



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

December 18, 2020

Joanna Holcombe  
Regulatory Specialist  
Applied Biochemists, An Arch Chemicals, Inc. Business  
1200 Bluegrass Lakes Parkway  
Alpharetta, GA 30004

Subject: Registration Review Label Mitigation for Coppers Compounds  
Product Name: Clearigate  
EPA Registration Number: 8959-51  
Application Dates: March 4, 2019  
Decision Numbers: 557068

Dear Ms. Holcombe:

The Agency, in accordance with the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, has completed reviewing all the information submitted with your application to support the Registration Review of the above referenced product in connection with the Coppers Compounds Interim Decision, and has concluded that your submission is acceptable. The label referred to above, submitted in connection with registration under FIFRA, as amended, is acceptable.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

A copy of your label stamped "Accepted" is enclosed. Products shipped after 12 months from the date of this amendment must bear the new revised label. Your release for shipment of the product bearing the amended label constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6.

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If you have any questions about this letter, please contact Jaclyn Pyne by phone at 703-347-0445, or via email at [pyne.jaclyn@epa.gov](mailto:pyne.jaclyn@epa.gov).

Sincerely,

A handwritten signature in blue ink, appearing to read 'Linda Arrington', with a stylized flourish at the end.

Linda Arrington, Branch Chief  
Risk Management and Implementation Branch 4  
Pesticide Re-Evaluation Division  
Office of Pesticide Programs

Enclosure

Note to reviewer:

[Items in brackets [AAA] are optional and may/may not be included on final label]

{Items in braces {AAA} are for information purposes and will not appear on final label}

## CLEARIGATE

COPPER

GROUP

NOT CLASSIFIED

HERBICIDE

### ACTIVE INGREDIENT:

Copper ethanolamine complex, mixed

(Mono CAS# 14215-52-2 and Tri CAS# 82027-59-6)\* ..... 11.8%

INERT INGREDIENTS: ..... 88.2%

TOTAL ..... 100.000%

\* Metallic copper equivalent, 3.8%

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.]

{Note to reviewer: Although this product has a "Danger" signal word, as per the EPA label review manual "The Agency may permit reasonable variations in the placement of the First Aid statement as long as the reference statement, "See First Aid (or Statement of Practical Treatment) on (identify appropriate panel)" appears on the front panel." If the First Aid Statements are placed on the front panel of the final graphic label, the statement below will only refer to the Precautionary Statements:}

[See [side][back][right][left][inside][attached] [panel][label][booklet] for [Precautionary [and First Aid] Statements] [and] [Directions for Use].]

{or}

Read all Precautionary Statements [and] [Directions for Use] [on] [back][side][panel][inside booklet] before use.

EPA Reg. No. 8959-51

EPA Est. No. 42291-GA-1

Net Contents (insert container size here)

### Sold By:

Applied Biochemists

1400 Bluegrass Lakes Parkway

Alpharetta, GA 30004

1-800-558-5106

www.appliedbiochemists.com

**ACCEPTED**

Dec 18, 2020

Under the Federal Insecticide, Fungicide  
and Rodenticide Act as amended, for the  
pesticide registered under  
EPA Reg. No. 8959-51

## **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 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 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.

**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.

**IN CASE OF EMERGENCY CALL 1-800-654-6911**

## **PRECAUTIONARY STATEMENTS**

### **HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

**DANGER. CORROSIVE.** Causes irreversible eye damage. Causes skin burns. May be fatal if absorbed through skin. Harmful if swallowed or inhaled. Do not get in eyes, on skin or on clothing. Avoid breathing dust or spray mist.

### **Personal Protective Equipment (PPE)**

Mixers, loaders, applicators, and other handlers must wear:

- [.] Coveralls over long sleeved shirt and long pants,
- [.] Goggles or faceshield,
- [.] Chemical-resistant footwear plus socks,
- [.] Chemical-resistant gloves made of any waterproof material,
- [.] Chemical-resistant headgear for overhead exposure,
- [.] 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.

### **User Safety Recommendations**

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

Potable water sources treated with this product may be used as drinking water only after proper additional potable water treatments.

## **PHYSICAL AND CHEMICAL HAZARDS**

Do not use or store near heat or open flame.

## ENVIRONMENTAL HAZARDS

**Fish Advisory Statement:** This copper product is toxic to fish and aquatic organisms. Unlike most organic pesticides, copper is an element and will not break down in the environment and will therefore accumulate in sediment with repeated applications. Copper is a micronutrient, but its pesticidal application rate exceeds the amount of copper needed as a nutrient.

