

# HYDROTHOL-191

## AQUATIC ALGICIDE AND HERBICIDE

**ACTIVE INGREDIENT**  
Mono(N,N-dimethylalkylamine\*\*) salt of endothall\* ..... 53.0%  
**INERT INGREDIENTS** ..... 47.0%

**TOTAL** ..... 100.0%

Contains 2 lb. endothall\* per gallon

\*7-oxabicyclo [2.2.1] heptane-2,3-dicarboxylic acid equivalent 23.36%

\*\*Alkyl groups as derived from Coconut Oil

### KEEP OUT OF REACH OF CHILDREN

#### STATEMENT OF PRACTICAL TREATMENT

- 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.
- IF IN EYES, immediately flush with plenty of water for at least 15 minutes. Call a physician.
- 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 Back Panel for Additional Precautionary Statements

NOTE: For GENERAL INFORMATION and DIRECTIONS FOR USE refer to accompanying brochure.

Net Contents 1 U.S. Gallon/3.785 Liters

**AGCHEM DIVISION-PENNWALT CORPORATION**

Philadelphia, PA 19102

EPA Registration No. 4581-174  
EPA Establishment No. 228-IL-1

5-F110A-01 H4 (8/84)

### PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS (AND DOMESTIC ANIMALS)

#### DANGER

FATAL IF ABSORBED THROUGH SKIN. MAY BE FATAL IF SWALLOWED. CORROSIVE. CAUSES IRREVERSIBLE EYE DAMAGE AND SKIN BURNS. HARMFUL IF INHALED. DO NOT GET IN EYES, ON SKIN OR ON CLOTHING. WEAR PROTECTIVE CLOTHING, RUBBER GLOVES AND GOGGLES OR FACE SHIELD WHEN HANDLING. Wash thoroughly with soap and water after handling and before eating or smoking. Remove contaminated clothing and wash before reuse. Avoid breathing spray mist.

#### ENVIRONMENTAL HAZARDS

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

Avoid contact with or drift to desirable plants or crops as injury may occur.

Clean out application equipment after each operation.

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:

0.3 ppm - 14 days after application  
0.5 ppm - 24 days after application  
1.0 ppm - 28 days after application

### STORAGE AND DISPOSAL

#### Storage Instructions

Store in original container. Do not use for any other purpose. Do not mix with other chemicals. Do not use for any other purpose. Do not use for any other purpose. Do not use for any other purpose.

#### Pesticide Disposal Instructions

Do not reuse. Do not dump. Do not pour. Do not throw away. Do not burn. Do not incinerate. Do not use for any other purpose. Do not use for any other purpose.

#### Container Disposal Instructions

Do not reuse. Do not dump. Do not pour. Do not throw away. Do not burn. Do not incinerate. Do not use for any other purpose. Do not use for any other purpose.

**PENWALT**

ACCEPTED  
SEP 11 1984  
4581-174

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

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**ENVIRONMENTAL HAZARDS**

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

Avoid contact with or drift to desirable plants or crops as injury may occur.

Clean out application equipment after each operation.

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:

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

**STORAGE AND DISPOSAL**

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

**Storage Instructions:** Store in the original container. Do not store in a manner where cross-contamination with other pesticides, fertilizers, food or feed could occur. In the event of spillage during handling or storage, absorb with sand or other inert material and dispose of absorbant in accordance with the Pesticide Disposal Instructions listed below.

**Pesticide Disposal Instructions:** 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 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.

 **PENNWALT**  
CHEMICALS • EQUIPMENT  
HEALTH PROTECTION

5-Z110B-01 H4 (8/84)

Made in U.S.A.

Printed in U.S.A.

ACCEPTED  
SEP 11 1984

Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, registered under EPA Reg. No. 450-174

# HYDROTHOL 191

## AQUATIC ALGICIDE AND HERBICIDE

EPA Registration No. 4581-174

### GENERAL INFORMATION

HYDROTHOL 191 is a liquid concentrate soluble in water and is a highly effective aquatic herbicide and algicide 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*, *Pithophora*, *Spirogyra*, and *Chara*, when weeds are actively growing. Dosage rates indicated are measured in "Parts per Million" (ppm). 1.0 ppm as a dosage rate means that there would be 1 part endothall (acid) in 1,000,000 parts of water.

