 lbs. of metallic copper) per acre-foot (8 applications per year at up to 1 ppm).

Applications to Waterbody Sections: Maximum annual rate of 186.4 lbs. of Copper Sulfate (46.6 lbs. of metallic copper) per acre-foot per year (17 applications per year at up to 1 ppm). This rate/frequency is calculated based on the maximum number of possible applications allowed based on a 14-day minimum ((at a rate of 10.96 lbs. Copper Sulfate (2.74 lbs. metallic copper) per acre-foot = 1 ppm)) retreatment

interval for eight months (244 days). Do not apply more than 11.65 lbs. Copper Sulfate (46.6 lbs. of metallic copper) to a water management unit, regardless of the pest(s) targeted by applications. In situations where rapidly reproducing toxic algal species pose a public health threat to drinking or recreational water resources, applicators must receive authorization from applicable state, local or tribal water resources authorities to apply in excess of 186.4 lbs. Copper Sulfate (46.6 lbs. of metallic copper) per acre-foot per year for a single water management unit.

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.
PESTICIDE STORAGE: Store in original container and place in a locked storage area.
PESTICIDE DISPOSAL: Call your local solid waste agency for disposal instructions. Unless otherwise instructed, place in the trash. Never pour unused product down the drain or on the ground.
CONTAINER DISPOSAL: *If empty* – Nonrefillable container. Do not reuse or refill this container. Do not rinse unless required for recycling. Place in trash or offer for recycling if available. *If partly filled* – Call your local solid waste agency for disposal instructions. Unless otherwise instructed, place in the trash. Never pour unused product down the drain or on the ground.

GENERAL INSTRUCTIONS FOR USE
ALGAE CONTROL

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.

Water hardness, water temperature, the type and amount of vegetation to be controlled, and the amount of water flow must 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. Generally, larger quantities of Copper Sulfate will also be required to control algae growth when water temperatures are low (below 60ºF), in hard water, and in water that is free flowing. 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. For best results, 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. When in doubt about the concentration required for control, first use the lower concentration. If needed, gradually increase to the higher concentration until the algae are killed.

NOTE: If treated water is to be used as a source of potable water, the metallic copper residual must not exceed 1ppm (4 ppm copper sulfate pentahydrate).

{Notes to Reviewer in Braces}
[Optional Text in Brackets]

CALCULATIONS FOR AMOUNT OF WATER AND AMOUNT OF 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 the surface area in square feet by average depth in feet to obtain cubic feet of water volume, or 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 multiply volume in acre feet by 2,720,000 to obtain total pounds of water.

C. Calculate water flow in ditches, streams and irrigation systems:

2. The amount of water flow in cubic feet per second is found by means of a weir or other measuring device.

D. Calculate amount of Copper Sulfate to add:

1. To calculate the weight of Copper Sulfate needed to achieve the recommended concentration, multiply the weight of water in pounds by the recommended concentration of Copper Sulfate.

a. Since the recommended concentrations are given in parts per million (ppm) of product, first convert the value to a decimal equivalent. For example, a value of 1 ppm is equivalent to 0.000001 as a decimal value. Thus the amount of Copper Sulfate required to treat 1 acre-foot (2,720,000 pounds) of water with 1 ppm of Copper Sulfate would be: 0.000001 x 2,720,000 = 2.72 lbs. Copper Sulfate (0.68 lb. metallic copper).

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 gal.; 1 acre ft. = 326,000 gal.

TO CONTROL ALGAE IN IMPOUNDED WATER AND PONDS: There are several methods by which to apply Copper Sulfate to impounded water. Probably the simplest and most satisfactory method is to dissolve the Copper Sulfate in water and spray the solution over the body of the water. A small pump mounted in a boat can easily be used for this purpose. Another method is to broadcast the Copper sulfate granules directly on the water surface from a properly equipped boat. A specially equipped air blower can be used to discharge the product 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. Where the situation permits, a boat can be used to apply the product under the water by dragging burlap bags containing Copper Sulfate through the water. 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 ponds, 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

granules have been dissolved. Large or medium sized Copper Sulfate granules should be used with this method since they dissolve slowly and evenly. Copper Sulfate can also be applied to impounded waters by injecting a copper sulfate solution in water via a piping system.

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 then 50 ppm methyl orange alkalinity) and higher concentration in hard waters (above 50 ppm alkalinity). Always consult State Fish and Game Agency before applying this product to municipal waters.

