

July 18, 2000

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Prentiss Inc.
C. B. 2000
Floral Park, NY 11002-2000

Attention: Mr. Richard Miller

Subject Prentox® Cube Powder
 EPA Registration No. 655-3
 Prentox® Synpren-Fish Toxicant
 EPA Registration No. 655-421
 Your letters of April 10 and 24, 2000

The labeling submitted with the above letter is acceptable under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), provided that you submit one (1) copy of final printed labeling with the following changes before you release the product for shipment:

Review of labeling 1. Revise your "FIRST AID" statement as follows:

FIRST AID	
Have label with you when obtaining treatment advice.	
If swallowed	<ul style="list-style-type: none"> •Call a poison control center, doctor, or 1-800-xxx-xxxx (toll free number optional) immediately for treatment advice. •Have person sip a glass of water if able to swallow. •Do not induce vomiting unless told to do so by the poison control center or doctor.
If on skin or clothing	<ul style="list-style-type: none"> •Take off contaminated clothing. •Rinse skin immediately with plenty of water for 15-20 minutes. •Call a poison control center, doctor, or 1-800-xxx-xxxx immediately for treatment advice.

If inhaled	<ul style="list-style-type: none"> •Move person to fresh air. •If person is not breathing, call an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. •Call a poison control center, doctor, or 1-800-xxx-xxxx immediately for treatment advice.
If in eyes	<ul style="list-style-type: none"> •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 eye. •Call a poison control center, doctor, or 1-800-xxx-xxxx immediately for treatment advice.

The reason for the suggested format above is that it is clearer and communicates the information faster, which is important in a time of emergency. Considering your package size, you should have plenty of room.

Existing stocks of labels

Stocks of existing labels may be used for eighteen (18) months.

Consequence for non-compliance

If this condition is 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 this condition.

A copy of the stamped label is enclosed for you records.

EPA Contact

If you have questions about this letter, please contact me at 703-305-5407 (by phone), 703-305-6596 (by fax), or peacock.dan@epa.gov (by E-Mail).

Sincerely yours.



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

Enclosures

1. Stamped label
2. Minimum Type Size for Final Printed Labeling

Letter Filed

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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. Prentox Synpren-Fish Toxicant will not solidify nor show any separation at temperatures down to 40°F and is stable for a minimum of year when stored in sealed drums at 70°F.

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.

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.

DIRECTIONS FOR USE

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

General Information

Prentox Synpren-Fish Toxicant is a specially formulated product containing synergized rotenone, to be used in fisheries management for the eradication of fish from lakes, ponds, reservoirs and streams.

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 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.

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.

For Use in 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.

Prentox Synpren-Fish Toxicant disperses readily in water both laterally and vertically, and will penetrate below the thermocline in thermally stratified bodies of water.

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 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 Prentox Synpren-Fish Toxicant Needed for Specific Uses: To determine the approximate number of gallons of Prentox Synpren-Fish Toxicant (2.5% Rotenone) needed, 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 Gallon" into the number of acre-feet in your body of water.

ACCEPTED
with COMMENTS
in EPA Letter Dated:

JUL 18 2000

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

655-421

RESTRICTED USE PESTICIDE

DUE TO AQUATIC TOXICITY AND ACUTE 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.



SYNPREN-FISH TOXICANT

Liquid-Emulsifiable

For Control of Fish in Lakes, Ponds, Reservoirs and Streams

ACTIVE INGREDIENTS:

Rotenone	2.5% w/w
Other Associated Resins	5.0%
Piperonyl Butoxide, Technical*	2.5%
INERT INGREDIENTS**	90.0%

TOTAL 100.0%

*Equivalent to 2.0% [Butylcarbitol][6-propylpiperonyl] ether and 0.5% related compounds. **This product contains aromatic petroleum solvents.

PRENTOX® — Registered Trademark of Prentiss Incorporated



KEEP OUT OF REACH OF CHILDREN
DANGER — POISONOUS
See Additional Precautionary Statements Below



PRECAUTIONARY STATEMENTS HAZARDOUS TO HUMANS AND DOMESTIC ANIMALS DANGER

Fatal if inhaled. May be fatal if swallowed. Harmful if absorbed through skin. Causes substantial but temporary eye injury. Causes skin irritation. Do not breathe spray mist. Do not get in eyes, on skin or on clothing. Wear goggles or safety glasses. Wear either a respirator with an organic-vapor-removing cartridge with a pre-filter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C), or a canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G) or a NIOSH approved respirator with an organic vapor (OV) cartridge or canister with any R.P. or HE prefilter. Wash thoroughly with soap and water after handling and before eating, drinking or using tobacco. Remove contaminated clothing and wash before reuse.

STATEMENT OF PRACTICAL TREATMENT

If inhaled: Remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention. If in eyes: Hold eyelids open and flush with a steady, gentle stream of water for 15 minutes. Get medical attention. If swallowed: Call a physician or Poison Control Center. Drink promptly a large quantity of milk, egg white, gelatin solution, or if these are not available, large quantities of water. Avoid alcohol. Do not induce vomiting. If on skin: Wash with plenty of soap and water. Get medical attention.

