

CLEARIGATE®

FOR USE IN:

CROP AND NON-CROP IRRIGATION CONVEYANCE SYSTEMS; DITCHES, CANALS AND LATERALS; POTABLE WATER RESERVOIRS; LAKES; FARM, FISH, GOLF COURSE, INDUSTRIAL AND SWIMMING PONDS

ACTIVE INGREDIENT:

COPPER AS ELEMENTAL.....3.825%

OTHER INGREDIENTS:.....96.175%

TOTAL:100.000%

From mixed Copper Ethanolamines in an Emulsified Formulation

Clearigate® CONTAINS 0.31 LBS. OF 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 the label, find someone to explain it to you in detail.)

See Additional Precautions and Directions for Use Inside Booklet

Sold By:

Applied Biochemists
1400 Bluegrass Lakes Pkwy
Alpharetta, GA 30004
1-800-558-5106

Pat. No. 5,407,899

EPA Reg. No. 8959-51

EPA Est. No. 42291-GA-1

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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. Call a poison control center or doctor for treatment advice.

IF ON SKIN: 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 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 by a poison control center or doctor.

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 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. If a medical emergency arises 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. Measures against circulatory shock as well as oxygen and measures to support breathing manually or mechanically may be needed. If persistent, convulsions may be controlled by the cautious intravenous injection of a short-acting barbiturate drug.

GENERAL GUIDELINES:

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 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.

FOR OPTIMUM EFFECTIVENESS:

Apply Clearigate early in the day under bright or sunny conditions when water temperatures are at least 60°F(15.5°C). Apply when growth first begins to appear or create a nuisance. Apply in a manner which will ensure even distribution of product within treatment area.

Repeat application, as needed, if regrowth begins to appear and seasonal control is desired. Allow one to two weeks between consecutive treatments.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read entire label. Use strictly in accordance with precautionary statements and directions and with applicable State and Federal Regulations.

STATIC WATER TREATMENT

SURFACE SPRAY / INJECTION APPLICATION

For effective control, proper chemical concentration contact should be maintained for a minimum of three hours. Application rates in the chart below are based upon static or minimum flow situations in lakes, ponds, reservoirs and inactive irrigation conveyance systems or drainage systems. Where significant inflow occurs (greater than 10% of total water volume in 24 hours), it is recommended that flow be stopped for 24 hours during and following treatment. If this is not possible, treat inflowing water in accordance with Flowing Water Treatment instructions.

Due to the potential toxicity to fish at dosages in excess of 0.5 ppm copper, the use of Clearigate above this level is suggested only by experienced applicators. In areas where fish are not present or where some fish kill is not objectionable, total volume treatments can be made. In all other areas, treatments above 0.5 ppm copper should not exceed 1/3 to 1/2 of the entire water body, allowing one to two weeks between consecutive treatments.

Select dosage rate based upon species/type of plants being controlled. Choose a dilution which will allow relatively even application throughout the intended treatment area with the type of equipment being used. Avoid drift by using coarse spray droplets, applying close to the water surface and/or injecting solution below the water surface through submersed hoses for treatment of submerged growth.