**Do not use in waters containing Koi and hybrid goldfish. Not intended for use in small volume, garden pond systems. Avoid treating waters with pH values <6.5, DOC levels <3.0, and alkalinity less than 50 ppm (e.g., soft or acid waters), as trout and other sensitive species of fish may be killed under such conditions if present.**

For applications in waters destined for use as drinking water, these waters must receive additional and separate potable water treatment. Do not apply more than 1.0 ppm as metallic copper in these waters.

**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 washwater or rinsate.

**DIRECTIONS FOR USE:**

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

**RESISTANCE MANAGEMENT**

Apply 8.7 gallons of product per acre-ft. (2.69 pounds active ingredient per acre-ft).

Do not apply more than 69.6 gallons of product per acre (or acre-foot) per year (21.5 pounds active ingredient per acre (or acre-foot) per year).

Do not apply more than 21.5 pounds active ingredient per acre (or acre-foot) per year.

Do not make applications less than 14 days apart.

Water bodies or management units should be scouted prior to application to identify the weed species present and their growth stage to determine if the intended application will be effective. Water bodies or management units should be scouted after application to verify that the treatment was effective.

Suspected herbicide-resistant weeds may be identified by these indicators:

- [•] Failure to control weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds.
- [•] A spreading patch of non-controlled plants of a particular weed species; and
- [•] Surviving plants mixed with controlled individuals of the same species.

Report any incidence of non-performance of this of this product against a particular weed species to your [registrant] retailer, representative or call 1-800-558-5106. If resistance is suspected, treat weed escapes with an herbicide having a different mechanism of action and/or use non-chemical means to remove escapes, as practical, with the goal of preventing further reproduction.

Implement the Early Detection, Rapid Response practice and Maintenance Control by using the following practices where possible:

- [•] Identify weeds present in a management unit through scouting or history of the water body and understand the biology of target species.
- [•] Applications should target weeds when populations are small and there is low biomass, early in the season to maximize efficacy.
- [•] Applications should be made so that the herbicide contacts the weed. Use the appropriate application method for the use site/weed/chemical combination.
- [•] Weed escapes should not be allowed to go to seed or produce asexual vegetative propagules.
- [•] Use a diversified approach toward weed management. Whenever possible incorporate multiple weed-control practices such as mechanical control, biological management practices, and rotation of mechanisms of action.
- [•] Time applications to have the highest probability for control and minimize need for follow-up control measures. Apply during conditions that minimize herbicide degradation (light/temperature/microbes) and/or dissipation (water exchange).

Local resistant weeds:

Contact your local sales representative, local water management agency, or extension agent to find out if suspected resistant weeds to this mechanism of action have been found in your region. If resistant biotypes of target weeds have been reported, use the application rates of this product specified for your local conditions. Tank mix products so that there are multiple effective mechanisms of action for each target weed.

**AQUATIC USES:**

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 biomass. This oxygen loss can cause fish and invertebrate suffocation. To minimize this hazard, do not treat more than ½ of the water body (excluding water infrastructure and constructed conveyances such as drainage canals, ditches and pipelines or intakes and aqueducts for drinking water or irrigation use) to avoid depletion of oxygen due to decaying vegetation. Wait at least 14 days between treatments. Begin treatment along the shore and proceed outwards in bands to allow fish to move in to untreated areas. Application of algaecides to high density blooms of cyanobacteria can result in the release of intracellular contents into the water. Some of these intracellular compounds are known mammalian hepato- and nervous system toxins. Therefore, to minimize the risk of toxin leakage, manage cyanobacteria effectively in order to avoid applying this product when blooms of toxin-producing cyanobacteria are present at high density. In situations where rapidly reproducing toxic algal species pose a public health threat to drinking or recreational water resources, applicators must receive authorization from applicable state, local or tribal water resources authorities to apply copper at intervals shorter than 14 days should the circumstance demand.

Certain water conditions including low pH ( $\leq 6.5$ ), low dissolved organic carbon (DOC) 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. The application rates on this label are appropriate for water with pH values  $> 6.5$ , DOC levels  $> 3.0$  mg/L, and alkalinity greater than 50 mg/L. Avoid treating waters with pH values  $< 6.5$ , DOC levels  $< 3.0$ , and alkalinity less than 50 ppm (e.g., soft or acid waters), as trout and other sensitive species of fish may be killed under such conditions if present.