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.

CHEMICAL AND PHYSICAL HAZARDS

Combustible mixture. Flash point of this formulation is 115°F DO NOT USE OR STORE NEAR HEAT OR OPEN FLAME.

EPA Reg. No. 655-421

EPA Est. No. 655-GA-1

Manufactured by
PRENTISS INCORPORATED

Plant: Kaolin Road, Sandersville, GA 31082
Office: C.B. 2000, Floral Park, NY 11002-2000

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

Type of Use	Synprex-Fish Toxicant Pints Per Million	Active Rotenone Grams Per Million	Number of Acres-Foot Covered by One Gallon
Selective Treatment of Normal Pond Use	0.20 to 0.25	0.005 to 0.007	15 to 12
Remove bullheads or carp	1.0 to 2.0	0.025 to 0.050	3.0 to 1.5
Remove bullheads or carp in rich organic ponds	2.0 to 4.0	0.050 to 0.100	1.5 to 0.75
Prepondement treatment above dam	4.0 to 8.0	0.100 to 0.200	0.75 to 0.38
	6.0 to 10.0	0.150 to 0.250	0.50 to 0.30

Notes from Inventory, Stewart, 1985, Rotenone in Fish Pond Management, USDA, Washington, D.C. United P.R. 378

Pre-lake and limited of Application: Pre-lake with water at a rate of one gallon Prentox Synprex-Fish Toxicant to 10 gallons of water. Uniformly apply over water surface or bubble through underwater lines. Discontinue Prentox Synprex-Fish Toxicant-treated waters directly under natural conditions within one week to one month depending upon temperature, salinity, etc. Rapid detoxification can be accomplished by adding chlorine or potassium permanganate to the water at the same rate as Prentox Synprex-Fish Toxicant in parts per million, plus enough additional to meet the chlorine demand of the untreated water. Removal of Toxic and Odor: Prentox Synprex-Fish Toxicant-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 Prentox Synprex-Fish Toxicant remaining. **Notes:** As Prentox Synprex-Fish Toxicant degrades, less charcoal is required. Reseeding 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 trash water aquatic habitat of target fish, the entire system above or between fish barriers must be treated. See the Use Instructions for streams and rivers on the 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 1. Complete treatment of pond, lake or reservoir until mixing has occurred.

1. Compute the Concentration of Active Rotenone:

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

2. Compute the Flow Rate for Streams:

Select a cross-section of the stream. Measure the banks and bottom are relatively smooth and free of obstacles. Divide the cross-section into 3 equal sections and determine the water depth and surface velocity at the center of each section. Multiply stream velocity by the width of the section by the length of the section to get the volume of water flowing through the section. Repeat this procedure for each section. 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:

$$F = W \times D \times L \times V$$

where F = flow rate (cubic feet/second), W = 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 V = mean time for float (sec).

3. Calculation of Application Rate:

In order to calculate the application rate (expressed as gallons/acre-foot), you convert the rate in the table (expressed as gallons/acre-foot) to gallons per cubic foot 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, or cc/minute.

The application rate for the stream is calculated as follows:

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

where R_s = application rate for stream (gallons/second), R_p = application rate for pond (gallons/acre-foot), $C = 1$ acre-foot/43,560 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 Prentox Synprex-Fish Toxicant 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.

$A = R_s \times H$

where A = the amount of product for the stream application, R_s = application rate for stream (gallons/second), and H = the exposure time expressed in seconds.

For Use in Streams and Rivers

Only state or federal fish and wildlife agencies or professional fisheries biologists under the authorization of state or federal fish and wildlife agencies are permitted to make applications of Prentox Synprex-Fish Toxicant for control of fish in streams and rivers. Thorough consultation with fish and wildlife personnel regarding the potential occurrence of endangered species in areas to be treated should take place. Applicants must reference Prentox Synprex-Fish Toxicant Stream and River Use Instructions before making any application to streams or rivers.

Warning Statement: Our recommendations for the use of this product are based upon tests believed to be reliable. The use of this product 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.

PRENTOX® SYNPREX-FISH TOXICANT STREAM AND RIVER USE MONOGRAPH

USE IN STREAMS AND RIVERS

The following use directions and instructions are given to make applications of Prentox Synprex-Fish Toxicant to streams and rivers. The unique nature of every application site could require minor adjustments to the method and rate of application. Should these unique conditions require major deviation from the directions, a Special Local Need (Z40) registration should be obtained from the EPA.

Before applications of Prentox Synprex-Fish Toxicant can be made to streams and rivers, authorization must be obtained from state or federal fish and wildlife agencies. Since local environmental conditions will vary, consult with the state fish and wildlife agency to ensure that the method and rate of application are appropriate for that site.

Contact the local water department to determine if any water intakes are within one mile down flow of the section of stream, river or canal to be treated. If so, coordinate the application with the water department to make sure the intakes are closed during treatment and detoxification.

