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JUL 15 1988

Mr. Andrew A. Davidson
Pennwalt Corporation
Agrichemicals Division
Three Parkway
Philadelphia, PA 19102

Dear Mr. Davidson:

Subject: Revised Restrictions - Irrigation
Hydrothal 191 Aquatic Algicide and Herbicide
EPA Registration No. 4581-174
Hydrothal 191 Granular Aquatic Algicide and
Herbicide
EPA Registration No. 4581-172 ✓
Your Submissions Dated June 22, 1988

The amendments referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, are acceptable provided that you:

1. Make the labeling changes listed below before you release the product for shipment bearing the amended labeling:
 - a. Delete "Do not use treated water for irrigation of crops."
It is understood your intent was to delete the statement as it conflicts with the new text stipulating intervals for holding water before irrigation use, depending on dosage rate used. We will reassess this labeling and data base under reregistration review for endothall.
 - b. Under EPA Registration No. 4581-174, the signal word DANGER and POISON (in red) did not reproduce on the copy submitted. It is understood these items will be retained on the final, printed labeling.

51038:I:Mountfort:LMF-12:KENCO:7/8/88:7/19/88:CB:VO:EK:CB

Safe

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2. Submit one (1) copy of each final printed labeling before you release the product for shipment. A stamped copy of each draft label is enclosed for your records.

Sincerely yours,

for Eugene M. Wilson
Richard F. Mountfort
Product Manager (23)
Fungicide-Herbicide Branch
Registration Division (TS-767C)

Enclosures

JUL 15 1988

Under the Federal Insecticide,
Fungicide, and Rodenticide Act
as amended, for the pesticide
registered under EPA Reg. No.4581-172

HYDROTHOL 191

GRANULAR AQUATIC ALGICIDE AND HERBICIDE

ACTIVE INGREDIENT

Mono(N,N-dimethylalkylamine*)salt of endothall** 11.2%

INERT INGREDIENTS 88.8%**TOTAL** 100.0%

*Alkyl groups as derived from Coconut Oil

**7-oxabicyclo [2.2.1] heptane-2,3-dicarboxylic acid equivalent 5%

KEEP OUT OF REACH OF CHILDREN**DANGER****STATEMENT OF PRACTICAL TREATMENT****IF IN EYES**, hold eyelids open and flush with a steady, gentle stream of water for 15 minutes. Call a physician.**IF SWALLOWED**, drink promptly a large quantity of milk, egg whites, gelatin solution or if these are not available, drink large quantities of water. Avoid alcohol. Call a physician immediately.**IF ON SKIN**, immediately flush with plenty of water for at least 15 minutes. Remove and wash contaminated clothing before reuse.**NOTE TO PHYSICIAN**: Probable mucosal damage may contraindicate the use of gastric lavage. Measures against circulatory shock; respiratory depression and convulsion may be needed.

See Side Panel for Additional Precautionary Statements

EPA Registration No. 4581-172
EPA Establishment No. 228-112-1

40 Lbs. Net Weight

AGCHEM DIVISION-PENNWALT CORPORATION

Philadelphia, PA 19102

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PRECAUTIONARY STATEMENTS**HAZARDS TO HUMANS
(AND DOMESTIC ANIMALS)****DANGER**

CORROSIVE. CAUSES IRREVERSIBLE EYE DAMAGE. HARMFUL IF SWALLOWED, ABSORBED THROUGH SKIN OR INHALED. AVOID CONTACT WITH SKIN OR CLOTHING. DO NOT GET IN EYES. WEAR GOGGLES OR FACE SHIELD WHEN HANDLING. Avoid breathing dust. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

ENVIRONMENTAL HAZARDS

Avoid contact with or drift to other crops or plants as injury may result.

Fish will be killed by dosages in excess of 0.3 ppm. Do not use where fish are important resources.

Do not use fish from treated water for food or feed within 3 days of treatment. Do not use treated water for watering livestock, for preparing agricultural sprays for food crops, for irrigation, or for domestic purposes within the following periods:

Up to 0.3 ppm— 7 days after application
Up to 3.0 ppm—14 days after application
Up to 5.0 ppm—25 days after application

GENERAL INFORMATION

HYDROTHOL 191 Granular is a highly effective algicide and aquatic weed killer for use in irrigation and drainage canals, lakes and ponds to control the following weeds and algae: Najas, Elodea, Coontail, Potamogeton, Milfoil sp., Zannichellia, Vallisneria, Cladophora, Spirogyra, Pithophora and Chara, when weeds are actively growing. Dosage rates indicated are measured in "Parts per Million" (ppm). 1 ppm as a dosage rate means that there would be 1 part endothall (acid) in 1,000,000 parts of water. Thoroughly clean application equipment immediately after use.

Necessary approval and/or permits should be obtained in states where required. Consult state water or conservation authorities before applying to public waters or to ponds, canals or streams which flow into public waters.

DIRECTIONS FOR USE

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

IRRIGATION AND DRAINAGE CANALS

HEAVY INFESTATIONS—Evenly spread 160 to 270 lbs. HYDROTHOL 191 Granular per acre foot of water (3.0 to 5.0 ppm) with suitable aerial or ground equipment.

