



Material Safety Data Sheet

United Phosphorus, Inc.

NFPA	PPE		

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Revision Date 18-Oct-2010

Revision Number: 5

1. PRODUCT AND COMPANY IDENTIFICATION

UPI
 630 Freedom Business Center
 Suite 402
 King of Prussia, PA 19406

Emergency Telephone Number
 Chemtrec: (800) 424-9300 (24hrs) or (703) 527-3887
 Medical: Rocky Mountain Poison Control Center
 (866) 673-6671 (24hrs)

UPI Company Information

Contact Information
 Customer Service
 R&D Technical Service

Phone Number
 1-800-438-6071
 610-878-6100

Available Hrs
 8:00 am to 5:00 pm EST
 8:00 am - 5:00 pm (EST)

Product Name Hydrothol® 191 Aquatic algicide and herbicide
EPA Reg # 70506-175
Recommended Use Aquatic herbicide algicide
Product Code 12-174

2. HAZARDS IDENTIFICATION

Emergency Overview

Causes irreversible eye damage
 May be fatal if swallowed.
 May be fatal if absorbed through skin
 Harmful by inhalation
 Causes severe skin irritation

DANGER!

Appearance Dark yellow, Light brown.

Physical State Liquid.

Odor Slight chlorine.

Potential Health Effects

- Inhalation
- Skin contact

Eyes
Skin
Inhalation
Ingestion

Risk of serious damage to eyes. Causes irreversible eye damage..
 Severely irritating to the skin. Prolonged contact can result in redness and blistering of skin..
 Slightly toxic if inhaled.
 Toxic if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients Name

Chemical Name	CAS-No	Weight %	OSHA PEL
Mono(N,N-diethylalkylamine)salt of endothall	66330-88-9	53	N/A

4. FIRST AID MEASURES

Eye Contact

Hold eye open and rinse slowly and gently with water for 15 - 20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye.
 Call a poison control center or doctor for treatment advice.

Skin Contact

Take off contaminated clothing.
 Rinse skin immediately with plenty of water for 15-20 minutes.
 Call poison control center or doctor for treatment advice.

Inhalation

Move person to fresh air.
 If person is not breathing, call 911 or an ambulance, then give artificial respiration.
 Call a poison control center or doctor for further treatment advice.

Ingestion

Call a physician or Poison Control Center immediately
 Have person sip a glass of water if able to swallow
 Do not induce vomiting unless told to do so by a poison control center or doctor
 Never give anything by mouth to an unconscious person

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines	This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
Engineering Controls	Investigate engineering techniques to reduce exposures. Local mechanical exhaust ventilation is preferred. Consult ACGIH ventilation manual or NFPA Standard 91 for design of exhaust systems. .
Personal Protective Equipment	
Eye/face Protection	Goggles. Avoid contact with eyes.
Skin Protection	Rubber gloves. Wear protective gloves/clothing.
Respiratory Protection	Where airborne exposure is likely, use NIOSH approved respiratory protection equipment appropriate to the material and/or its components. Full facepiece equipment is recommended and, if used, replaces need for face shield and/or chemical goggles. If exposures cannot be kept at a minimum with engineering controls, consult respirator manufacturer to determine appropriate type equipment for given application. Observe respirator use limitations specified by NIOSH or the manufacturer. For emergency and other conditions where there may be a potential for significant exposure, use an approved full face positive-pressure, self-contained breathing apparatus. Respiratory protection programs must comply with 29 CFR 1910.134. .

General Hygiene Considerations

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing before re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Dark yellow Light brown	Odor	Slight chlorine
Physical State	Liquid	pH	No data available
Boiling Point/Range	100°C	Melting Point/Range	Not available
Specific Gravity	1.044 @25 C	Solubility	>50 g/100 ml
Evaporation Rate	Not available	Vapor Pressure	9.45 X 10 ⁻⁶ Torr(Salt)
Vapor Density	Not available	VOC Content	Not available
Viscosity	100 cps@ 25 C	Molecular Weight	No data available
Bulk Density	No data available	Percent Solids	Not available
Percent Volatiles	47%		

10. STABILITY AND REACTIVITY

Stability	Stable under normal conditions
Conditions to Avoid	Extreme temperatures.
Incompatible Materials	No materials to be especially mentioned
Hazardous Decomposition Products	Extreme temperatures may convert endothall product to endothall anhydride, a strong vessicant, causing blistering of eyes, mucous membranes and skin. .
Possibility of Hazardous Polymerization	Hazardous polymerisation does not occur

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Product Information

Single exposure studies indicate:

Oral - Moderately toxic to rats (LD50 233.4 mg/kg)

Dermal - Moderately toxic to rabbits (LD50 480.9 mg/kg)

Inhalation - Slightly toxic to rats (4 hr LC 50 0.7 mg/l)

Skin irritation - Severely irritating to rabbits

Eye irritation - severely irritating to rabbits

No skin allergy was observed in guinea pigs following repeated exposure.