Consult your state department of natural resources or fish and game agency before applying this product to public waters. Permits may be required before treating such waters.

**Pre-Application Dose Determination:** For algae and aquatic plant treatments, applicators should conduct initial dose determination tests simulating a full-scale treatment program to determine the minimum efficacious concentrations for eliminating the target species, unless an effective dose is already known for the given target pest population.

**GENERAL APPLICATION RESTRICTIONS:**

*{For end-use products in containers  $> 5$  gallons}*

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. Do not enter or allow others to enter treated areas until sprays have dried. For any requirements specific to your state or tribe, consult the state or tribe agency responsible for pesticide regulation.

*{For end-use products in containers  $< 5$  gallons}*

Do not apply this product in a way that will contact adults, children, or pets, either directly or through drift. Do not enter or allow others to enter treated areas until sprays have dried. For any requirements specific to your state or tribe, consult the state or tribe agency responsible for pesticide regulation.

## 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 this product 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 or Species	Dosage PPM Copper	Rates Gal/Acre-ft	Lbs. Copper/ Acre-ft	Dilution %Spray Solution V/V	Treatment Comments
ALGAE					
Planktonic	0.1 -0.5	0.9 - 4.4	0.27 – 1.36	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	0.2-0.6	1.8 - 5.3	0.27 – 1.64	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>Pithorphora</i> , <i>Cladophora</i> <i>Lyngbya</i> .
Chara/Nitella	0.4-0.8	3.6 - 7.1	1.11 – 2.2	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	1.67 – 2.69	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 one foot below water surface.
<i>Elodea canadensis</i>	0.8-1.0	7.1- 8.7	2.2 – 2.69	10%-20%	
<i>Hydrilla verticillate</i>	0.4-1.0	3.6 - 8.7	1.11 – 2.69	10%-20%	
<i>Myriophyllum</i> spp. (Water Milfoil)	0.8-1.0	7.1- 8.7	2.2 – 2.69	10%-20%	
<i>Najas</i> spp. (Naiad)	0.5-1.0	4.4 - 8.7	1.36 – 2.69	10%-20%	
<i>Potamogeton</i> spp. (Pondweeds)	0.5-1.0	4.4 - 8.7	1.36 – 2.69	10% - 20%	
FLOATING PLANTS					
<i>Lemna</i> spp. (Duckweed) <i>Eichornia crassipes</i> (Water Hyacinth)	0.5 – 1.0	4.4 - 8.7	1.36 – 2.69	20%-25%	Apply lower rates to shallow (less than 1ft.) infestations. Use higher rates for large infestations in deeper water (1 foot or greater). Use a fine spray and wet plants thoroughly. Do not disturb with motor wake or paddles after treatment.



## 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:

$$\text{Average Width (ft.)} \times \text{Average Depth (ft.)} \times \text{Velocity* (ft/sec)} \times 0.9 = \text{Cubic Feet per Second (CFS)}$$

\*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:

$$\text{Length (ft)} \times \text{Average width (ft)} \times \text{Average depth (ft)} = \text{Cubic Feet of Water}$$

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 product requirements by using the formula following the chart.

Aquatic Vegetation Type	ppm Copper	Dosage Rate Qt. Per CFS/Hour*	Dosage Rate <sup>1</sup> (Lbs. per CFS/Hour)
PLANKTONIC ALGAE	0.1 - 0.5	0.3 - 1.4	0.07 - 0.10
FILAMENTOUS ALGAE	0.2 - 0.6	0.6 - 1.7	0.14 - 0.46
CHARA/NITELLA	0.4 - 0.8	1.2 - 2.3	0.31 - 0.62
SUBMERGED WEEDS	0.5 - 1.0	1.4 - 2.8	0.38 - 0.77

**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).

$$\text{Product Required (qts)} = \text{Dosage Rate (qt/CFS/hr)} \times \text{Flow Rate (CFS)} \times \text{Turnover Time (hrs)*}$$

**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:

$$\frac{\text{Canal/Ditch/Lateral Length (ft)}}{\text{No. of Drip/Metering Sites}} = \text{Distance Between Drip/Metering Systems (ft)}$$

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

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

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

$$\frac{\text{Product Required Per Site (qts)}}{\text{Dosage Rate (qt/CFS/hr)} \times \text{Flow Rate (CFS)}} = \text{Drip Metering Duration (hrs) Per Site}$$

9. Calculate Drip/Metering Rate by using the following formula to convert to oz./min or ml/min.

$$\text{Flow Rate (CFS)} \times \text{Drip Rate (qt/CFS/hr)} \times 0.533^* = \text{Drip Rate (oz./min.)}$$

\*NOTE: 0.533 is a constant used to convert qt/hr to oz./min

METRIC CONVERSION: Drip Rate (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 No. 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 No. 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.

