

Reg # 1439-157

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

WARNING: May be fatal if swallowed. May cause eye injury. Causes skin irritation. Do not get in eyes, on skin, or on clothing. Wear protective goggles, face shield, or safety glasses. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash thoroughly before reuse.

Statement of Practical Treatment

IF SWALLOWED: Call a physician or Poison Control Center. Do not induce vomiting. This product contains aromatic petroleum solvent. Aspiration may be a hazard.

Promptly drink a large quantity of a milk, egg white, and gelatin solution, or if these are not available, water. Avoid alcohol.

IF IN EYES: Flush with plenty of water and get medical attention.

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

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.

Physical and Chemical Hazards

Do not use or store near heat or open flame.

STORAGE AND DISPOSAL

DO NOT CONTAMINATE WATER, FOOD OR FEED BY STORAGE DISPOSAL.

STORAGE: STORE ONLY IN ORIGINAL CONTAINER, 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: TRIPLE RINSE (OR EQUIVALENT). THEN OFFER FOR RECYCLING OR RECONDITIONING OR PUNCTURE AND DISPOSE OF IN A SANITARY LANDFILL OR BY OTHER PROCEDURES APPROVED BY STATE AND LOCAL AUTHORITIES.

PM-14

CHEM-SECT BRAND

CHEM FISH REGULAR

(5% Emulsifiable Concentrate)

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.

CHEM-SECT BRAND

CHEM FISH REGULAR

(For Control of Fish in Lakes and Ponds)

ACTIVE INGREDIENTS	15.0%
Rotenone	5.0%
Other Cube Extractives	10.0%
INERT INGREDIENTS	85.0%
TOTAL	100.0%

*This product contains aromatic solvents.

KEEP OUT OF REACH OF CHILDREN

W A R N I N G

See Left Panel for additional precautionary statements.

Tifa (C.I.) Limited
Tifa Square
Millington, New Jersey 07946
United States of America
Telephone: 908-647-4570
Telex: 178098/170484
Cable: TIFA Millington
Facsimile No.: 908-647-2517
908-647-7338

E.P.A. PESTICIDE EST. #44616-MO-1
E.P.A. REG. NO. 1439-157
Net Contents _____

ACCEPTED
JAN 14 1992
Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registered under EPA Reg. No. 1439-157

DIRECTIONS FOR USE

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

USE RESTRICTIONS:

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

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 in the labeling.

Properly dispose of dead fish and unused product. Do not use dead fish as 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.

APPLICATION DIRECTIONS:

Treatment of Lakes and Ponds

1. Application Rates and Concentrations of Rotenone

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 treatment, etc.) and the factors listed above. The table below is a general guide for the proper rates and concentrations.

2. Total Amount of Product Needed for Treatment

To determine the total number of gallons needed for treatment, divide the number of acre-feet covered by one gallon for a specific type of use (e.g., selective treatment, etc.), as indicated in the table below, into the number of acre-feet in the body of water.

CHEM FISH REGULAR should be mixed with water before application, rather than apply it at full strength. A wash tub or garbage can make a convenient container for mixing. Liquid CHEM FISH REGULAR mixes readily with water. In some types of water, CHEM FISH REGULAR does not penetrate to the deeper parts of the pond (20 to 25 feet or more) when applied on or at the surface. The deeper parts are usually treated by pumping the mixture through a weighted garden hose with perforated section at the end.

FOR USE IN STREAMS, IMMEDIATELY ABOVE PONDS, LAKES, OR RESERVOIRS. Allow CHEM FISH REGULAR to drain from drum directly into center of stream at a rate of 0.85-1.7 cc per minute for each cubic foot of water flowing per second in the stream (0.5-1.0 part per million CHEM FISH REGULAR or 0.025-0.05 ppm rotenone).

