CUTRINE® PLUS

ALGAECIDE and HERBICIDE

Pat. No. 3,930,834
EPA Reg. No. 8959-10
EPA Est. No. 42291-GA-1

FOR USE IN: LAKES; POTABLE WATER RESERVOIRS; FARM, FIRE, FISH PONDS; FISH HATCHERIES AND RACEWAYS; CROP AND NON-CROP IRRIGATION CONVEYANCE SYSTEMS (DITCHES, CANALS AND LATERALS)

ACTIVE INGREDIENTS:
Copper Ethanolamine Complex, Mixed,
(Mono CAS# 14215-52-2 and Tri CAS# 82027-59-6)* 27.90%
INERT INGREDIENTS: 72.12%
TOTAL 100.00%

*Metalic copper equivalent, 9%. Contains 0.909 lbs. of elemental copper per gallon.

KEEP OUT OF REACH OF CHILDREN
DANGER
PELIGRO

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

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 on skin or clothing:
- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15-20 minutes.
- Call a poison control center or doctor for treatment advice.

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

If inhaled:
- Move person to fresh air.
- If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.
- Call a poison control center or doctor for further treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. In case of emergency call 1-800-654-6911. For help with a spill, leak, fire or exposure involving this material call CHEMTREC 1-800-424-9300.

Note to Physician: Probable mucosal damage may contraindicate the use of gastric lavage.
NET CONTENTS: _______ GALLONS (______ Liters)

MANUFACTURED FOR:

applied biochemists
W175 N111613 Stonewood Drive Suite 234
GERMANTOWN, WISCONSIN 53022
1-800-558-5106
www.appliedbiochemists.com

See additional precautions on Back Panel

GENERAL INFORMATION

CUTRINE-PLUS is a liquid copper-based formulation containing ethanolaamine chelating agents to prevent the precipitation of copper with carbonates and bicarbonates in the water. CUTRINE-PLUS effectively controls a broad range of algae including: Planktonic (suspended) forms such as the Cyanobacteria (Microcystis, Anabaena & Aphanizomenon), Green algae (Raphidocelis & Cosmarium) Golden algae (Prymesium parvum) and diatoms (Navicula & Fragilaria); Filamentous (mat-forming) forms such as the Green Algae (Spirogyra, Cladophora, Ulothrix & Rhizoclonium) and Benthic (bottom-growing) forms such as Chara and Nitella. CUTRINE-PLUS has also been proven effective in controlling the rooted aquatic plant, Hydrilla verticillata. Waters treated with CUTRINE-PLUS may be used for swimming, fishing, further potable water treatment, livestock watering or irrigating turf, ornamental plants or crops after treatment.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. 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 as metallic copper in these waters. Read entire label and use strictly in accordance with precautionary statements and directions.

GENERAL APPLICATION RESTRICTIONS:
(For end-use products in containers ≥ 5 gallons or ≥ 50 pounds.)
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.

(For end-use consumer products in containers less than 5 gallons or less than 50 pounds)
Do not apply this product in a way that will contact adults, children, or pets, either directly or through drift. Some states may require permits for the application of this product to public waters. Check with your local authorities.

(For all sizes)
Do not enter or allow others to enter until application of product has been completed in the area.

PRE-TREATMENT CONSIDERATIONS:

(For end-use products in containers ≥ 5 gallons or ≥ 50 pounds.)
In Potable Water Reservoirs, Lakes, Industrial Ponds & Wastewater or other monitored water systems, initial treatment with CUTRINE-PLUS should be considered at the onset of nuisance bloom conditions as evidenced by initial taste and odor complaints; high cell counts or chlorophyll a concentrations; high MIB or geosmin concentrations; visible surface scum formations; low Secchi disk readings; significant daily fluctuations in dissolved oxygen; and/or sudden increases in pH. Monitoring of several of these parameters on a regular basis will assist in optimizing the timing of treatments and reducing the amounts of CUTRINE-PLUS needed for seasonal control. Identification of primary nuisance species or genera may also be helpful in determining and refining dosage rates.
In Ponds (Farm, Fire, Fish, Golf Course, Irrigation, Ornamental, Stormwater Retention, Swimming), Small Lakes, Fish Hatcheries, Aquaculture Facilities, treatment with CUTRINE-PLUS should be started when visible, actively growing algae and susceptible plants appear in spring, preferably before significant surface accumulations occur. Aeration and/or fountain system, where available, should be in operation at the time of treatment.