#### FOR OPTIMUM EFFECTIVENESS:

- [•] Apply this product 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.

## **MAXIMUM ANNUAL APPLICATION RATES**

### **Direct treatment of whole waterbodies:**

Maximum annual application rate of 21.9 lbs. of metallic copper per acre-foot (8 applications per year at up to 1 ppm). This rate/frequency is calculated based on staggering the treatment of each half of the water body every 14 days (at a rate of 2.69 lbs. metallic copper per acre-foot = 1 ppm) for eight months (244 days). In situations where rapidly reproducing toxic algal species pose a public health threat to drinking or recreational water resources, applicators must receive authorization from applicable state, local or tribal water resources authorities to apply copper in excess of 21.9 lbs. of metallic copper per acre-foot (8 applications per year at up to 1 ppm).

### **Direct treatment to localized area of waterbody or water management units:**

Maximum annual application rate of 46.6 lbs. of metallic copper per acre-foot per year (17 applications per year at up to 1 ppm). This rate/frequency is calculated based on the maximum number of possible applications allowed based on a 14-day minimum (at a rate of 2.69 lbs. metallic copper per acre-foot = 1 ppm) retreatment interval for eight months (244 days). Do not apply more than 46.6 lbs. of metallic copper to a water management unit, regardless of the pest(s) targeted by applications. In situations where rapidly reproducing toxic algal species pose a public health threat to drinking or recreational water resources, applicators must receive authorization from applicable state, local or tribal water resources authorities to apply copper in excess of 46.6 lbs. of metallic copper per acre-foot per year for a single water management unit.

### **Aquaculture:**

Applicators must administer copper at a rate of 0.1 to 0.25 mg/L (0.27 to 0.69 lbs. metallic copper/acre-foot = 0.1 to 0.25 ppm). Applicators must monitor the copper concentration and when it falls below the desired concentration, apply additional copper to bring the concentration back up to the desired concentration. Copper can be applied once daily for 5 to 11 consecutive days. Do not apply to water for more than 11 days before waiting at least 14 days before retreating. Do not apply more than 46.6 lbs. metallic copper per acre-foot in one year.

### **Catfish:**

Copper can be applied throughout the spring and summer when water temperatures are consistently above 70°F when total alkalinity and hardness concentrations fall between 100 and 300 mg/L as CaCO<sub>3</sub>. Applications are no longer needed in the fall after fish are harvested or the average water temperatures fall below 70°F. Apply mid-morning at a rate of 0.31 lbs. metallic copper per acre-foot (0.11 ppm metallic copper). Place copper crystals in a cloth bag and then put the filled bag into another cloth bag to slow the rate at which the copper dissolves. Suspend the double bagged unit of copper about 20 feet in front of a paddlewheel aerator. Run the aerator until all the copper sulfate is dissolved; this usually requires an hour or two. Use copper only if you plan to harvest fish before fall and anticipate problems with off-flavoring algae.

Do not make routine copper treatments for algae control in fingerling ponds or in broodfish ponds because off-flavors are not a problem in those fish. Do not use this treatment regimen in waters of low hardness and alkalinity (less than 50 ppm as CaCO<sub>3</sub>) because copper may stress or kill fish.

Water molds on catfish eggs are treated inside the hatchery using a flow-through hatching trough. Administer a rate of 6.9 lbs. metallic copper per acre-foot (2.5 ppm or mg/L based on metallic copper = 10 ppm or mg/L by product) to the water of a flow-through hatching trough once daily until the embryos (eggs) develop eyes; flow rate should allow for 1 exchange every 30 minutes.

### **Mussels:**

For treatments to whole waterbodies, administer copper at a rate of up to 1 ppm (2.74 lbs. metallic copper/acre-foot) at a maximum annual rate of 21.9 lbs. metallic copper per acre-foot. Monitor the copper concentration and when it falls below the desired concentration, apply additional copper to bring the concentration back up to the desired concentration. Monitor mussel populations and terminate the additional applications once mussels are dead or 14 days have passed since the initial application. Applicators must wait at least 14 days after the last application before making any additional applications.

