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5-526529

SEP. 12 1997

Agrevo Environmental Health
95 Chestnut Ridge Road
Montvale, NJ 07645

Attention: Mr. Joseph A. Conti

Subject: Powdered Cube Root
EPA Reg. No. 432-525
Cube Powder Fish Toxicant
EPA Reg. No. 432-829 ✓
Your amended applications of September 16, 1996,
June 26, and July 31, 1997
Cal/EPA's letters of August 14 and 29, 1997

We have reviewed the above applications and have the following comments.

I. Use Deletion (Amended Application of September 16, 1996)

Your request to delete the insecticide uses for Powdered Cube Root, EPA Reg. No. 432-525, is acceptable.

II. Additional Brand Name

Your additional brand name, Pro-Noxfish Dust Fish toxicant, for Cube Powder Fish Toxicant, EPA Reg. No. 432-829, is acceptable.

III. Change in Classification and Precautionary Statements (Amended Application of June 26, 1997)

Your submitted a set of acute toxicity tests that the Agency required in the 1988 Rotenone Standard for manufacturing-use products and that your company contracted for in 1991. Your company had forgotten to submit them to the Agency.

You submitted these studies, listed below, to both the EPA and the California Department of Pesticide Regulation, which reviewed these studies. The results of that review were as follows:

| Study | MRID No. | Tox Cat |
|--------------------------|-----------|---------|
| 1. Acute Oral | 443121-01 | I |
| 2. Acute Dermal | -02 | III |
| 3. Acute Inha- lation | -03 | I |
| 4. Primary Eye | -04 | III |
| 5. Primary Dermal | -05 | IV |
| 6. Dermal Sensi- | -06 | n/a |

(positive sensitizer)

If you repeat the acute oral toxicity study and the result is Category II, then you can use the precautionary text for that category of toxicity and route of exposure. There is no need to repeat the acute inhalation study.

For both products, the labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, is acceptable provided that you make the following changes and submit one (1) copy to us before you ship your product:

1. For Cube Powder Fish Toxicant, EPA Reg. No. 432-829, add the following "Restricted Use Pesticide" statement to the top of the Front Panel:

RESTRICTED USE PESTICIDE
 Due to Aquatic, Acute Oral and Inhalation Toxicity

For retail sale to, and use only by, Certified Applicators, or persons under their direct supervision, and only for those uses covered by the Certified Applicator's certification.

2. Change the first sentence under "DANGER" to:

Fatal if inhaled or swallowed.

- 3. Print "POISON" and "Skull and Crossbones" in red.
- 4. Change "Practical Statement of Treatment" to "FIRST AID".
- 5. Under "FIRST AID", reorder the text as follows:

IF INHALED ...
 IF SWALLOWED ...
 IF IN EYES ...
 IF ON SKIN ... persist..

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6(e). Your release for shipment of the product bearing the amended labeling constitutes acceptance of these conditions.

A stamped copy of the labeling is enclosed for your records.

Sincerely,

DBA

Daniel B. Peacock, Biologist
 Insecticide-Rodenticide Branch
 Registration Division (7504C)

- Enclosures: 1. Stamped Labels
 2. A-79 Enclosure

Peacock WP#13:A:\Rotenone\432-525.Sep:305-5407:9/12/97

RESTRICTED USE PESTICIDE

Due to Aquatic Toxicity

For retail sale to, and use only by, Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator's certification.

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

DANGER

Fatal if inhaled. May be fatal if swallowed. Harmful if absorbed through the skin. Causes moderate eye irritation. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Do not breathe mist. Use a dust/mist filtering respirator (MSHA/NIOSH approval number prefix TC-21C). Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash clothing before reuse.

Environmental Hazards

This pesticide is extremely toxic to fish. Fish kills are expected at recommended rates. Consult your State Fish and Game Agency before applying this product to public waters to determine if a permit is needed for such an application. Do not contaminate untreated water when disposing of equipment washwaters.

DIRECTIONS FOR USE

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

STORAGE AND DISPOSAL

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

Storage: Store only in original containers, in a dry place inaccessible to children and pets.

Pesticide Disposal: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Container Disposal: Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

USE RESTRICTIONS

Use against fish in lakes, ponds, reservoirs and streams (immediately above lakes, ponds and reservoirs).

Cube Powder Fish Toxicant is registered for use by or under permit from, and after consultation with State and Federal Fish and Wildlife Agencies.

