

Algaecide and Water Quality Enhancer®



For use in aquatic sites including: ponds, lakes, reservoirs, irrigation and drainage canals, laterals and ditches, flooded rice fields, aquaculture, man-made water features, livestock watering basins, potable water systems.

Acti			

Copper Sulfate Pentahydrate <sup>†</sup> (CAS# 7758-99-8)	58.9%
Other Ingredients	41.1%
TOTAL	100.0%

# WARNING / AVISO

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

Refer to inside of label booklet for additional precautionary statements and directions for use including first aid and storage and disposal.

**Notice:** Read the entire label before using. Use only according to label directions. Before buying or using this product, read Warranty Disclaimer and Misuse statements inside label booklet. If terms are unacceptable, return at once unopened.

#### NSF/ANSI 60

Tested and certified by Water Quality Association (WQA) according to NSF/ANSI 60. A Maximum Use Level of 1mg/L is required for the product. This seal does not imply enhanced safety or efficacy.



EPA Reg. No. 67690-72

FPL20160125

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# PRECAUTIONARY STATEMENTS

**Hazards to Humans and Domestic Animals** 

# WARNING / AVISO

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

May be fatal if swallowed. Causes substantial but temporary eye injury. Wear protective eyewear. Do not get in eyes, on skin or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

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 of metallic copper in these waters.

FIRST AID				
If swallowed	Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything to an unconscious person.			
If in eyes	<ul> <li>Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes; then continue rinsing eye.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>			
If on skin or clothing	Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice.			
If inhaled	<ul> <li>Move person to fresh air.</li> <li>If person is not breathing, call 911 or an ambulance; then give artificial respiration, preferably mouth-to-mouth, if possible.</li> <li>Call a poison control center or doctor for further treatment advice.</li> </ul>			
	HOTLINE NUMBER			

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. In case of emergency endangering health or the environment involving this product, call **INFOTRAC** at **1-800-535-5053**.

# PERSONAL PROTECTIVE EQUIPMENT (PPE)

For all types of applications, mixers, loaders, applicators and other handlers must wear the following:

- Protective eyewear (goggles, face shield, or safety glasses)
- · Long-sleeve shirt,
- Long pants,
- Shoes plus socks
- Chemical resistant gloves made of any waterproof material
  Discard clothing and other absorbent material that have been drenched or
  heavily contaminated with this product's concentrate. Do not reuse them.
   Follow manufacturer's instructions for cleaning/maintaining PPE. If no such
  instructions for washables exist, use detergent and hot water. Keep and
  wash PPE separately from other laundry.

# USER SAFETY RECOMMENDATIONS

#### Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

#### **Environmental Hazards**

This 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 a minimum of 10 to 14 days, depending on use, 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.

Certain water conditions including low pH ( $\leq$ 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), increase the potential acute toxicity to non-target aquatic organisms. Do not use in waters containing trout or other fish species that are highly sensitive to copper if the carbonate hardness is less than 50 ppm. Fish toxicity generally decreases when the hardness of water increases. Do not use this product in ornamental ponds containing Koi.

**Obtain Required Permits:** Consult with appropriate state or local pesticide and/or water authorities before applying this product in or around public waters. Permits and posting or treatment notification may be required by State, Tribal, or local public agencies.

#### **DIRECTIONS FOR USE**

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Read all Directions for Use carefully before applying.

This product may be **applied directly as a granule or dissolved in water** and sprayed, dripped, injected, metered, whichever is most suitable to ensure uniform coverage of the area to be treated.

**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 State or Tribal agency responsible for pesticide regulation.

Ensure spray or granules do not drift onto non-target areas.

**DO NOT** apply this product in any manner not specifically described in this label. Observe all cautions and limitations on this label and on the labels of products used in combination with this product. Keep containers closed to avoid spills and contamination.

#### 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 to 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
- Chemical resistant gloves made of any waterproof material; and
- Protective eyewear.

# NONAGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard (WPS) 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. For other uses, including golf courses and other nonagricultural uses, do not enter treated areas without protective clothing until sprays have dried.

