Material Safety Data Sheet

United Phosphorus, Inc.

NFPA	PPE
	  

Issued Date 07-Feb-2007 **Revision Date** 02-Jul-2013 **Revision Number:** 8

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)

Company Information	Contact Information	Phone Number	Available Hrs
UPI	Customer Service	1-800-438-6071	8:00 am to 5:00 pm EST
	R&D Technical Service	610-223-2180	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	Risk of serious damage to eyes. Causes irreversible eye damage.
Skin	Severely irritating to the skin. Prolonged contact can result in redness and blistering of skin.
Inhalation	Slightly toxic if inhaled.
Ingestion	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

If breathing is irregular or stopped, administer artificial respiration
May cause allergic respiratory reaction
Call a poison control center or doctor for further treatment advice.

Ingestion

Call a physician or poison control center immediately
May produce an allergic reaction
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

Notes to Physician

No information available
Treat symptomatically

5. FIRE-FIGHTING MEASURES

Flammable Explosive Properties

Flash Point
> 100 C

Autoignition Temperature	Not available
Flammability Limits in Air	Not available
Extnguishing Media	Use: Water spray, Carbon dioxide (CO2), Foam, Dry chemical.
Fire/Explosion Hazard	Firefighters and others who may be exposed to products of combustion should wear full fire fighting turn out gear and self-contained breathing apparatus. Fire fighting equipment should be thoroughly decontaminated after use.
Hazardous Combustion Products	Extreme temperatures convert Endothall product to endothall anhydride which is a strong vessicant causing blistering of eyes, mucous membranes and skin.

NFPA **Health** 3 **Flammability** 0 **Instability** 1

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Avoid contact with skin, eyes and clothing. Use personal protective equipment.
Environmental Precautions	Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinenet environmental permits. Do not flush into surface water or sanitary sewer system.
Methods for Clean-up	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Sweep up and shovel into suitable containers for disposal.

7. HANDLING AND STORAGE

Handling	Keep out of reach of children. Empty containers may contain hazardous residues. Avoid contact with skin, eyes and clothing. Remove and wash contaminated clothing before re-use. Do not eat, drink or smoke when using this product. Wash thoroughly after handling.
Storage	Keep from freezing.

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. Face-shield. Avoid contact with eyes.

Skin Protection
Chemical resistant gloves. waterproof gloves. Long sleeved clothing. Long pants.

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. Mixers & loaders:
A NIOSH approved dust mist filtering respirator with MSA/NIOSH approval number prefix TC-21C or a NIOSH approved respirator with any N, R, P, or HE filter.

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, butonly at dosages that produced adverse effects in the mothers. No genetic changes were observed in tests using bacteria, animal cells or animals.

Chronic Toxicity

Carcinogenicity There are no known carcinogenic chemicals in this product.

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 (Cyrinodon 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

Non refillable container. Do not reuse this container. Triple rinse or pressure rinse promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Then offer for recycling if available 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. Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the cotnainer, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Then offer for recycling if available 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.

14. TRANSPORT INFORMATION

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

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 02-Jul-2013

Revision Summary
Update section 1 Update section 5

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End of MSDS