

CUTRINE®-PLUS

ALGAECIDE/HERBICIDE

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 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.

Application Rates - Gallons Per Surface Acre

Algae Type	Planktonic	Filamentous	Chara/Nitella
PPM copper	0.2 – 0.6	0.2 - 0.8	0.4 – 1.0
Depth in Feet	1	0.6 – 1.8	0.6 – 2.4
	2	1.2 – 3.6	1.2 – 4.8
	3	1.8 – 5.4	1.8 – 7.2
	4	2.4 – 7.2	2.4 – 9.6

- 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 to the left to determine gallons of Cutrine-Plus to apply per surface acre.
- **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. Faster results will be seen when applied 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.

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 regrowth 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).

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 to the right.

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.

Application Rates (Gallons/Surface Acre*)

Growth/Stage Relative Density	Early Season Low Density		Mid-Season Moderate Density		Late Season High Density			
PPM copper	0.4	0.5	0.6	0.7	0.8	0.9	1.0	
Average Depth (in Feet)*	1	1.2	1.5	1.8	2.1	2.4	2.7	3.0
	2	2.4	3.0	3.6	4.2	4.8	5.4	6.0
	3	3.6	4.5	5.4	6.3	7.2	8.1	9.0
	4	4.8	6.0	7.2	8.4	9.6	10.8	12.0
	5	6.0	7.5	9.0	10.5	12.0	13.5	15.0
	6	7.2	9.0	10.8	12.6	14.4	16.2	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.

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

FOR USE IN: LAKES; POTABLE WATER RESERVOIRS; FARM, 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.



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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:

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 above.

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.

Water Flow Rate		Cutrine-Plus Drip Rate*		
C.F.S.	Gal.Min	Qts/Hr	ml/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

KEEP OUT OF REACH OF CHILDREN

DANGER

FIRST AID

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. **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 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 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.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. If a medical emergency arises contact Arch Chemicals Emergency Action Network in the US call 1-800-654-6911 or outside the US call 423-780-2970. 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.

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. Wear goggles or face shield and rubber gloves when handling this product. Wash thoroughly with soap and water after handling and before eating, drinking, using tobacco or using toilet. Remove and wash contaminated clothing before reuse. Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals.

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

STORAGE & DISPOSAL: Do not contaminate water, food or feed by storage or disposal. **PESTICIDE STORAGE:** Keep container closed when not in use. 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.

(For <5 gallon non-refillable containers only): **CONTAINER DISPOSAL: Nonrefillable container. Do not reuse OR REFILL THIS product container. TRIPLE RINSE CONTAINER (OR EQUIVALENT) PROMPTLY AFTER EMPTYING.** 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 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 >5 gallon non-refillable containers only): **CONTAINER DISPOSAL: Nonrefillable container. Do not reuse OR REFILL THIS PRODUCT container. TRIPLE RINSE CONTAINER (OR EQUIVALENT) PROMPTLY AFTER EMPTYING.** 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. **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 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 275 Gallon refillable container only): **CONTAINER DISPOSAL: Refillable container. REFILL THIS CONTAINER WITH PESTICIDE ONLY. DO NOT REUSE THIS CONTAINER FOR ANY OTHER PURPOSE.** 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.

Fiber drums or bagged materials: Completely empty liner or bag by shaking sides and bottom to loosen clinging particles. Empty residue into application equipment, then dispose of liner in a sanitary landfill or by incineration, if allowed by State and local authorities. If drum is contaminated and cannot be reused, dispose of in same manner.

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.