Spray Drift Management
A variety of factors including weather conditions (e.g., wind direction, wind speed, temperature, relative humidity) and the method of application (e.g., ground, aerial, airblast, chemigation) can influence pesticide drift. The applicator must evaluate all factors and make appropriate adjustments when applying this product.

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

For groundboom application:
Do not apply with a nozzle height greater than 4 feet above the crop canopy

SURFACE SPRAY / INJECTION

SLOW-FLOWING OR QUIESCENT WATER BODIES
ALGAECIDE APPLICATION
For effective control, proper chemical concentration should be maintained for a minimum of three hours contact time. The application rates in the chart are based on static or minimal flow situations. Where significant dilution or loss of water from unregulated inflows or outflows occur (raceways) within a three hour period, chemical may have to be metered in.

1. Identify the form of algae growth present as one of the following types: Planktonic (suspended), Filamentous (mat forming), or Benthic (Chara/Nitella) and estimate the density of growth (Low, Medium, High). Use Table 1 - Copper Concentration to select the desired PPM (Parts per Million) Copper needed, based upon the algal form and density.

<table>
<thead>
<tr>
<th>Table 1 - Copper Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form of Algal Growth</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Planktonic</td>
</tr>
<tr>
<td>Filamentous</td>
</tr>
<tr>
<td>Benthic</td>
</tr>
</tbody>
</table>

2. Refer to the Table 2 – Cutrine-Plus Application Rate and determine gallons of product needed per Acre-foot corresponding to the desired PPM concentration determined in step #3.

<table>
<thead>
<tr>
<th>Table 2 - Cutrine-Plus Application Rate (Gallons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PPM Copper</td>
</tr>
<tr>
<td>0.2</td>
</tr>
<tr>
<td>Gallon per Acre-ft</td>
</tr>
<tr>
<td>0.6</td>
</tr>
</tbody>
</table>
3. Determine acre-feet within the intended treatment area (area of infestation) by measuring length, width plus averaging several depth readings within the treatment area. Use the formula:

\[
\text{Length (ft.) x Width (ft.) x Avg. Depth (ft.)} = \text{Acre-Feet}
\]

43,560

4. Multiply Acre-Feet calculated in Step #5 times the gallons of CUTRINE-PLUS determined in Step #4 to determine number of gallons of CUTRINE-PLUS required for the intended treatment area.

5. Before applying, dilute the required amount of CUTRINE-PLUS with enough water to ensure even distribution with the type of equipment being used. Typical dilution range is 9:1 when using backpack-type sprayer or up to 50:1 when using water pump equipment or large tank sprayers.

6. Break up floating algae mats manually before spraying or with force of power sprayer if one is used. Use hand or power sprayer adjusted to rain-sized droplets to cover area evenly taking water depth into consideration. If using underwater injection systems such as drop hoses or booms with weighted drop hoses, ensure boat pattern is uniform throughout treatment area. Spray shoreline areas first to avoid trapping fish.

7. Clean spray equipment by flushing with clean water after treatment and follow instructions STORAGE AND DISPOSAL instructions on the label for empty or remaining partial containers.

8. Under conditions of heavy infestation, treat only 1/3 to ½ of the water body at a time to avoid fish suffocation caused by oxygen depletion from decaying algae. (see additional Environmental Hazards).

OTHER TREATMENT FACTORS AND CONSIDERATIONS

- Calm and sunny conditions when water temperature is at least 60°F will usually expedite control results.
- Effective control of algae requires direct contact with all cells throughout the water column, since these plants do not have vascular systems to transport copper from cell to cell.
- Visible reduction in algae growth should be observed in 24 to 48 hours following application with full infestation and water temperatures.
- Re-treat areas if re-growth or new growth begins to appear and seasonal control is desired. Identify new growth to re-check required copper concentration that may be needed for control. Apply treatment along the shore and proceed outwards in bands to allow fish to move into untreated areas.
- No more than ½ of the water body may be treated at one time. (refer to Environmental Hazards for additional guidance)
- The minimum retreatment interval between consecutive treatments is 14 days.