# **Product Information**

As an algaecide, this product rapidly disrupts numerous algae cell processes and shuts down growth. This product is effective in controlling a broad range of algae including: green, yellow/green and blue-green (cyanobacteria) algae comprising diverse growth forms such as filamentous, colonial, planktonic and macrophytic. Treated algae typically begin to show discoloration within a day and degrade over time.

Aside from effectively controlling algae, this can simultaneously improve water quality by:

- 1. Offsetting eutrophication through proactive maintenance programs.
- Decreasing phosphorus concentrations from the water column through binding and precipitation of dissolved phosphorus.
- 3. Binding and precipitation of suspended solids, thereby reducing turbidity and unwanted coloration.

Use lower concentrations/rates in softer water (<50 ppm alkalinity) or when treating algae species with greater susceptibility to this product; use moderate to higher concentrations/rates in harder water (>50 ppm alkalinity) and when treating heavier infestations and/or less susceptible species.

#### **Treatment Notes**

Product performance is enhanced under certain conditions. It is recommended to consult a SePRO Aquatic Specialist for guidance in implementing a treatment program to achieve optimal results. The following apply to the use of this product to achieve optimum effectiveness:

- Proactive Control: Treat when algae growth first begins to appear (if possible). Continue to proactively offset algae infestations and improve water quality by sustaining a routine maintenance program.
- Reactive Control: Treat when algae are actively growing and select appropriate rates based on site conditions.

- Apply in a manner that will ensure even distribution of this product within the treatment area.
- To optimize exposure and control, use a high-pressure spray application to break up dense algae mats.
- In heavily infested areas, follow-up applications may be necessary.
   Re-treat areas if re-growth begins to appear or if seasonal control is desired.
- It is recommended to design and implement an annual maintenance program which includes monitoring algae and basic water quality parameters to optimize nuisance algae and water quality management. Contact SePRO Corporation for assistance in algae identification, treatment prescription and implementation using this product (Note: SePRO Corporation's technical service of algae identification, site monitoring and assessment is referred to as SeSCRIPT® analysis 252-437-3282).

# **Precautions and Restrictions**

Do not apply this product directly to, or otherwise permit it to come into contact with any desirable terrestrial or riparian plants as injury may result. Do not apply in such a way that concentrated product comes in contact with crops, ornamentals, grass or other desirable plants. Wash application equipment after use.

# Spray Drift Management

The following spray drift management requirements are for application methods except when the product is injected into the water or applied as a granule. Surface applications should be made only when there is little or no hazard for spray drift. Very small quantities of spray, which may not be visible, may seriously injure susceptible plants. A variety of factors including weather conditions (e.g., wind direction, wind speed, temperature, relative humidity) and method of application (e.g., ground, aerial, airblast) can influence pesticide drift. The applicator must evaluate all factors and make appropriate adjustments when applying this product. Avoiding spray drift at the application site is the responsibility of the applicator. The applicator is responsible for considering all these factors when making decisions. Do not conduct a surface spray application when wind is blowing toward desirable susceptible crops or ornamental plants near enough to be injured. Under these conditions, this product may be applied using a sub-surface/granular injection.

# **Droplet Size**

Apply only as a medium or coarser spray (ASAE standard 572) or a volume mean diameter of 300 microns or greater for spinning atomizer nozzles.

# Wind Speed

Do not apply as a surface spray at wind speeds greater than 15 mph. Only apply this product if the wind direction favors on-target deposition (approximately 3 to 10 mph), and there are no sensitive areas within 250 feet downwind.

# Temperature Inversions

If applying at wind speeds less than 3 mph, the applicator must determine if a) conditions of temperature inversion exist, or b) stable atmospheric conditions exist at or below nozzle height. Do not make surface applications into areas of temperature inversions or stable atmospheric conditions.

#### Other State and Local Requirements

Applicators must follow all state and local pesticide drift requirements regarding application of copper compounds. Where states have more stringent regulations, they must be observed.

#### Equipment

All aerial and ground application equipment must be properly maintained and calibrated using appropriate carriers or surrogates.

