UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

8/29/97 PM 34 8959-51 Pg 1 of 8

AUG 29 1997

Applied Biochemists
6120 West Douglas Ave.
Milwaukee, WI 53218

Subject: Clearigate
EPA Registration No. 8959-51
Notification Per PR-Notice 95-2

Attn: Marianne Radtke
Regulatory Affairs Mgr.

This will acknowledge receipt of your notification, for the revision of one line in the Precautionary Statements (paragraph one), submitted under the provision of FIFRA section 3 © 9. Based on a review of the submitted material, the following comment apply.

This notification is acceptable and has been made a part of the records for this file.

If you have any question concerning this letter please contact Drusilla Copeland at (703) 308-6224.

Sincerely,

Portia M. Jenkins
Acting Product Management (34)
Regulatory Management Branch II
Antimicrobials Division Branch (7510W)

CONCURRENCES								
SYMBOL	7510W	7510W						
SURNAME		D. Copeland						
DATE	8/29/97	8/29/97						

EPA Form 1320-1A (1/90) *Printed on Recycled Paper* OFFICIAL FILE COPY

Please read instructions on reverse before completing form. Form Approved. OMB No. 2070-0060. Approval expires 2-28-95

EPA

United States
Environmental Protection Agency
Washington, DC 20460

[ ] Registration
[ ] Amendment
[XX] Other

OPP Identifier Number: 224990

Application for Pesticide - Section I

1. Company/Product Number: 8959 - 51 R8

2. EPA Product Manager: Portia Jenkins

3. Proposed Classification: [ ] None [ ] Restricted

4. Company/Product (Name): Clearigate

PM#: 34

5. Name and Address of Applicant *(Include ZIP Code)*:
Applied Biochemists
6120 West Douglas Ave.
Milwaukee, WI 53218

[ ] *Check if this is a new address*

6. **Expedited Review.** In accordance with FIFRA Section 3(c)(3)(b)(i), my product is similar or identical in composition and labeling to:
EPA Reg. No. _____
Product Name _____

Section - II

[ ] Amendment - Explain below.
[ ] Resubmission in response to Agency letter dated _____
[XX] Notification - Explain below.
[ ] Final printed labels in response to Agency letter dated _____
[ ] "Me Too" Application.
[ ] Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.) Revision of one line in Precautionary Statements (first paragraph) from: Wear protective clothing, protective eyewear and rubber gloves to read: Wear long sleeve shirt, long pants, shoes, socks, rubber gloves and protective eyewear. The instruction in parentheses (specify type of clothing) in table of the label review book was overlooked when the label was typed. No other changes were made on the label.

Section - III

1. Material This Product Will Be Packaged In:

Child-Resistant Packaging: [X] Yes* [ ] No
** Certification must be submitted*

Unit Packaging: [ ] Yes [X] No
If "Yes" Unit Packaging wgt. / No. per container

Water Soluble Packaging: [ ] Yes [X] No
If "Yes" Package wgt / No. per container

2. Type of Container: [XX] Metal [XX] Plastic [ ] Glass [ ] Paper [ ] Other (Specify) _____

3. Location of Net Contents Information: [X] Label [ ] Container

4. Size(s) Retail Container: 1 Gal. 5 gal. 30 gal. 55 gal.

5. Location of Label Directions: [X] On Label [ ] On Labeling accompanying product

6. Manner in Which Label is Affixed to Product: [ ] Lithograph [XX] Paper glued [ ] Stenciled [ ] Other _____

Section - IV

1. Contact Point *(Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)*

Name	Title	Telephone No. (Include Area Code)
Marianne Radtke	Regulatory Affairs Mgr.	414 464-8450 Ext.328

Certification

I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

2. Signature: Marianne Radtke

3. Title: Regulatory Affairs Mgr.

4. Typed Name: Marianne Radtke

5. Date: 8/14/97

6. Date Application Received (Stamped)

EPA Form 8570-1 (Rev. 8-94) Previous editions are obsolete. White - EPA File Copy (original) Yellow - Applicant Copy

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Clearigate

EPA Reg. No. 8959-51 Pat. # 5,407,899 EPA Est. No. 41760-CA-1

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 INGREDIENTS	
COPPER AS ELEMENTAL	3.825%*
INERT INGREDIENTS	96.175%
TOTAL	100.00%