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

Apply HYDROTHOL 191 as a surface spray with uniform coverage or inject under the surface of the water. The minimum contact time with weeds for optimum results should be two hours.

**HEAVY INFESTATION**—Apply at rate of 4.0 to 6.75 gal. per acre foot (equivalent to 3.0-5.0 ppm). See table below.

**MODERATE TO LIGHT INFESTATION**—Apply at rate of 1.4 to 2.7 gal. per acre foot (equivalent to 1.0-2.0 ppm). See table below.

GALLONS OF HYDROTHOL 191 REQUIRED TO TREAT 1 MILE OF DITCH, 1 FOOT DEEP

	Width of Ditch or Canal in Feet									
ppm	4	6	8	10	12	14	16	18	20	22
1.0 ppm	0.7	1.0	1.3	1.7	1.9	2.3	2.6	2.9	3.3	3.6
2.0 ppm	1.3	2.0	2.6	3.3	3.9	4.6	5.2	5.9	6.5	7.2
3.0 ppm	2.0	2.8	3.9	4.9	5.9	6.8	7.8	8.8	9.8	10.8
4.0 ppm	2.6	3.9	5.2	6.6	7.8	9.1	10.4	11.8	13.1	14.4
5.0 ppm	3.2	4.9	6.5	8.2	9.7	11.5	13.1	14.7	16.4	18.0

Note: 1.1 pt. HYDROTHOL 191 per acre foot equals 0.1 ppm of endothall (acid).  
Do not use treated water for irrigation of crops.

spray or injected under water surface. *Pithophora* may require 0.2 ppm or higher. Dosages may be increased to 1.1 gals. (0.3 to 0.8 ppm) where greater longevity of control is desired and for marginal treatments. Repeat treatment when algal growth reappears.

**SUBMERGED AQUATICS:** Due to the toxicity to fish, use of HYDROTHOL 191 for submerged aquatic weed control is suggested only by commercial applicators on a marginal or sectional rather than overall type treatment. Use 0.7 to 1.0 gals. per acre foot (0.5 to 2.5 ppm) on a marginal treatment. Either sprayed on or injected below the surface. Use dosage of 1.0 ppm only on very narrow margins or in areas where some fish kill is not objectionable. Do not treat more than 1/10 of the lake at one time. Do not use in excess of 1.0 ppm.

APPROXIMATE QUANTITY OF HYDROTHOL 191 FOR ONE ACRE\* TREATMENT

Depth	Dosages for Various Concentrations in ppm							
	0.05	0.1	0.2	0.3	0.5	0.8	1.0	2.0
1 ft.	0.6 pts	1.1 pts	2.2 pts	0.4 gal	0.7 gal	1.1 gal	1.4 gal	2.7 gal
2 ft.	1.1 pts	2.2 pts	4.3 pts	0.8 gal	1.4 gal	2.2 gal	2.8 gal	5.4 gal
3 ft.	2.2 pts	4.3 pts	8.6 pts	1.6 gal	2.7 gal	4.4 gal	5.4 gal	10.9 gal
4 ft.	3.3 pts	6.5 pts	12.9 pts	2.5 gal	4.1 gal	6.5 gal	8.2 gal	16.3 gal

\*One acre equals approximately 208' x 208'

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SEP 11 1984  
Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registered under EPA Reg. No. 4581-174

### 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 restrictions referred to therein. PENNWALT MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR MERCHANTABILITY. 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.

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## AQUATIC ALGICIDE AND HERBICIDE

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### GENERAL INFORMATION

HYDROTHOL 191 is a liquid concentrate soluble in water. It is a highly effective aquatic herbicide and algaecide for irrigation and drainage canals, lakes and ponds to control the following weeds and algae: Najas, Elodea, Coontail, Lemnateum, Milfoil sp., Zannichellia, Vallisneria, Chara, Pithophora, Spirogyra, and Chara, when weeds are actively growing. Dosage rates indicated are measured in "parts per Million" (ppm). 1.0 ppm as a dosage rate means there would be 1 part endothall (acid) in 1,000,000 parts of water.

State approval and/or permits should be obtained in advance where required. Consult state water or conservation department before applying to public waters or to ponds, streams which flow into public waters.