CUTRINE-PLUS Granular Algaecide may be used as an alternative in low volume flow situations, spot treatments or treatment of bottom-growing algae in deep water.

Permits:
Some states may require permits for the application of this product to public waters. Check with your local authorities.

HERBICIDE APPLICATION (For Hydrilla Control)
CUTRINE-PLUS:
Control of Hydrilla verticillata can be obtained from copper concentrations of 0.4 to 1.0 ppm resulting from CUTRINE-PLUS treatment. Choose the application rate based upon stage and density of Hydrilla growth and respective water depth from the chart below.
Application Rates
Gallons/Surface Acre

<table>
<thead>
<tr>
<th>Growth Stage</th>
<th>Relative Density</th>
<th>PPM Copper</th>
<th>DEPTH IN FEET</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Early Season</td>
<td>Low Density</td>
<td>0.4</td>
<td>1.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.5</td>
<td>1.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>---0.6---</td>
<td>---1.8---</td>
</tr>
<tr>
<td>Mid-Season</td>
<td>Moderate Density</td>
<td>0.7</td>
<td>2.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>---0.8---</td>
<td>---2.4---</td>
</tr>
<tr>
<td>Late Season</td>
<td>High Density</td>
<td>0.9</td>
<td>2.7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.0</td>
<td>3.0</td>
</tr>
</tbody>
</table>

* Application rates for depths greater than six feet may be obtained by adding the rates given for the appropriate combination of depths. Application rates should not result in excess of 1.0 ppm copper concentration within treated water.

CUTRINE® PLUS: HARVESTER™ TANK MIX

On waters where enforcement of use restrictions for recreational, domestic and irrigation uses are acceptable, the following mixture can be used as an alternative Hydrilla control method. Tank mix 3 gallons of CUTRINE-PLUS with 2 gallons of HARVESTER™. Apply mixture at the rate of 5 gallons per surface acre. Dilute with at least 9 parts water and apply as a surface spray or underwater injection. Observe all cautions and restrictions on the labels of both products used in this mixture.

FLOWING WATER
DRIP SYSTEM APPLICATION - FOR USE IN POTABLE WATER AND IRRIGATION CONVEYANCE SYSTEMS

PRE-TREATMENT CONSIDERATIONS

In Crop and Non-Crop Irrigation Conveyance Systems: Ditches Canals & Laterals, CUTRINE PLUS treatments should be applied as soon as algae or aquatic vascular plants begin to interfere noticeably with normal delivery of water (clogging of lateral headgates, suction screens, weed screens and siphon tubes). Delaying treatment could perpetuate the problem causing massing and compacting of plants. Heavy infestations and low flow conditions may require increasing water flow rate during application.

Accurately determine water flow rates. In the absence of weirs, orifices, or similar devices which give accurate water flow measurements, volume of flow may be estimated by the following formula:

Average Width (feet) x Average Depth (feet) x Velocity (feet/second) x 0.9 = Cubic Feet per Second (C.F.S.)

*Velocity is the time it takes a floating object to travel a given distance. Dividing the distance traveled (feet) by the time (seconds) will yield velocity (feet/second). This measurement should be repeated at least three times at the intended application site and then averaged.

• After accurately determining the water flow rate in C.F.S. or gallons/minute, find the corresponding CUTRINE-PLUS drip rate on the chart below.