* From Mixed Copper Ethanolamines in an Emulsified Formulation
CLEARIGATE CONTAINS 0.31 LBS. OF COPPER PER GALLON

See Side Panel for Additional Precautionary Statements

KEEP OUT OF REACH OF CHILDREN

DANGER

STATEMENT OF PRACTICAL TREATMENT

FIRST AID: IF IN EYES: Hold eyelids open and flush with a steady, gentle stream of water for 15 minutes. Get medical attention. **IF ON SKIN:** Wash with plenty of soap and water. Get medical attention. **IF SWALLOWED:** Call a doctor or get medical attention. Drink promptly a large quantity of milk, egg white, gelatin solution, or, if these are not available, large quantities of water. Do not give anything by mouth to an unconscious person. Avoid alcohol. **IF INHALED:** Remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention.

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.

NET CONTENTS:

ab applied biochemists
division of Laporte Water Technologies and Biochem, Inc.
MILWAUKEE, WI 53218
1-800-558-5106

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER

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

ENVIRONMENTAL HAZARDS

Fish toxicity is dependent upon harshness 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.

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 ⅓ to ½ 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.

STORAGE AND DISPOSAL

PROHIBITIONS: Do not contaminate water, food or feed by storage or disposal.

STORAGE: Keep pesticide in original container. Do not store in a manner where cross-contamination with other pesticides, fertilizers, food or feed could occur. Store at temperatures above 32°F(0°C) away from heat or flame.

In the event of spillage during handling or storage, absorb with sand, clay or other inert material and dispose of absorbent in accordance with the pesticide disposal instructions listed below. For help with spill, leak, fire or exposure involving this material, call Chemtrec (1-800-424-9300).

PESTICIDE DISPOSAL: This product is 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: Triple rinse (or equivalent). Do not reuse container. Incinerate, burn or puncture and dispose of in a sanitary landfill, or dispose of by other procedures allowed by State and local authorities. If burned, stay out of smoke.

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.

GENERAL GUIDELINES:

CLEARIGATE is a chelated copper formulation containing an emulsified surfactant / penetrant for highly effective control of coarse (thick cell-walled) filamentous algae, muscilaginous (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.

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.

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.

AQUATIC VEGETATION TYPE OR SPECIES	DOSAGE RATES PPM COPPER	GALLONS PER ACRE FOOT	DILUTION % SPRAY SOLUTION V/V	TREATMENT COMMENTS
ALGAE				
Planktonic	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	0.2 - 0.6	1.8 - 5.3	5% - 10%	Apply lower dosage rate on early season, light infestations or treatment of regrowth. Apply higher rates on surface mats and coarse species such as Pithophora, Cladophora, & Lyngbya.
Chara/Nitella	0.4 - 0.8	3.6 - 7.1	10% - 15%	Apply lower dosage 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.
SUBMERSED PLANTS				
Egeria densa (Brazilian Elodea)	0.6 - 1.0	5.4 - 8.7	10% - 20%	Apply lower dose on early season, low density growth.
Elodea canadensis	0.8 - 1.0	7.1 - 8.7	10% - 20%	Apply higher rates in thicker stands of plants.
Hydrilla verticillata	0.4 - 1.0	3.6 - 8.7	10% - 20%	Product should be applied as close to the top of plants as possible.
Myriophyllum spp. (Water Milfoil)	0.8 - 1.0	7.1 - 8.7	10% - 20%	Underwater injection is recommended when plants are more than one foot below water surface.
Najas spp. (Naiad)	0.5 - 1.0	4.4 - 8.7	10% - 20%	
Potamogeton spp. (Pondweeds)	0.5 - 1.0	4.4 - 8.7	10% - 20%	
FLOATING PLANTS		GALLONS PER SURFACE ACRE		
Lemna 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.
Eichornia crassipes (Water Hyacinth)	–	4.4 - 8.7	20% - 25%	Do not disturb with motor wake or paddles after treatment.

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.

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.

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 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
Etc.	

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 CLEARIGATE required per drip/metering site by using the following formula:

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

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

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

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

Flow Rate (CFS) x Drip Rate (qt/CFS/hr) x 0.533 * = 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.