

## **PRECAUTIONARY STATEMENTS**

### **HAZARDS TO HUMANS (AND DOMESTIC ANIMALS)**

## **WARNING**

HARMFUL IF SWALLOWED. ABSORBED THROUGH SKIN OR INHALED. AVOID CONTACT WITH SKIN OR CLOTHING. CAUSES SUBSTANTIAL BUT TEMPORARY EYE INJURY. DO NOT GET IN EYES. WEAR GOGGLES OR OTHER SUITABLE EYE PROTECTION 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.

Do not use treated water for irrigation of crops.

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 three days after treatment.

Do not use treated water for watering livestock or domestic purposes within the following periods:

1 to 0.3 ppm — 7 days after application

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.

It is a violation of Federal law to use this product in a manner

## 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 INFESTATIONS**—Evenly spread 110 to 160 lbs. HYDROTHOL 191 Granular (1.0 to 1.5 ppm) with suitable aerial or ground equipment.

Pounds of HYDROTHOL 191 Granular required per mile

ppm	WIDTH OF CANAL, DITCH OR SURFACE		
	10	15	20
0.5	33	49	65
1.0	65	98	130
2.0	130	195	260
3.0	195	294	390
4.0	260	392	520
5.0	325	490	650

Note: 5.5 lbs. per acre foot equals 0.1 ppm of Endothall (acidic). 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 WEEDS**—Hydrophytes, such as Elodea, fish, the usual method of control is to remove the weed by hand or by mechanical means. Use of HYDROTHOL 191 Granular is not recommended. Use of HYDROTHOL 191 Granular is not recommended. Use of HYDROTHOL 191 Granular is not recommended. Do not treat one time only. Repeat treatments when algal growth reappears. Do not treat one acre at a time. Repeat treatments when algal growth reappears.

PPM Concentration

0.1 ppm	0.2 ppm	0.5 ppm	1.0 ppm
11	11	27	54
22	22	54	109
33	44	109	218
16	65	163	326

One acre equals approximately 208' x 208'.

## FOR USE ON RICE IN CALIFORNIA

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

Depth of Water in Inches

4-6  
6-8  
8-10

## TIME OF APPLICATION

Apply 25 to 60 days after sowing, when aquatic weeds are present. Do not apply before rice emerges above surface.

Apply with good distribution of water.

**ACCEPTED**  
SEP 1 1984  
Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registered under EPA Reg. No. 4581-1725

ppm	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.

### PPM Concentrations

0.1 ppm	0.2 ppm	0.5 ppm	1.0 ppm	1.5 ppm	2.5 ppm
11	11	27	54	82	136
11	22	54	109	163	272
22	44	109	217	326	544
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/or 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.

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.