Additional requirements for aerial applications: The boom length must not exceed 75% of the wingspan or 90% of the rotor blade diameter. Release spray at the lowest height consistent with efficacy and flight safety. Do not release spray at a height greater than 10 feet above the water's surface unless a greater height is required for aircraft safety. When applications are made with a crosswind, the swath must be displaced downwind. The applicator must compensate for this displacement at the up and downwind edge of the application area by adjusting the path of the aircraft upwind.

# **Application Information**

This product may be applied directly as a granule or dissolved in water and sprayed, dripped, injected, metered, whichever is most suitable to ensure uniform coverage of the area to be treated.

Do not exceed a concentration of 1.0 ppm copper during any single application; wait a minimum of 14 days between treatments except for when treating aquaculture ponds or new waters such as in flowing water sites (refer

to *Drip System or Metering Pump Application for Flowing Water Treatments*). (Note: When treating aquaculture ponds when fish are present, do not exceed a concentration of 0.4 ppm during any single application when targeting nuisance algae; wait a minimum of 10 days between treatments).

#### **Application Methods and Rates**

#### **Granular Application**

Apply this product as a granule to target benthic algae growths, accumulated mats/scums, or macroalgae. Calculate required pounds of this product necessary to achieve control of the target infestation (Table 1). Apply this product by broadcast application, hand spreader, scoop, eductor, mechanical spreader, blower or other equipment capable of uniform application. Ensure even distribution of this product over the target treatment area. Calibrate application equipment to ensure proper amount is being applied. Delivery rate, swath width and speed of application should all be considered.

# Surface and Broadcast Spray Application

Dissolve the required amount of this product in an adequate amount of water based on application equipment being used. Spray the solution to ensure even distribution in the targeted treated area.

The application concentrations/rates in Table 1 are based on static or minimal flow situations. Where significant dilution occurs from untreated waters or loss of water, this product may have to be dissolved in water and metered in (refer to the *Drip System or Metering Pump Application for Flowing Water Treatments* section of this label).

Identify the algae growth present as one of the following types: planktonic (suspended), filamentous (mat-forming), or macrophytic algae (*Chara/Nitella*). For assistance with algae identification, contact SePRO Corporation (\$\Pi\$\$ 252-437-3282).

Determine the surface acreage (1 acre = 43,560 ft²) and average depth of infested area. Refer to chart below to determine pounds of this product to apply per acre foot (one acre of water, one foot deep).

TABLE 1.						
Application Rates						
Algae Type or Species	PPM Metallic Copper	Pounds Product per Acre Foot	Treatment Comments			
Planktonic (Suspended, scum forming)	0.10-1.0	1.8-18.0	Apply higher rates on heavy blooms and where algae masses are clumped and accumulated.			
Filamentous (Mat-forming)	0.2-1.0	3.6-18.0	Apply higher rates on surface or benthic mats of species such as Pithophora, Cladophora, Spirogyra, Lyngbya, and Hydrodictyon.			
Macrophytic (Chara/ Nitella/Starry Stonewort)	0.4-1.0	7.2-18.0	Apply higher rates on older, established calcified plants. Apply as close to algae growth as possible.			

Application Rate Calculation:

acre feet x desired metallic copper ppm x 18.0 = pounds of this product to be applied

Example: The amount of this product to be applied to provide the desired concentration of 0.2 ppm of active ingredient in a 1 surface acre treatment area with an average depth of 4 feet may be calculated at follows:

1 surface acre x 4 foot average depth = 4 acre feet 4 acre feet x 0.2 ppm x18.0 = 14.4 pounds

For planktonic (suspended) algae and free-floating filamentous algae mats, application rates and techniques should be based on treating to depths where algae are present (e.g. the upper 3 to 4 feet of water in a deeper pond). For dense infestations and in certain other situations, it may be necessary to calculate rates based on the depth of known algae infestation or require treating the entire water column in the treatment area.