Aquatic Vegetation Type of Species	Dosage PPM Copper	Rates Gallons Per Acre-Ft	Dilution %Spray Solution V/V	Treatment Comments
ALGAE				
Planktonic Algae	0.1-0.5	0.9 - 4.4	1.5% - 5%	Apply lower dosage rates on light infestations. Use higher rates on heavy blooms and where algae masses are clumped and accumulated.
Filamentous Algae	0.2-0.6	1.8 - 5.3	5% - 10%	Apply lower dosage rates on early season, light infestations or treatment of regrowth. Apply higher rates on surface mats and coarse species such as <i>Pithophora</i> , <i>Cladophora</i> or <i>Lyngbya</i> .
Chara/Nitella	0.4-0.8	3.6 - 7.1	10% - 15%	Apply lower dosage rates on new infestations or early season growth. Apply higher rates on older, established calcified plants. Apply as close to top of plant growth as possible.
SUBMERGED PLANTS				
<i>Egeria densa</i> (Brazilian Elodea)	0.6-1.0	5.4 - 8.7	10% - 20%	Apply lower dose on early season, low density growth. Apply higher rates in thicker stands of plants. Product should be applied as close to the top of the plants as possible. Underwater injection is recommended when plants are more than 1 ft. below water surface.
<i>Elodea canadensis</i>	0.8-1.0	7.1 - 8.7	10% - 20%	
<i>Hydrilla verticillata</i>	0.4 - 1.0	3.6 - 8.7	10% - 20%	
<i>Myriophyllum</i> spp., (Water Milfoil)	0.8 - 1.0	7.1 - 8.7	10% - 20%	
<i>Najas</i> spp.(Naiad)	0.5 - 1.0	4.4 - 8.7	10% - 20%	
<i>Potamogeton</i> spp. (Pondweeds)	0.5 - 1.0	4.4 - 8.7	10% - 20%	
FLOATING PLANTS		Gallons per Surface Acre		
<i>Lemna</i> spp. (Duckweed)		4.4 - 8.7	20% - 25%	Apply lower rates to shallow (less than 1 ft.) infestations. Use higher rates for large infestations in deeper water (1 ft. or greater). Use a fine spray and wet plants thoroughly. Do not disturb with motor wake or paddles after treatment.
<i>Eichornia crassipes</i> (Water Hyacinth)		4.4 - 8.7	20% - 25%	

FLOWING WATER TREATMENT

DRIP SYSTEM/METERING PUMP APPLICATION

Effective aquatic plant control in flowing water (canals, ditches, laterals, etc.) is dependent upon maintaining suitable contact time with sufficient chemical concentrations. Other factors to consider include: type of growth present, degree of infestation, water temperature and weather conditions during and following treatment. Fish may be killed at dosages in excess of 0.5 ppm copper in flowing water. Use dosages over 0.5 ppm only in areas where some fish kill is not objectionable or where fish have access to downstream avoidance of these concentration levels.

1. Prior to treatment, it is important to accurately determine water flow rates. In the absence of weirs, orifices or similar devices which provide accurate water flow measurements, volume of flow may be estimated via the following formula:
Average Width (ft.) x Average Depth (ft.) x Velocity* (ft/sec) x 0.9 = Cubic Feet per Second (CFS)
**Velocity is the time it takes a floating object to travel a given distance. Dividing the distance traveled (ft) by the time (seconds) will yield velocity (ft/sec). Repeat measurement at least 3 times at the intended application site and use the average of these measurements.*
2. Calculate volume of ditch, canal, lateral or receiving pond in cubic feet based upon water levels at the time of treatment by using the following formula: Length (ft) x Average width (ft) x Average depth (ft) = Cubic Feet of Water
3. Calculate turnover time (the amount of time it takes for the water in the system to be replaced by new water). Convert to hours using the following formula:

$$\frac{\text{Canal Volume (ft}^3\text{)}}{\text{Flow Rate (CFS)}} \div 3600 = \text{turnover time (hrs)}$$

4. Select dosage rate from the chart below and calculate total Clearigate requirements by using the formula following the chart.

Aquatic Vegetation Type	PPM Copper	Dosage Rate ¹ Qt. Per CFS/Hour*
Planktonic algae	0.1 - 0.5	0.3 - 1.4
Filamentous algae	0.2 - 0.6	0.6 - 1.7
Chara/Nitella	0.4 - 0.8	1.2 - 2.3
Submerged Weeds	0.5 - 1.0	1.4 - 2.8

NOTE: Use higher dosage range in cooler water (60°F - 70°F), under conditions of heavy growth and/or on matured plant growth. Lower dosage ranges may be used on maintenance control treatments, young plants and/or under minimal growth conditions in warmer waters (>70°F).

