10-APR-1997

CHEM-SECT BRAND
CHEM FISH SYNERGIZED - RESTRICTED

2.5% EMULSIFIABLE CONCENTRATE

For Control of Fish in Lakes and Ponds

GUARANTEE:

Rotenone	2.5%
Other Associated Resins	15.0%
Technical Piperonyl Butoxide	2.5%

PRECAUTION:

KEEP OUT OF REACH OF CHILDREN

READ THE LABEL BEFORE USING

REFER TO MATERIAL SAFETY DATA SHEET

REGISTRATION NUMBER 22447 PEST CONTROL PRODUCTS ACT

NET CONTENT

MANUFACTURED BY
Tifa Ltd.
Tifa Square,
Millington, New Jersey
07946 USA

DISTRIBUTED IN CANADA BY:
Dalton Chemical Laboratories Inc.
4700 Keele Street, Room 108 Farquharson Building
North York, Ontario
M3J 1P3
TEL (416) 736-5394
FAX (416) 736-5846

NOTICE TO USER:

This control product is to be used only in accordance with the directions on this label. It is an offence under the Pest Control Products Act to use a control product under unsafe

conditions.

NATURE OF RESTRICTION

This product is to be used in the manner authorized; consult local pesticide regulatory authorities about use permits which may be required.

RESTRICTED USES

1. Application rates and concentration of Rotenone

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 centre of each station. In slowly moving streams, determine the velocity by dropping a float attached to 1.52 metres of loose, monofilament fishing line. Measure the time required for the float to move 1.52 metres. 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:

$$F = \frac{WsxDxLxC}{T}$$

Where F = flow rate (m3 /sec), Ws = surface width (m), D = mean depth (m), L = mean distance travelled by float (m), C = constant (0.8 for rough bottoms and 0.9 for smooth bottoms), T = mean time for float (sec.).

2. Total Amount of Product Needed for Treatment:

For control of rough fish,. CHEM FISH SYNERGIZED should be emulsified at the rate of 1 litre in about 3-10 litres of water and then applied to .74 hectare-metres of water. Uniform dispersion of CHEM FISH SYNERGIZED throughout the area is essential in order to obtain maximum kill. Maximum kill has been obtained when the surface water temperatures have been about 21 degrees Centigrade. Satisfactory control of fish however, can also be obtained at lower temperatures.

3. Method of Application and Exposure Time:

Dumping of liquid CHEM FISH SYNERGIZED from the back of a boat often does not give satisfactory results. It is very important that CHEM FISH SYNERGIZED is uniformly distributed throughout the

water treated. Some of the common application methods used in ponds and small lakes are by garden sprayers, backyard pumps, boat bailers, garden hose syphon and gasoline-powered pumps. In using pumps on boat bailers, CHEM FISH SYNERGIZED should be mixed with water before application rather than apply it at full strength. A wash tub or garbage can which does not leak can make a convenient container for mixing. Liquid CHEM FISH SYNERGIZED mixes readily with water. In some types of water CHEM FISH SYNERGIZED does not penetrate the deeper part of the pond (6 to 8 metres 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.

RE-ENTRY STATEMENT

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

DIRECTIONS FOR USE

USE LIMITATIONS:

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 Provincial and Federal agencies. Rates must be within the range specified in the labeling. 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 ½ km 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 and factors such as pH, organic content, dissolved elements, bottom substrates, depth, thermocline, emergent vegetation, shore-line, species of fish present and those targeted for control, anticipated weather condition, springs in the bottom of the lake, and other factors will change effectiveness of use. The table is a general guide to the proper rates and

concentrations.

2. Total Amount of Product Needed for Treatment:

To determine the total number of litres needed for treatment, divide the number of hectare-metres covered by one litre for a specific type of use (e.g. selective treatment, etc,), as indicated in the table, into the number of hectare-metres in the body of water.