# Slug Application Method for Flowing Canals

For increased efficacy, apply this product as soon as the algae begin active growth or noticeably interfere with water delivery. Heavy infestations may require multiple applications to attain control. Apply this product, dissolved in tank mix or as granule, to the flowing water at 0.3-3.3 pounds/CFS (Cubic Feet per Second) as a slug or dump application (see equation above for

calculating CFS). Depending on water hardness, alkalinity, velocity and algae conditions, a slug application is typically required every 3-10 miles. For application in flowing canals with functioning potable water intakes at or downstream from application site, do not apply more than 1 ppm.

# Drip System, Metering Pump or Metered Application for Flowing Water Treatments

For Use in Potable Water, Canals, Ditches, and Irrigation and Drainage Systems

Dissolve the required amount of this product in water at a 1:2 ratio (1 pound of this product with 2 gallons of water) or greater (more water) when mixing in a tank with moderate to high agitation or at a ratio of 1:4 or greater when mixing in a tank with low agitation. For optimal control, apply this product upstream of or at the site of algae growth, as soon as algae begin active growth or interfere noticeably with normal delivery of water (clogging of headgates, suction screens, weed screens, and siphon tubes). Delaying treatment could make the problem worse by causing massing and compacting of plants. Heavy infestations and low flow may cause poor distribution resulting in unsatisfactory control. Under these conditions repeated applications or increasing water flow rate during application may be necessary. See the 'Application Information' section above for the minimum time interval required between repeated applications.

To achieve desired control with this product in flowing waters, a minimum exposure period of one to three hours should be maintained at a concentration of 0.10 to 1.0 ppm. Other factors to consider include: weed or algae species, density of infestation and water temperature and hardness. Longer contact times and the highest rates may be required for less susceptible species and in difficult treatment conditions (e.g. less susceptible weed or algae species, dense weed or algae beds, hard water).

Prior to treatment it is important to accurately determine water flow rates. In the absence of weirs, orifices, or similar devices, which give accurate water flow measurements, volume of flow can be estimated by the following formula:

#### Cubic feet per second (CFS) =

average width (feet) **x** average depth (feet) **x** average velocity (feet / second) **x** 0.9

After accurately determining the water flow rate in CFS or gallons / minute, find the corresponding product rate in Table 2 or use the below formula.

CFS  ${\bf x}$  desired concentration of metallic copper (ppm)  ${\bf x}$  1.5 = pounds/hour of application

TABLE 2.					
Application Rates For Flowing Water					
Water Flow Rate		PPM	Application Rate		
CFS	gal / min.	metallic Copper	pounds / hr.	grams / min.	
1	450	0.10 - 1.0	0.15 - 1.5	1.1 - 11.4	
2	900	0.10 - 1.0	0.30 - 3.0	2.2 - 22.8	
3	1,350	0.10 - 1.0	0.45 - 4.5	3.4 - 34.2	
4	1,800	0.10 - 1.0	0.60 - 6.0	4.5 - 45.6	
5	2,250	0.10 - 1.0	0.75 - 7.5	5.6 - 56.8	
10	4,500	0.10 - 1.0	1.5 - 15	11.3 - 113.5	
100	45,000	0.10 - 1.0	15 - 150	113.5 - 1,135	

Calculate the amount of product needed to maintain the drip rate for a treatment and dilute with water to achieve necessary drip duration. As an example, for a duration period of 3 hours multiply **pounds/hour by 3 or grams/minute by 180.** For longer injection periods, multiply dosage rate by desired time in minutes or hours as appropriate.

Lower concentrations may be used on highly susceptible algae species or if longer exposure times are maintained. Where possible, introduce this product in the channel at weirs or other turbulence-creating structures to promote the dispersion of the chemical. For longer injection periods, multiply the rate by the desired time in minutes or hours as appropriate.

Use a drum or tank equipped with a valve or other volume control device that can be calibrated to maintain a constant drip rate. Use a stopwatch and appropriate measuring container to set the desired drip rate. Readjust accordingly if the canal flow rate changes during the treatment period. A small pump or other metering device may be used to meter this product into the water more accurately.