Clearigate Required (qts) = Dosage Rate (qt/CFS/hr) x Flow Rate (CFS) x Turnover Time (hrs)*

**NOTE: If turnover time is less than 3 hrs., substitute 3 hrs. into this calculation.*

5. For ditches, canals and laterals determine the number of drip/metering application sites required (based upon turnover time) by referring to the chart below:

TURNOVER TIME (Hrs)	NUMBER OF DRIP / METERING SITES
Less than 4.5	1
4.6 - 7.5	2
7.6 - 10.5	3
10.6 - 13.5	4
13.6 - 16.5	5

Sewage treatment ponds and other sites where water is stored for a calculated retention time and are fed by a single input source will require a single dripper/metering system. Inflowing water should be treated at the appropriate dosage rate from the chart in #4 for the duration of the entire turnover time calculated in #3.

6. Calculate distance between drip/metering sites by using the following formula:

$$\frac{\text{Canal\Ditch\Lateral Length (ft)}}{\text{No. of Drip\Metering Sites}}$$

=Distance Between Drip\Metering Systems

7. Calculate amount of Clearigate required per drip/metering site by using the following formula:

$$\frac{\text{Total Clearigate Required (qts)}}{\text{No. of Drip\Metering Sites}} = \text{Clearigate Required Per Site}$$

8. Calculate drip/metering duration per site by using the following formula:

$$\frac{\text{Clearigate Required Per Site(qts)}}{\text{Dosage Rate (qt\CFS\hr) x Flow Rate (CFS)}}$$

=Drip Metering Duration Per Site

9. Calculate drip/metering rate by using the following formula to convert to fl. oz./min or mL/min.:

$$\text{Flow Rate (CFS) x Drip Rate (qt\CFS\hr) x 0.533\ddagger = Drip Rate (fl. oz\min)}$$

**NOTE: ‡ 0.533 is a constant used to convert qt/hr to fl. oz./min*
METRIC CONVERSION: Drip Rate (fl. oz./min) x 29.57 =Drip Rate (mL/min)

Calibrate drip system, metering pump or similar dosage device to establish output rate determined in Step #9. This can be done using a watch with a second hand and a calibrated measuring cup, graduated cylinder or similar vessel. If possible, calibrate all drip/metering devices prior to beginning actual treatment. Turn them on as simultaneously as possible, beginning with the device furthest upstream. Begin with only the amount of product required at each site or record your start-up time and shut down

drip/metering systems after the drip/metering duration time period determined in Step #8.

Remove containers from application sites following treatment. Triple rinse application equipment. Dispose of empty containers in accordance with container disposal instructions on this label. Partially used containers should be resealed with original closures and stored in accordance with storage instructions on this label.

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 <5 gallon 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 >5 gallon 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. Consult Federal, State or local authorities for approved alternative procedures.

{For 275 Gallon 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. Consult Federal, State or local authorities for approved alternative procedures.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER

CORROSIVE. Causes irreversible eye damage and skin damage. May be fatal if absorbed through skin. Harmful if swallowed or inhaled. Do not get in eyes, on skin or on clothing. Wear protective eyewear, protective clothing and rubber gloves. Avoid breathing dust or spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, using tobacco or using toilet. Remove contaminated clothing and wash before reuse.

ENVIRONMENTAL HAZARDS

Fish toxicity is dependent upon hardness of water. May be toxic to trout and other species of fish in soft water. Do not use in waters containing trout, koi, goldfish or other sensitive species if the carbonate hardness of the water is less than 50 ppm. Fish may be killed by dosage in excess of 0.5ppm copper in flowing water or systems where total water volume treatments are made.

Avoid contact with drift to desirable plants or crops as injury may result. Clean out application equipment after each operation. Do not apply under conditions of high wind or wave action.

Treatment of dense weed growth and algae blooms in static ponds and lakes can result in oxygen loss from decomposition of dead vegetation. This loss can cause fish suffocation. Therefore, treat only 1/3 to 1/2 of the dense growth at a time and wait one to two weeks between treatments.

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

PHYSICAL/CHEMICAL HAZARDS

Do not use or store near heat or open flame.

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.