CHEM FISH SYNERGIZED should be mixed with water before application, rather than apply it at full strength. A wash tub or garbage can which does not leak makes a convenient container for mixing. Liquid CHEM FISH SYNERGIZED mixes readily with water. In some types of water CHEM FISH SYNERGIZED does not penetrate to the deeper parts of the pond (6 to 8 metres 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 end. FOR USE IN STREAMS, IMMEDIATELY ABOVE PONDS, LAKES OR RESERVOIRS. Allow CHEM FISH SYNERGIZED to drain from drum directly into centre of stream at rate of 0.85-1.7 cc per minute for each 0.0283 cubic metres of water flowing per second in the stream (0.5-1.0 parts per million CHEM FISH SYNERGIZED or 0.0125-0.025 ppm rotenone).

Computation of Hectare-metres for lake or pond: A hectare-metre is a unit of water volume having a surface area of one hectare and a depth of one metre. 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 average depth. To compute total hectare- metres, multiply this average depth by the number of surface metres, which can be determined from aerial photograph or plate drawn to scale.

3. Method of Application and Exposure Time:

Pre-Mixing and Method Application: Pre-Mix with water at a rate of one litre CHEM FISH SYNERGIZED to 10 litre of water. Uniformly apply over water surface or bubble through underwater lines.
Detoxification: CHEM FISH SYNERGIZED treated waters detoxify under natural conditions within 1 week to one month, depending on temperatures, alkalinity, etc. Rapid detoxification can be accomplished by adding chlorine or potassium permanganate to the water at the same rates as CHEM FISH SYNERGIZED in parts per million plus enough additional to meet the chlorine demand of untreated water.

4. Removal of Taste and Odour:

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

5. Restocking:

Waters treated with this product detoxify within 3-5 days depending on pH, temperatures, 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 reclamation treatment.

6. Treatment of Streams Immediately Above Lakes and Ponds.

The purpose of treating streams immediately above lakes and ponds is to improve the effectiveness of lake and pond treatments and not to control fish in streams per se. The term "immediately" means the first available site above the lake or pond where treatment is practical.

PRECAUTIONS

Hazards to Humans and Domestic Animals

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 faceshield, or safety glasses. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash thoroughly before reuse.

This pesticide is extremely toxic to fish. Fish kills are expected at recommended rates. Consult your provincial authorities 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 wash waters.

FIRST AID INSTRUCTIONS / TOXICOLOGICAL PROPERTIES:

IF SWALLOWED: Call a physician, or Poison Control Centre. 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.

PHYSICAL AND CHEMICAL HAZARDS:

Flammable: Do not use or store near heat or open flame.

STORAGE AND DISPOSAL

DO NOT CONTAMINATE WATER FOOD OR FEED BY STORAGE OR DISPOSAL

STORAGE: Store only in original container, in a dry place inaccessible to children and pets.

DISPOSAL: Follow provincial instructions for any required cleaning of the container prior to its disposal. Make the container unusable for further use. Dispose of the container in accordance with provincial requirements. For information on the disposal of unused, unwanted product and the cleanup of spills, contact the regional office of Environmental Protection, Environment Canada. Wrap dead fish and discard them in accordance with provincial requirements.

General Guide to the Application Rates and Concentrations of Rotenone Needed to Control Fish in Lakes and Ponds. (2.5% Emulsifiable Concentrate Product)

Type of Use	No. of Hectare-metres Covered by 1 L	Parts per Million	
		Active Rotenone	2.5% Product
Selective Treatment	1.5-1.9	0.005-0.007	0.20-0.25
Normal Pond Use	0.19-0.37	0.025-0.050	1.0-2.0
Remove Bullheads or Carp	0.95-0.019	0.050-0.100	2.0-4.0
Remove Bullheads or Carp in Rich Organic Ponds	0.047-0.095	0.100-0.200	4.0-8.0

Pre-Impoundment Treatment Above Dam	0.037-0.60	0.150-0.250	6.0-10.0

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

Revised Oct. 11, 1996

****

+))