Concentrations of copper sulfate in water:

ORGANISM	**¼ to ½ ppm***	**½ to 1 ppm***	**1 to 1½ ppm***	**1½ to 2 ppm***
Cyanophyceae (Blue Green)	Anabaena Anacystis Aphanizomenon Gloeotrichia Gomphosphaeria Polycystis Rivularia	Cylindrospermum Oscillatoris Plectonema	Nostoc Phormidium	Calothrix Symploca
Chlorophyceae (Green)	Closterium Hydrodictyon Spirogyra Ulothrix	Botryococcus Cladophora Coelastrum Draparnaldia Enteromorpha Gloeocystis Microspora Tribonema Zygnema	Chlorella Crucigenia Desmidium Golenkinia Oocystis Palmella Pithophora Staurastrum Tetraedron	Ankistrodesmus Chara Nitella Scenedesmus
Diatomaceae (Diatoms)	Asterionella Fragilaria Melosira Navicula	Gomphonema Nitzschia Stephanodiscus Synedra Tabellaria	Achnanthes Cymbella Neidium	
Protozoa (Flagellates)	Dinobryon Synura Uroglena Volvox	Ceratium Cryptomonas Euglena Glenodinium Mallomonas	Chlamydomonas Hawmatococcus Perdinium	Eudorina Pandorina

*¼ - ½ ppm (0.0625 -0.125 ppm metallic copper) = 0.68 - 1.36 lbs/acre ft. Copper Sulfate (0.17 – 0.34 lb/acre ft metallic copper)
*½ - 1.0 ppm (0.125 -0.25 ppm metallic copper) = 1.36 - 2.72 lbs/acre ft Copper Sulfate (0.34 – 0.68 lb/acre ft metallic copper)
*1.0 - 1½ ppm (0.25 -0.375 ppm metallic copper) = 2.72 - 4.08 lbs/acre ft Copper Sulfate (0.68 – 1.02 lbs/acre metallic copper)
*1½- 2.0 ppm (0.375 -0.50 ppm metallic copper) = 4.08 - 5.44 lbs/acre ft Copper Sulfate (1.02 – 1.36 lbs/acre metallic copper)

{Notes to Reviewer in Braces}
[Optional Text in Brackets]

SEWER TREATMENT – ROOT DESTROYER

State law prohibits the use of this product in sewage systems in the State of Connecticut and in the following counties of California: Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano and Sonoma. Not for sale or use in septic systems in the state of Florida.

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 eventual flow stoppage. Copper Sulfate is an effective means to control roots in residential and commercial sewers.

Do not apply more than the maximum annual application rate of 4 lbs. Copper Sulfate per linear foot per year (1 lb metallic copper per linear foot per year). Do not apply Copper Sulfate through sink or tub drains, as it will corrode the metal drains. Copper Sulfate added to an active 300 gallon septic tank at up to 2 lbs. (0.5 lb. metallic copper) 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; only those roots inside the leach line are killed.

{Optional Claim/Graphics when labeled for Sewer Treatment use (may be featured on front panel label or within body of label):

[KEEP WATER FLOWING

]

RESIDENTIAL OR HOUSEHOLD USE:

A. Root Control in Sewer Systems: It is important to treat with Copper Sulfate when reduced flow is first noticed and root growth is thought to be the cause. Do not wait until complete stoppage occurs; some flow is necessary to move the Copper Sulfate to the area of root growth. After roots have accumulated sufficient Copper Sulfate (usually 3-4 weeks), the roots will die and begin to decay, and water flow should increase. Follow-up treatments with Copper Sulfate will be required for regrowth of roots. Apply up to 2 lb. Copper Sulfate two times per year – in the spring after plant growth begins and during late summer or early fall – or anytime a reduced water flow thought to be caused by root growth occurs. Using one-half pound increments, pour Copper Sulfate into the toilet bowl nearest the sewer line and flush; repeat this process until the recommended dose has been added. Or, remove cleanout plug and pour entire recommended amount directly into the sewer line; replace plug and flush the toilet several times.

{Notes to Reviewer in Braces}
[Optional Text in Brackets]

B. Roots Control in Septic Tanks, Leach Lines & Leach Line Pipes: 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 up to 2 lbs. of Copper Sulfate (0.5 lb. metallic copper) 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 from the septic tank to the leach lines. A cleanout plus opening may need to be installed if the distribution box does not have an opening leading to the leach lines.

WARRANTY

Read and follow all package directions carefully. To the extent consistent with applicable law, purchaser and user assume all risks associated with improper use, or application or other factors beyond Bluewater Chemgroup's control. Bluewater Chemgroup 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 risks referred to above. To the extent consistent with applicable law, BLUEWATER CHEMGROUP MAKES NO AND THE LAW SHALL NOT FIND ANY EXPRESSED OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE. To the extent consistent with applicable law, purchaser's and user's sole remedy against Bluewater Chemgroup for any cause of action related to the handling or use of this product shall be for damages, the amount of which shall not exceed the price paid for the product that causes the alleged loss, damages, injury or other claim. To the extent consistent with applicable law, in no event shall Bluewater Chemgroup be liable for special indirect, incidental or consequential damages or expenses.
By purchasing or using this product purchaser or user accept the foregoing conditions of sale and limitation of warranty, liability and remedies.

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{Batch Code inserted at production}