

CUTRINE®-PLUS

ALGAECIDE/HERBICIDE

Pat. No. 3,930,834

EPA Reg. No. 8959-10

EPA Est. No. 42291-GA-1

FOR USE IN LAKES – POTABLE WATER RESERVOIRS
FARMS, FISH AND INDUSTRIAL PONDS, FISH HATCHERIES AND
RACEWAYS, CROP AND NON-CROP IRRIGATION CONVEYANCE
SYSTEMS, DITCHES, CANALS AND LATERALS

ACTIVE INGREDIENTS:

COPPER AS ELEMENTAL.....*9.0%

INERT INGREDIENTS:.....91.0%

TOTAL.....100.0%

CUTRINE-PLUS contains 0.909 lbs. of elemental copper per gallon.

*From mixed Copper-Ethanolamine complexes

**KEEP OUT OF REACH OF CHILDREN
DANGER**

STATEMENT OF PRACTICAL TREATMENT FIRST AID

If in eyes: Call a physician. Hold eyelids open and flush with a steady gentle stream of water for 15 minutes.

If on skin: Wash with plenty of soap and water. Get medical attention.

If swallowed: Drink promptly a large quantity of milk, egg white, gelatin solution, or, if these are not available, large quantities of water. Avoid alcohol. Get medical attention. Do not induce vomiting or give anything by mouth to an unconscious person.

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

See Additional Precautions Below

MANUFACTURED BY:

applied biochemists

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GENERAL INFORMATION

CUTRINE®-PLUS, under field conditions, is effective in controlling a broad range of algae including: Chara, Spirogyra, Cladophora, Vaucheria, Ulothrix, Microcystis and Oscillatoria. **CUTRINE-PLUS** has also been proven effective in controlling the rooted aquatic plant, *Hydrilla verticillata*. The ethanolamines in **CUTRINE-PLUS** prevent the precipitation of copper with carbonates and bicarbonates in the water. Waters treated with **CUTRINE-PLUS** may be used for swimming, fishing, drinking, livestock watering or irrigating turf, ornamental plants or crops immediately after treatment.

DIRECTIONS FOR USE

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

SURFACE SPRAY/INJECTION

ALGAEICIDE 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.

- Identify the algae growth present as one of the following types: Planktonic (suspended), Filamentous (mat forming), or Chara/Nitella.
- Determine the surface acreage (1 acre=43,560 sq. ft.) and average depth of infested area.
- Refer to the chart below to determine gallons of **CUTRINE-PLUS** to apply per surface acre.

Application Rates
Gallons Per Surface Acre

ALGAE TYPE	PPM COPPER	DEPTH IN FEET			
		1	2	3	4
Planktonic	0.2	0.6	1.2	1.8	2.4
Filamentous	0.2	0.6	1.2	1.8	2.4
Chara/Nitella	0.4	1.2	2.4	3.6	4.8

- For planktonic algae (suspended) algae and free-floating filamentous algae mats, application rates should be based upon treating only the upper 3 to 4 feet of water where algae is growing. Under conditions of heavy infestation, treat only 1/3 to 1/2 of the water body at a time to avoid fish suffocation caused by oxygen depletion from decaying algae.
- Before applying, dilute the required amount of **CUTRINE-PLUS** with enough water to ensure even distribution with the type of equipment being used. For most effective results, apply under calm and sunny conditions when water temperature is at least 60°F. Break up floating algae mats before spraying or while application is being made. Use hand or power sprayer adjusted to rain-sized droplets. Spray shoreline areas first to avoid trapping fish.

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.

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*

Growth/Stage Relative Density	PPM Copper	DEPTH IN FEET					
		1	2	3	4	5	6
Early Season Low Density	0.4	1.2	2.4	3.6	4.8	6.0	7.2
	0.5	1.5	3.0	4.5	6.0	7.5	9.0
Mid-Season Moderate Density	0.6	1.8	3.6	5.4	7.2	9.0	10.8
	0.7	2.1	4.2	6.3	8.4	10.5	12.6
Late Season/ High Density	0.8	2.4	4.8	7.2	9.6	12.0	14.4
	0.9	2.7	5.4	8.1	10.8	13.5	16.2
	1.0	3.0	6.0	9.0	12.0	15.0	18.0

* 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: REWARD®-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 **REWARD®**. Apply mixture at the rate of 5½ 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.

***REWARD®** is a trademark of Syngenta Crop Protection, Inc.

PERMITS:

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

DRIP SYSTEM APPLICATION

FOR USE IN POTABLE WATER AND IRRIGATION CONVEYANCE SYSTEMS

- CUTRINE®-PLUS** should be applied as soon as algae or *Hydrilla* begins 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 increasing water flow rate during application may be necessary.
- 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 may be estimated by the following formula:

$$\text{Average Width (feet)} \times \text{Average Depth (feet)} \times \text{Velocity* (feet/second)} \times 0.9 = \text{Cubic Feet per Second (C.F.S.)}$$

*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.

WATER FLOW RATE		CUTRINE-PLUS DRIP RATE*		
C.F.S.	Gal/Min	Qts./Hr.	MI/Min.	FL.Oz./Min.
1	450	1	16	0.5
2	900	2	32	1.1
3	1350	3	47	1.6
4	1800	4	63	2.1
5	2250	5	79	2.7

- Calculate the amount of **CUTRINE-PLUS** needed to maintain the drip rate for a period of 3 hours by multiplying Qts./Hr. x 3; ml/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. Periodic maintenance treatments may be required to maintain seasonal control.

GENERAL TREATMENT NOTES

The following suggestions apply to the use of **CUTRINE-PLUS** as an algaecide or herbicide in all approved use sites.

For optimum effectiveness...

- Apply early in the day under calm, sunny conditions when water temperatures are at least 60°F.
- Treat when growth first begins to appear or create a nuisance, if possible.
- Apply in a manner that will ensure even distribution of the chemical within the treatment area.
- Re-treat areas if re-growth begins to appear and seasonal control is desired. Allow one to two weeks between consecutive treatments.
- Allow seven to ten days to observe the effects of treatment (bleaching and breaking apart of plant material).

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER

CORROSIVE. Causes irreversible eye damage and skin burns. Do not get in eyes, on skin, or on clothing. Wears goggles or face shield and rubber gloves when handling this product. Wash thoroughly with soap and water after handling and before eating, drinking or using tobacco. Remove and wash contaminated clothing before reuse. Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals.

STORAGE & DISPOSAL:

Keep container closed when not in use. Do not contaminate water, food or feed by storage or disposal. Open dumping is prohibited.

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:** Reseal container and offer for recondition or triple rinse (or equivalent) and offer for recycling, reconditioning or disposal 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.

ENVIRONMENTAL HAZARDS:

This product may be toxic to trout and other species of fish. Fish toxicity is dependent upon the hardness of water. Do not use in water containing trout if the carbonate hardness of water does not exceed 50 ppm.

NOTICE

Neither the manufacturer nor the seller makes any warranty, expressed or implied concerning the use of this product other than indicated on the label. Buyer assumes risk of use of this material when such use is contrary to label instructions. Read and follow the label directions carefully.

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