Results can vary depending upon species and density of algae and vegetation, desired distance of control and flow rate, and impact of water quality on efficacy. Periodic maintenance treatments may be required to maintain seasonal control. It is recommended to consult a SePRO Aquatic Specialist to determine optimal use rate, location of treatment stations and treatment period under local conditions.

#### Aerial Application

This product may be applied using a helicopter or airplane. Aerial applications must be conducted in a manner that applies target rate pounds per acre evenly in the treatment area; apply this product as a granule or dissolved in water to ensure uniform application. All equipment should be properly calibrated prior to application. Use an appropriate tracking device (e.g. GPS) to avoid streaked, uneven or overlapped application. Refer to the *Spray Drift Management* section of this label for additional precautions and instructions for aerial application.

#### Application to Flooded Rice Fields

When algae is present, apply this product (granule or dissolved as solution) at a rate of 3.6 to 18.0 pounds (0.2 to 1.0 ppm metallic copper) per acre foot of water. Calculate acre feet of water in a flooded rice field as follows: surface acres of water X average water depth (feet) = acre feet of water. See Table 1 for additional rate calculation guidance. Wait a minimum of 14 days between treatments.

#### **Tank Mix Directions**

This product may be tank mixed with other products to enhance efficacy and plant selectivity provided that the labels do not prohibit such mixing. Dissolve the required amount of this product in an adequate amount of water based on application equipment being used followed by the addition of the other product. This product can be tank mixed with algaecides and herbicides registered for aquatic use to improve efficacy; and to control algae in areas where heavy algae growth may cover target submersed plant species and interfere with herbicide exposure. When tank mixing, read and follow the labeled precautionary statements, directions for use, weeds controlled, and other restrictions for each tank mix product. Use in accordance with the most restrictive label limitations and precautions of the products used in the tank-mix. Do not exceed any labeled rate or dose. Conduct a jar test to ensure compatibility before field application of any tank mix combination. It is recommended to consult with SePRO Corporation for latest tank mix recommendations.

**NOTE:** Tank mixing or use of this product with any other product which is not specifically and expressly authorized by the label shall be at the exclusive risk of the user, applicator and/or application adviser, to the extent allowed by applicable law.

#### STORAGE AND DISPOSAL

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

Pesticide Storage: Store in original container only. Do not store near feed or foodstuffs. In case of spill, contain material and dispose of as waste.

Pesticide Disposal: Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

Container Handling:

Non-refillable Container (non-rigid, any size): Do not reuse or refill this container. Completely empty bag into application equipment. Offer for recycling if available. If recycling is not available, then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Non-refillable Container (rigid, any size): Do not reuse or refill this container. Completely empty container into application equipment. Offer for recycling if available. If recycling is not available, then puncture and dispose of empty container in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

#### IN CASE OF EMERGENCY

In case of large-scale spillage regarding this product, call INFOTRAC at 1-800-535-5053.

#### Steps to be taken in case material is released or spilled:

- Dike and contain the spill with inert material (sand, earth, etc.) and transfer liquid and solid diking material to separate containers for disposal.
- Remove contaminated clothing, and wash affected skin areas with soap and water.
- Wash clothing before reuse.
- Keep the spill out of all sewers and open bodies of water.

Warranty Disclaimer: SePRO Corporation warrants that this product conforms to the chemical description on the product label. Testing and research have also determined that this product is reasonably fit for the uses described on the product label. To the extent consistent with applicable law, SePRO Corporation makes no other express or implied warranty of fitness or merchantability nor any other express or implied warranty and any such warranties are expressly disclaimed.

**Misuse:** Federal law prohibits the use of this product in a manner inconsistent with its label directions. To the extent consistent with applicable law, the buyer assumes responsibility for any adverse consequences if this product is not used according to its label directions. In no case shall SePRO Corporation be liable for any losses or damages resulting from the use, handling or application of this product in a manner inconsistent with its label.

For additional important labeling information regarding SePRO Corporation's Terms and Conditions of Use, Inherent Risks of Use and Limitation of Remedies, please visit http://seprolabels.com/terms or scan the image below.



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**SePRO Corporation** 

11550 North Meridian Street, Suite 600 Carmel, IN 46032, U.S.A.