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General Guide to the Application Rates and Concentrations of Rotenone Needed to Control Fish in Lakes and Ponds* (5% Emulsifiable Concentrate Product)

Type of Use	No. of		Parts Per Million	5% Emulsifiable Concentrate Product
	Acres	Feet		
Selective Treatment	30 to 24	0.005-0.007	0.10-0.13	
Normal Pond Use	6.0 to 3.0	0.025-0.050	0.5-1.0	
Remove Bullheads or Carp	3.0 to 1.5	0.50-0.100	1.0-2.0	
Remove Bullheads or Carp in Rich Organic Ponds	1.5 to 0.75	0.100-0.200	2.0-4.0	
Pre-impoundment Treatment above Dam	1.0 to 0.6	0.150-0.250	3.0-5.0	

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

Computation of acre-foot for lake or pond - An acre-foot is a unit of water volume having a surface area of one acre and depth of one foot. Make a series of transects across the surface, taking depths with a measured pole or weighted line. Add the measurements and divide by the number made to determine the average depth. To compute total acre-feet, multiply this average depth by the number of surface acres, which can be determined from an aerial photograph or plat drawn to scale.

3. Method of Application and Exposure Time

Pro-Mixing and Method of Application: Pro-mix with water at a rate of one gallon CHEM FISH REGULAR to 10 gallons of water. Uniformly apply over water surface or bubble through underwater lines.

Detoxification: CHEM FISH REGULAR treated waters detoxify under natural conditions within 1 week to 1 month, depending upon temperatures, alkalinity, etc. Rapid detoxification can be accomplished by adding chlorine or potassium permanganate to the water at the same rates as CHEM FISH REGULAR in parts per million plus enough additional to meet the chlorine demand of the untreated water.

4. Removal of Taste and Odor

CHEM FISH REGULAR 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 to each 1 ppm CHEM FISH REGULAR remaining. (Note: As CHEM FISH REGULAR detoxifies, less charcoal is required.)

5. Restocking

Waters treated with this product detoxify within 3-5 days, depending on pH, temperature, water hardness, and depth. To determine if detoxification has occurred, place live boxes containing samples of fish to be stocked in the treated waters. More rapid detoxification can be accomplished by adding potassium permanganate at the same dosage in parts per million as rotenone was used for the reclamation treatment.

SEE ATTACHMENT A

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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.

In order to treat a stream immediately above a lake or pond, you must select a concentration of active rotenone, compute the flow rate of the stream, calculate the application rate, select an exposure time, estimate the amount of product needed, and follow the method of application.

1. Concentration of Active Rotenone

Select the "Concentration of Active Rotenone" based on the type of use from those on the table. For example, if you select "Normal Pond Use" you could select a concentration of "0.025 Parts 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 (cu. ft./sec.), Ws = surface width (ft.), D = mean depth (ft.), L = mean distance traveled by float (ft.), C = constant (0.8 for rough bottoms and 0.9 for smooth bottoms), and T = mean time for float (sec.).

For example, after using the above formula, you might have computed the stream's flow rate to be "10 cu ft per sec".

3. Calculation of Application Rate

In order to calculate the application rate (expressed as "gallon per sec"), you convert the rate in the table (expressed as "gallon per acre-foot"), to "gallon per cu feet" and multiple by the flow rate (expressed as cu ft per sec"). Depending on the size of the stream and the type of equipment, the rate could be expressed in other units, such as "ounces per hr".

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The application rate for the stream above is calculated as follows:

$$R_s = R_p \times C \times F$$

where R_s = Application Rate for Stream (gal/sec), R_p = Application Rate for Pond (gal/acre feet), C = 1 acre foot/43560 cu ft, and F = Flow Rate (cu ft /sec).

In the example, the Application Rate for Stream would be:

$$R_s = 1 \text{ gal/6 acre-foot} \times 1 \text{ acre-foot/43560 cu ft} \times 10 \text{ cu ft/sec}$$

$$R_s = .000038 \text{ gal/sec or } 17.5 \text{ oz/hr.}$$

4. Exposure Time

The "Exposure Time" would be the period of time (expressed in hours or seconds) during which target fish should not enter the lake or pond under treatment. In the example, this period of time could be 4 hours.

5. Amount of Product

Calculate the "Amount of Product" for a stream by multiplying the "Application Rate for Stream" by the "Exposure Time". In the example, the "Amount of Product" would be 70 oz (17.5 oz/hr x 4 hr) or 0.547 gal.

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