MODERATE OR LIGHT INFESTATIONS—Use 55 to 110 lbs. per acre foot HYDROTHOL 191 Granular (1.0 to 2.0 ppm) applied evenly.

Pounds of HYDROTHOL 191 Granular required per mile of canal or swath, 1 ft. deep.					
ppm	WIDTH OF CANAL, DITCH OR SWATH				
	10	15	20	30	40
0.5	33	49	65	95	130
1.0	65	98	130	190	260
2.0	130	195	260	380	520
3.0	195	294	390	570	780
4.0	260	392	520	760	1040
5.0	325	490	650	950	1300

Note: 5.5 lbs. per acre foot equals 0.1 ppm of Endothall (acid).

Do not use treated water for irrigation of crops.

LAKES AND PONDS

ALGAE CONTROL—Cladophora, Pithophora, Spirogyra, and Chara can be controlled by even applications of 3 lbs. to 11 lbs. HYDROTHOL 191 Granular per acre foot (0.05 to 0.2 ppm) applied by suitable air or water equipment. HYDROTHOL 191 Granular is especially effective on bottom growth control. Pithophora may require 0.2 ppm or higher. Dosages may be increased to 27-82 lbs. of HYDROTHOL 191 Granular (0.5 to 1.5 ppm) where greater longevity of control is desired and for marginal treatments. For floating mats HYDROTHOL 191 Granular should be scattered as evenly as possible over the mat. Repeat treatments when algal growth reappears.

SUBMERGED AQUATICS—Due to the toxicity to fish, the use of HYDROTHOL 191 Granular for submerged aquatics is suggested only by commercial applicators on a marginal or sectional treatment basis. Use 27 to 136 lbs. HYDROTHOL 191 Granular per acre foot (0.5 to 2.5 ppm) scattered evenly as possible. Use dosages over 1.0 ppm on narrow margins or in areas where some fish kill is not objectionable.

Do not treat more than 1/10 of the lake or pond at one time with doses in excess of 1.0 ppm. Approximate pounds of HYDROTHOL 191 Granular for one acre* treatment at various depths and ppm concentrations.

Depth	PPM Concentrations						
	0.05 ppm	0.1 ppm	0.2 ppm	0.5 ppm	1.0 ppm	1.5 ppm	2.5 ppm
1 ft.	3	5	11	27	54	82	136
2 ft.	5	11	22	54	109	163	272
4 ft.	11	22	44	109	217	326	544
6 ft.	16	33	65	163	326	489	815

*One acre equals approximately 208' x 208'.

FOR USE ON RICE IN CALIFORNIA ONLY

HYDROTHOL 191 GRANULAR is a formulaion of a submersed aquatic weed killer for use in rice fields to control Southern Naiad (*Najas guadalupensis*), American Pondweed (*Potamogeton nodosus*), Horned Pondweed (*Zannichellia palustris*), Sago Pondweed (*Potamogeton pectinatus*), and Coontail (*Ceratophyllum demersum*).

TIME OF APPLICATION

Apply 25 to 60 days after sowing, when aquatic weeds are present. Do not apply before rice emerges above surface of water. Do not apply after rice starts heading. Do not apply HYDROTHOL 191 GRANULAR more than once yearly.

RATE OF APPLICATION

The ideal average depth of water at time of application is 6 to 8 inches; however, based on depth, use rates as follows:

Depth of Water in Inches	Lbs. HYDROTHOL 191 GRANULAR Per Acre	ppm Acid Equivalent
4-6	40	2.2-1.5
6-8	50	1.9-1.4
8-10	60	1.7-1.4

APPLICATION EQUIPMENT

Apply with ground or air equipment designed for uniform distribution of granules. Clean out application equipment after each use.

Necessary approval and permits should be obtained if required. Consult State Fish and Game agencies before applying this product.

Do not release water from flooded fields within 10 days of application. Carefully read regular product label and follow appropriate precautions and directions.

STORAGE AND DISPOSAL

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

Storage Instructions: Store in the original container, preferably in a locked storage area. Do not store in a manner where cross-contamination with other pesticides, fertilizers, food or feed could occur. If spilled during storage or handling sweep up spillage and dispose of in accordance with the Pesticide Disposal Instructions listed below.

Pesticide Disposal Instructions: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide 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 Instructions: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

WARRANTY AND DISCLAIMER

Pennwalt Corporation warrants that this material conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the Directions for Use, subject to the risks referred to therein. PENNWALT MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR MERCHANTABILITY OR ANY OTHER EXPRESS OR IMPLIED WARRANTY. IN NO CASE SHALL PENNWALT OR SELLER BE LIABLE FOR CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT INCLUDING, BUT NOT LIMITED TO, LOSS OF PROFITS, BUSINESS REPUTATION, OR CUSTOMERS; LABOR COST; OR OTHER EXPENSES INCURRED IN PLANTING OR HARVESTING.

Pennwalt and seller offer this product and the buyer and user accept it subject to the foregoing conditions of sale and warranty which may be varied only by agreement in writing signed by a duly authorized representative of Pennwalt.