### **Algae and weeds in irrigation systems via pulse application:**

Maximum annual application rate of 13 lbs. metallic copper per year per 5 miles of conveyance. Apply copper into irrigation conveyance system or lateral at up to a maximum rate of 0.5 lbs. metallic copper per cubic foot per second of water per 5 to 30-mile treatment depending on water hardness, alkalinity and algae concentration. This method may only be used in constructed irrigation conveyance systems, laterals and aqueducts.

## **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 contaminate feed, feedstuffs, or drinking water. Do not store or transport near feed or food. Store at temperatures above 32°F. Do not store near heat or flame.

**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)]*

**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)]*

**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 Nonrefillable Plastic Containers, e.g., Intermediate Bulk Containers [IBC] (Size or Shape Too Large to be Tipped, Rolled or Turned Upside Down))]*

**CONTAINER DISPOSAL[:]** Nonrefillable container. Do not reuse or refill this container. Clean container promptly after emptying the contents from this container into application equipment or mix tank and before final disposal using the following pressure rinsing procedure. Insert a lance fitted with a suitable tank cleaning nozzle into the container and ensure that the water spray thoroughly covers the top, bottom and all sides inside the container. The nozzle manufacturer generally provides instructions for the appropriate spray pressure, spray duration and/or spray volume. If the manufacturer's instructions are not available, pressure rinse the container for at least 60 seconds using a minimum pressure of 30 PSI with a minimum rinse volume of 10% of the container volume. Drain, pour or pump rinsate into application equipment or rinsate collection system. Repeat this pressure rinsing procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration.

*[(For refillable containers)]*

**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.]

{BEGIN - OPTIONAL MARKETING CONTENT}

[Algaecide]/[Herbicide]/[Cyanobactericide]

Chelated copper algaecide and herbicide

[Clearigate] [(Brand)] [and] [the Applied Biochemists logo] [is a] [are] trademark[s] of Lonza or its affiliates.

Controls cyanobacteria (blue-green), green algae and diatoms

Developed by professional applicators to fight the toughest algae and weed problems

Does not add water use restrictions.

Eliminates tolerant algae

For Use In: [Crop and Non-crop Irrigation Conveyance Systems,] [Ditches, Canals, and Laterals,] [Potable Water Reservoirs,] [Lakes,] and [Farm,] [Fire,] [Fish,] [Golf Course,] [Industrial,] [Irrigation,] [Stormwater Detention,] [and] [Wastewater] [Ponds].

For product questions, call 1-800-558-5106

From mixed Copper Ethanolamines in an Emulsified Formulation

[Kills][controls][destroys] algae

Pat. No. 5,407,899

Tank mix [with other herbicides or algaecides] for superior control

Treats string algae [filamentous algae]

Kosher seal or symbol as approved

### PRODUCT INFORMATION

This product is a highly effective algaecide, herbicide and cyanobactericide [(blue-green algae)] for use in: [Crop and Non-crop Irrigation Conveyance Systems,] [Potable Water Reservoirs,] [Lakes,] and [Farm,] [Fire,] [Fish,] [Golf Course,] [Industrial,] [Irrigation,] [Stormwater Detention,] [and] [Wastewater] [Ponds.] This product controls coarse Filamentous Algae (thick cell-walled string algae), muscilaginuous Planktonic Algae (colonial), Chara and aquatic vegetation species that have a sensitivity to copper in conjunction with a penetrant. Waters treated with this product may be used for animal consumption, further potable water treatment, or irrigating turf or crops after treatment.

### GENERAL GUIDELINES

This product is a chelated copper formulation containing an emulsified surfactant / penetrant for highly effective control of coarse (thick cell-walled) filamentous algae, muscilaginuous (colonial) planktonic algae, Chara and a variety of emergent, floating and submerged aquatic plants. Vegetation controlled includes: Cladophora, Pithophora, Lyngbya, Microcystis, Hydrilla, pondweeds, water milfoil, naiad and other species having a sensitivity to copper absorption in conjunction with a penetrant.

### WARRANTY DISCLAIMER

Neither the manufacturer nor the seller makes any warranty, expressed or implied concerning the use of this product in a manner that is not consistent with the use expressly set forth on the label. To the extent permitted by, and consistent with, applicable law, buyer assumes any risk of use of this product that is not consistent with label use instructions. Read and follow the label directions.

### 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.

**Applied  
Biochemists®**

{END - OPTIONAL MARKETING CONTENT}