Since such factors as pH, temperature, depth and turbidity will change effectiveness, use this product only at locations, rates, and times authorized and approved by appropriate state and federal fish and wildlife agencies. Rates must be within the range specified on the label.

Properly dispose of dead fish and unused product. Do not use dead fish for food or feed. Do not use water treated with rotenone to irrigate crops or release within 1/2 mile upstream of a potable water or irrigation water intake in a standing body of water such as a lake, pond or reservoir.

CUBE POWDER Fish Toxicant

ACTIVE INGREDIENTS:

Rotenone* 7.4% w/w

Other Associated Resins 11.1%

INERT INGREDIENTS:+ 81.5%

Total 100.0% w/w

*Nominal concentration. See certificate of analysis for actual rotenone content.

EPA REG. NO. 432-829

EPA EST. NO.

KEEP OUT OF REACH OF CHILDREN

DANGER

POISON

STATEMENT OF PRACTICAL TREATMENT

IF IN EYES: Flush with plenty of water for 15 minutes. Get medical attention if irritation persists.

IF SWALLOWED: Call a physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person.

IF ON SKIN: Wash with plenty of soap and water. Get medical attention if irritation persist.

IF INHALED: Remove victim to fresh air. If not breathing give artificial respiration preferably mouth-to-mouth. Get medical attention.

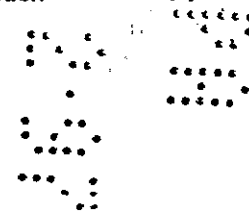
See Side Panel For Additional Precautionary Statements

ACCEPTED
WITH COMMENTS
EPA Letter Dated:

SEP 12 1997

Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. NET WEIGHT:

432-829



RE-ENTRY STATEMENT

Do not allow swimming in rotenone treated water until the application has been completed and all pesticide has been thoroughly mixed into the water according to labeling instructions.

APPLICATION DIRECTIONS

Treatment of Ponds, Lakes and Reservoirs

The actual application rates and concentrations of rotenone needed to control fish will vary widely, depending on the type of use (e.g., selective treatment, normal pond use, etc.) and the factors listed above. The table below is a general guide for the proper rates and concentrations.

COMPUTATION OF ACRE-FEET: An acre-foot is a unit of volume of a body of water having the area of one acre and the depth of one foot. To determine acre feet in a given body of water, make a series of transects across the body of water taking depths with a measured pole or weighted line. Add the soundings and divide by the number made to determine the average depth. Multiply this average depth by the total surface area in order to determine the acre feet to be treated. If number of surface acres is unknown, contact your local Soil Conservation Service, which can determine this from aerial photographs.

AMOUNT OF PRODUCT NEEDED FOR TREATMENT:

To determine the approximate number of pounds needed for treatment, find your "Type of Use" in the first column of the table below and then divide the corresponding numbers in the third column, "Number of Acre-Feet Covered by One Pound" into the number of acre-feet in your body of water. This will give you the number of pounds of cube powder containing 5% rotenone needed for treatment. To correct for the actual rotenone content of the Cube Powder use the following formula;

$$P = \frac{N \times \text{Actual Rotenone Content}}{0.05}$$

Where N= the number of pounds of cube powder containing 5% rotenone needed for treatment, P= number of pounds of Cube Powder (actual concentration) needed for treatment.

General Guide to the Application Rates and Concentrations of Rotenone Needed to Control Fish in Lakes, Ponds and Reservoirs¹

| Type of Use | Parts Per Million | | Number of Acre-Feet Covered by One Pound (based on 5% rotenone) | Pounds of Cube Powder to Cover one Acre-foot (based on 5% rotenone) |
|--|-------------------|-----------------|---|---|
| | 5% Rotenone | Active Rotenone | | |
| Selective Treatment | 0.10 to 0.13 | 0.005 to 0.007 | 3.7 to 2.8 | 0.25 to 0.36 |
| Normal pond use | 0.5 to 1.0 | 0.025 to 0.050 | 0.74 to 0.37 | 1.35 to 2.70 |
| Remove bullheads or carp | 1.0 to 2.0 | 0.050 to 0.100 | 0.37 to 0.185 | 2.70 to 5.41 |
| Remove bullheads or carp in rich organic ponds | 2.0 to 4.0 | 0.100 to 0.200 | 0.185 to 0.093 | 5.41 to 10.75 |
| Preimpoundment treatment above dam | 3.0 to 5.0 | 0.150 to 0.250 | 0.123 to 0.074 | 8.13 to 13.51 |

¹Adapted from Kinney, Edward. 1965. Rotenone in Fish Pond Management. USDI Washington, D.C. Leaflet FL-576.