Application Rates and Concentrations of Rotenone

Slow Moving Rivers: In slow moving rivers and streams with little or no water exchange, use instructions for ponds, lakes and reservoirs.

Flowing Streams and Rivers: Apply rotenone as a drip for 4 to 8 hours to the flowing portion of the stream. Multiple application sites are used along the length of the treated stream, spaced approximately 1/2 to 2 miles apart depending on the water flow travel time between sites. Multiple sites are used because rotenone is diluted and detoxified with distance. Application sites are spaced at no more than 2 hours or at no less than 1 hour travel time intervals, this assures that the treated stream remains lethal to fish for a minimum of 2 hours. A non-toxic dye such as Rhodamine-WT or fluorescein can be used to determine travel times. Cages containing live fish placed immediately upstream of the downstream application sites can be used as sentinels to assure that lethal conditions exist between sites.

Fish Toxicity: At each application site at a concentration of 0.5 to 2.0 parts per million of Prentox Synprex-Fish Toxicant, the amount of Prentox Synprex-Fish Toxicant needed at each site is dependent on stream flow (see Computation of Flow Rate for Streams).

Application of Individual Material

Prentox Synprex-Fish Toxicant can be applied directly into the center of the stream at a rate of 0.25 to 0.5 cc per minute for each cubic foot per second of stream flow. Flow of untreated Prentox Synprex-Fish Toxicant into the stream should be checked at least hourly. This is equivalent to from 0.5 to 2.0 ppm Prentox Synprex-Fish Toxicant, or from 0.012 to 0.050 ppm rotenone. Back-water, seepage and spring areas of streams should be sprayed by hand with a 10% v/v solution of Prentox Synprex-Fish Toxicant in water to assure a complete coverage.

Computation of Application Rate:

$$X = F(1.0528)$$

where X = cc per minute of Prentox Synprex-Fish Toxicant applied to the stream, F = the flow rate (cu ft/sec.) (see Computation of Flow Rate for Streams section of the label), and 8 = parts per million desired concentration of Prentox Synprex-Fish Toxicant.

Total Amount of Product Needed for Treatment: Streams should be treated for 4 to 8 hours in order to clear the treated section of stream of fish. To determine the total amount of Prentox Synprex-Fish Toxicant required, use the following equation:

$$Y = X(0.01584)$$

where Y = gallons of Prentox Synprex-Fish Toxicant required for the stream treatment, X = cc per minute of Prentox Synprex-Fish Toxicant applied to the stream, and C = time in hours of the stream treatment.

Applications of Diluted Materials

Alternatively, for stream flows up to 25 cubic feet per minute, continuous drip of diluted Prentox Synprex-Fish Toxicant at 80 cc per minute can be used. Flow of diluted Prentox Synprex-Fish Toxicant into the stream should be checked at least hourly. Use a 5 gallon reservoir over a 4 hour period, a 7.5 gallon reservoir over a 8 hour period, or a 10 gallon reservoir over an 8 hour period. The volume of the reservoir can be determined from the equation

$$R = H \times 1.25$$

where R = the volume of the reservoir in gallons, and H = the duration of the application in hours.

The volume of Prentox Synprex-Fish Toxicant diluted with water in the reservoir is determined from the equation:

$$X = Y(100/FH)$$

where X = the cc of Prentox Synprex-Fish Toxicant diluted in the reservoir, Y = parts per million desired concentration of Prentox Synprex-Fish Toxicant, F = the flow rate (cubic feet/second), and H = the duration of the application (hours).

For flows over 25 cubic feet per minute, additional reservoirs can be used concurrently. Back-water, seepage and spring areas of streams should be sprayed by hand with a 10% v/v solution of Prentox Synprex-Fish Toxicant in water to assure a complete coverage.

Detoxification

To limit effects downstream, detoxification with potassium permanganate can be used at the downstream limit of the treated area. Within 1/2 to 2 miles of the furthest downstream Prentox Synprex-Fish Toxicant application site, the reservoir can be dosed with a potassium permanganate solution at a resultant strength concentration of 2 to 4 parts per million, depending on rotenone concentration and potassium permanganate dose of the water. A 2.5% (10 pounds potassium permanganate to 50 gallons of water) potassium permanganate solution is dripped in at a continuous rate using the equation:

$$X = Y(70/F)$$

where X = cc of 2.5% potassium solution per minute, Y = ppm of desired potassium permanganate concentration, and F = cubic feet per second of stream flow.

Flow of potassium permanganate should be checked at least hourly. Live fish in cages placed immediately above the potassium permanganate application site will show signs of stress signaling the need for beginning detoxification. Detoxification can be terminated when repeated fish survive and show no signs of stress for at least four hours.

Detoxification of rotenone by potassium permanganate requires between 15 to 30 minutes contact time (travel time). Cages containing live fish can be placed at these downstream intervals to judge the effectiveness of detoxification. At water temperatures of less than 50°F detoxification may be retarded, requiring a longer contact time.