Endothall

Intentional swallowing of 40 ml led to death within 12 hours. Skin allergy was observed in guinea pigs following repeated exposure. Repeated dietary administration (Via gelatin capsules) produced vomiting, diarrhea, sluggish movements, and liver, kidney and blood effects in dogs. Long-term dietary administration to rats and mice produced effects in the glandular stomach. High mortality rates and intestinal tumors considered to be secondary to the effects in the stomach were observed in mice. Long-term application to the skin of mice produced no tumors. No birth defects were observed in the offspring of rats exposed orally during pregnancy, even at dosages that produced adverse effects on the mothers. Skelatal abnormalities were observed in the offspring of rabbits and mice exposed during pregnancy, but only at dosages that produced adverse effects in the mothers. No genetic changes were observed in tests using bacteria, animal cells or animals.

Chronic Toxicity

There are no known carcinogenic chemicals in this product

Carcinogenicity

12. ECOLOGICAL INFORMATION

Ecotoxicity

Endothall Mono-Amine Salt Ecotoxicity

Acute Contact Toxicity Honey Bee (*Apis mellifera*) -
For endothall acid, mono-amine salt, and dipotassium salt
Practically non-toxic

Acute Toxicity Avian
Northern Bobwhite Quail (*Colinus virginianus*) LD50 = 736 mg/kg

Acute Toxicity Freshwater Fish (*static and **flow-thru)
*Bluegill sunfish (*Lepomis macrochirus*), EC50 = 0.94 ppm
*Rainbow trout (*Oncorhynchus mykiss*), EC50 = 0.56 ppm
**Rainbow trout (*Oncorhynchus mykiss*), EC50 = 0.94 ppm
*Cutthroat trout (*Oncorhynchus clarki*), EC50 = 0.18 ppm
*Channel catfish (*Ictalurus punctatus*), EC50 = 0.49 ppm
Fathead minnow (*Pimephales promelas*), EC50 = 0.75 ppm

Acute Toxicity Freshwater Invertebrates (*static)
*Waterflea (*Daphnia magna*), 48hr, EC50 = 0.36 ppm
*Grassshrimp (*Palaemonetes kadiakensis*), 96hr, EC50 = 0.05 ppm
*Scud (*Gammarius lacustris*), 48hr, EC50 = 2.0 ppm
*Scud (*Gammarius lacustris*), 96hr, EC50 = 0.5 ppm
*Giant salmonfly (*Pteronarcys californica*), 48hr, EC50 = 3.25 ppm

Acute Toxicity Estuarine/Marine Fish (** Flow-thru)
**Sheepshead minnow (*Cyprinodon variegatus*), 96hr, EC50 = 3.5ppm

Acute Toxicity Estuarine/Marine Invertebrates (** Flow-thru)
**Mysid shrimp (*Mysidopsis bahia*), 96hr, EC50 = 2.2 ppm
**Eastern oyster (*Crassostrea virginica*), shell deposition,
96hr, EC50 = 0.6 ppm

Chem Fate: Active ingredient (technical) -

No degradation was observed in irradiated or dark water during a 30-day test period at pH 7 or 9. Rapid degradation was observed in irradiated, but not dark, water at pH 5 (Half-life <24 hours). This material adsorbed readily from aqueous solution on to Crosby silt loam. It is not expected to bioaccumulate with bioaccumulation factors (BCF) of 10 for mosquito fish and 0.003- 0.008 for bluegills..

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method

Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide or rinsate is a violation of Federal law. If the wastes cannot be disposed of by use or 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. .

Contaminated Packaging

Empty containers should be taken for local recycling, recovery or waste disposal.

14. TRANSPORT INFORMATION

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DOT

Proper Shipping Name	Pesticides, liquid, toxic. n.o.s. (Endothal)
Hazard Class	6.1
UN-No	2902
Packing Group	PG III
Reportable Quantity (RQ):	1,000 lbs (endothall)

ICAO

UN-No	2902
Proper Shipping Name	Pesticide, liquid, toxic, n.o.s. (Endothall)
Hazard Class	6.1
Packing Group	PG III

IATA

UN-No	2902
Proper Shipping Name	Pesticide, liquid, toxic, n.o.s. (Endothall)
Hazard Class	6.1
Packing Group	PG III
ERG Code	6 L

IMDG/IMO

Proper Shipping Name	Pesticide, liquid, toxic, n.o.s. (Endothall)
Hazard Class	6.1
UN-No	2902
Packing Group	PG III
EmS No.	F-A, S-A

15. REGULATORY INFORMATION

International Inventories

USA

Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and and Title 40n of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazardous Categorization

Chronic Health Hazard	No
Acute Health Hazard	Yes
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act

12-174 - Hydrothol® 191 Aquatic algicide and herbicide

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product does not contain any HAPs.

CERCLA

RCRA

Pesticide Information

State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

State Right-to-Know

International Regulations

Mexico - Grade

Not available

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class

Not determined

16. OTHER INFORMATION

Revision Date

18-Oct-2010

Revision Summary

Update section 12

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End of MSDS