Pre-Mix and Method of Application: Pre-mix one pound Rotenone with 3 to 10 gallons of water. Uniformly apply over water surface or bubble through underwater lines.

Detoxification: Rotenone treated waters detoxify under natural conditions within one week to one month depending upon temperatures, alkalinity, etc. Rapid detoxification can be accomplished by adding chlorine or potassium permanganate to the water at the same rate as Rotenone in parts per million, plus enough additional to meet the chlorine demand of the untreated water.

Removal of Taste and Odor: Rotenone treated waters do not retain a detectable taste or odor for more than a few days to a maximum of one month. Taste and odor can be removed immediately by treatment with activated charcoal at a rate of 30 ppm for each 1 ppm Rotenone. (Note: As Rotenone detoxifies, less charcoal is required.)

Restocking After Treatment: Wait 2 to 4 weeks after treatment. Place a sample of fish to be stocked in wire cages in the coolest part of the treated waters. If the fish are not killed within 24 hours, the water may be restocked.

Use in Streams Immediately Above Lakes, Ponds and Reservoirs The purpose of treating streams immediately above lakes, ponds and reservoirs is to improve the effectiveness of lake, pond and reservoir treatments by preventing target fish from moving into the stream corridors, and not to control fish in streams per se. The term "immediately" means the first available site above the lake, pond or reservoir where treatment is practical, while still creating a sufficient barrier to prevent migration of target fish into the stream corridor.

In order to completely clear a fresh water aquatic habitat of target fish, the entire system above or between fish barriers must be treated. See the use directions for streams and rivers on this label for proper application instructions.

In order to treat a stream immediately above a lake, pond or reservoir, you must: (a) select the concentration of active rotenone, (b) compute the flow rate of the stream, (c) calculate the application rate, (d) select an exposure time, (e) estimate the amount of product needed, (f) follow the method of application. To prevent movement of fish from the pond, lake, or reservoir, stream treatment should begin before and continue throughout treatment of pond, lake or reservoir until mixing has occurred.

1. **Concentration of Active Rotenone:** Select the concentration of active rotenone based on the type of use from those listed on the table. Example: If you select "normal pond use" you could select a concentration of 0.025 part per million.

2. **Computation of Flow Rate for Stream:** Select a cross section of the stream where the banks and bottom are relatively smooth and free of obstacles. Divide the surface width into 3 equal sections and determine the water depth and surface velocity at the center of each section. In slowly moving streams, determine the velocity by dropping a float attached to 5 feet of loose monofilament fishing line. Measure the time required for the float to move 5 feet. For fast-moving streams, use a longer distance. Take at least three readings at each point. To calculate the flow rate from the information obtained above, use the following formula:

$$F = \frac{Ws \times D \times L \times C}{T}$$

where F = flow rate (cubic feet/second), Ws = surface width (feet), D = mean depth (feet), L = mean distance traveled by float (feet), C = constant (0.8 for rough bottoms and 0.9 for smooth bottoms), and T = mean time for float (sec.).

3. **Calculation of Application Rate:** In order to calculate the application rate (expressed as pounds/second), you convert the rate in the table (expressed as pounds/acre-feet), to gallons per cubic feet and multiply by the flow rate (expressed as cubic feet/second). Depending on the size of the stream and the type of equipment, the rate could be expressed in other units, such as ounces/hour.

The application rate for the stream is calculated as follows:

$$Rs = Rp \times C \times F$$

where Rs = application rate for stream (pounds/second), Rp = application rate for pond (pounds/acre-feet), C = 1 acre foot/43560 cubic feet, and F = flow rate of the stream (cubic feet/ second).

4. **Exposure Time:** The exposure time would be the period of time (expressed in hours or minutes) during which Rotenone is applied to the stream in order to prevent target fish from escaping from the pond into the stream corridor.

5. **Amount of Product:** Calculate the amount of product for a stream by multiplying the application rate for streams by the exposure time.

$$A = Rs \times H$$

where A = the amount of product for the stream application, Rs = application rate for stream

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(pounds/second), and H = the exposure time expressed in seconds.

WARRANTY STATEMENT

Our recommendations for the use of this product are based upon tests believed to be reliable. The use of this product being beyond the control of the manufacturer, no guarantee, expressed or implied, is made as to the effects of such or the results to be obtained if not used in accordance with directions or established safe practice. The buyer must assume all responsibility including injury or damage, resulting from its misuse as such, or in combination with other materials.

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