### DIRECTIONS FOR USE

In accordance with the provisions of Federal law to use this product in a manner consistent with its labeling.

### IRRIGATION AND DRAINAGE CANALS

Apply HYDROTHOL 191 as a surface spray with uniform coverage or inject under the surface of the water. The minimum contact time with weeds for optimum results should be 48 hours.

**INFESTATION**—Apply at rate of 4.0 to 6.75 gal. per acre foot (equivalent to 3.0-5.0 ppm). See table below.

**MODERATE TO LIGHT INFESTATION**—Apply at rate of 1.4 gal. per acre foot (equivalent to 1.0-2.0 ppm). See table below.

HYDROTHOL 191 REQUIRED TO TREAT 1 MILE OF DITCH 1 FOOT DEEP

	Width of Ditch or Canal in Feet									
	4	6	8	10	12	14	16	18	20	22
0.7	1.0	1.3	1.7	1.9	2.3	2.6	2.9	3.4	3.6	3.6
1.3	2.0	2.6	3.3	3.9	4.6	5.2	5.9	6.5	7.2	7.7
2.0	2.8	3.9	4.9	5.9	6.8	7.8	8.8	9.8	10.8	11.8
2.6	3.9	5.2	6.6	7.8	9.1	10.4	11.8	13.1	14.4	15.4
3.2	4.9	6.5	8.2	9.7	11.5	13.1	14.7	16.4	18.0	19.6

HYDROTHOL 191 per acre foot equals 0.1 ppm of endothall (acid) in treated water for irrigation of crops.

### LAKES AND PONDS

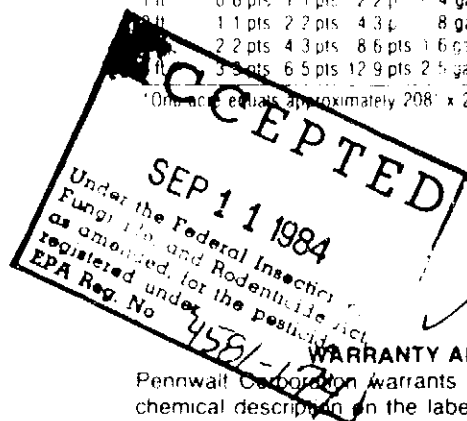
**ALGAE CONTROL**: Cladophora, Pithophora, Spirogyra, and Chara can be controlled with applications of 0.6 to 2.2 pints per acre foot (0.05 to 0.2 ppm) applied as a uniform surface spray or injected under water surface. Pithophora may require 0.2 ppm or higher. Dosages may be increased to 0.4 to 1.1 gals. (0.3 to 0.8 ppm) where greater longevity of control is desired and for marginal treatments. Repeat treatments when algal growth reappears.

**SUBMERGED AQUATICS**: Due to the toxicity to fish, the use of HYDROTHOL 191 for submerged aquatic weeds is suggested only by commercial applicators on a marginal or sectional rather than overall type treatment. Use 0.7 to 3.4 gals. per acre foot (0.5 to 2.5 ppm) on a marginal treatment either sprayed on or injected below the surface. Use dosages over 1.0 ppm only on very narrow margins or in areas where some fish kill is not objectionable. Do not treat more than 1/10 of the lake at one time with doses in excess of 1.0 ppm.

### APPROXIMATE QUANTITY OF HYDROTHOL 191 FOR ONE ACRE\* TREATMENT

Depth	Dosages for Various Concentrations in ppm									
	0.05	0.1	0.2	0.3	0.5	0.8	1.0	2.0	2.5	
1 ft	0.6 pts	1.1 pts	2.2 pts	4 gal	0.7 gal	1.1 gal	1.4 gal	2.7 gal	3.4 gal	
2 ft	1.1 pts	2.2 pts	4.3 pts	8 gal	1.4 gal	2.2 gal	2.8 gal	5.4 gal	6.8 gal	
3 ft	2.2 pts	4.3 pts	8.6 pts	1.6 gal	2.7 gal	4.4 gal	5.4 gal	10.9 gal	13.6 gal	
4 ft	3.3 pts	6.5 pts	12.9 pts	2.5 gal	4.1 gal	6.5 gal	8.2 gal	16.3 gal	20.4 gal	

\*One acre equals approximately 208' x 208'



### 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.

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