<table>
<thead>
<tr>
<th>WATER FLOW RATE</th>
<th>CUTRINE-PLUS DRIP RATE*</th>
</tr>
</thead>
<tbody>
<tr>
<td>C.F.S.</td>
<td>Gal/Min</td>
</tr>
<tr>
<td>1</td>
<td>1450</td>
</tr>
<tr>
<td>2</td>
<td>900</td>
</tr>
<tr>
<td>3</td>
<td>1350</td>
</tr>
<tr>
<td>4</td>
<td>1800</td>
</tr>
<tr>
<td>5</td>
<td>2250</td>
</tr>
</tbody>
</table>

• Calculate the amount of CUTRINE-PLUS needed to maintain the drip rate for a period of 3 hours by multiplying Qts./Hr. x 3; Mi/Min. x 180; or FL. Oz./Min. x 180. Dosage will maintain 1.0 ppm Copper concentration in the treated water for the 3 hour period. Introduction of the chemical should be made in the channel at weirs or other turbulence-creating structures to promote the dispersion of chemical.
• Pour the required amount of **CUTRINE-PLUS** into a drum or tank equipped with a brass needle valve and constructed to maintain a constant drip rate. Use a stop watch and appropriate measuring container to set the desired drip rate. Readjust accordingly if flow rate changes during the 3 hour treatment period.
• Distance of control obtained down the waterway will vary depending upon density of vegetation growth. Treatment period may have to be extended up to 6 hours in areas where control may be difficult due to high flows or significant growth. Periodic maintenance treatments may be required to maintain seasonal control.

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

**DANGER. CORROSIVE.** Causes irreversible eye damage and skin burns. Harmful if swallowed or absorbed through skin. Do not get in eyes, on skin, or on clothing.

**Personal Protective Equipment (PPE)**
Mixers, loaders, applicators, and other handlers must wear the following:
- Coveralls over long-sleeved shirt and long pants,
- Chemical-resistant footwear plus socks,
- Goggles or face shield,
- Chemical-resistant gloves made of any waterproof material, and a chemical-resistant apron when mixing, loading, or cleaning equipment.

**USER SAFETY REQUIREMENTS**

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 material that have been drenched or heavily contaminated with the product’s concentrate. Do not reuse them. Users must 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. As soon as possible, wash thoroughly and change into clean clothing. Wash outside of gloves before removing.

Potable water sources treated with copper **CUTRINE-PLUS** may be used as drinking water only after proper additional potable water treatments.

**ENVIRONMENTAL HAZARDS:**

**ENVIRONMENTAL HAZARDS:** Do not use in waters containing Koi and hybrid goldfish. Not intended for use in small volume, garden pond systems.

**For Aquatic use**
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 10 to 14 days between treatments. Begin treatment along the shore and proceed outwards in bands to allow fish to move in to untreated areas. Consult with the State or local agency with primary responsibility for regulating pesticides before applying to public waters, to determine if permit is required.

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

**For terrestrial use**
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. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters or rinsate."
STORAGE & DISPOSAL:
Do not contaminate water, food or feed by storage or disposal. Open dumping is prohibited.

PESTICIDE STORAGE: Keep container closed when not in use. Keep pesticide in original container. Do not put concentrate or dilute into food or drink containers. Do not reuse or refill container. Do not contaminate feed, feedstuffs, or drinking water. Do not store or transport near feed or food.

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.

(For <5gallon non-refillable containers only):
CONTAINER DISPOSAL: Nonrefillable container. Do not reuse container. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. 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 approved landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke. Consult Federal, State or local authorities for approved alternative procedures.

(For >5gallon non-refillable containers only):
CONTAINER DISPOSAL: Nonrefillable container. Do not reuse container. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ with water and recap. 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 container on its 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 approved landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke. Consult Federal, State or local authorities for approved alternative procedures.

(For 275Gallon refillable container only):
CONTAINER DISPOSAL: Refillable container. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill container about 10 percent full with water. Agitate vigorously or recirculate water with pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat rinsing procedure two more times. Then offer for recycling or reconditioning if available or puncture and dispose of in approved landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke. Consult Federal, State or local authorities for approved alternative procedures.

WARRANTY
To the extent consistent with applicable law neither the manufacturer nor the seller makes any warranty, expressed or implied concerning the use of this product other than indicated on the label.
To the extent consistent with applicable law buyer assumes risk of use of this material when such use is contrary to label instructions. Read and follow the label directions.