1. PRODUCT AND COMPANY IDENTIFICATION

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

EPA Reg #
70506-191

Recommended Use
Aquatic herbicide

Product Code
12-388

2. HAZARDS IDENTIFICATION

Emergency Overview
May be fatal if swallowed
Harmful if absorbed through skin
Causes irreversible eye damage

DANGER!

Appearance Beige.
Physical State Granular.
Odor Odorless.

Potential Health Effects

- Inhalation
  Eyes Severely irritating to the eyes.
- Skin contact
  Skin May cause mild skin irritation.
  Ingestion May be harmful if swallowed.
3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>OSHA PEL</th>
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<tbody>
<tr>
<td>Dipotassium endothall salt</td>
<td>2164-07-0</td>
<td>63</td>
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<td>2-propenamide polymer with potassium</td>
<td>31212-13-2</td>
<td>28</td>
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</table>

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
Not available

Autoignition Temperature
Not available

Flammability Limits in Air
Not available

Extinguishing 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
No information available.

NFPA
Health 3  Flammability 0  Instability 1
6. ACCIDENTAL RELEASE MEASURES

Personal Precautions
Use personal protective equipment. Avoid contact with the skin and the eyes.

Environmental Precautions
Do not flush into surface water or sanitary sewer system. 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 pertinent environmental permits.

Methods for Clean-up
Sweep up and shovel into suitable containers for disposal.

7. HANDLING AND STORAGE

Handling
Avoid contact with skin, eyes and clothing. Avoid dust formation. Empty containers may contain hazardous residues. Keep out of reach of children.

Storage
Keep in properly labelled containers. Store in an area where cross-contamination with pesticides, fertilizers, food or feed could not occur.

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
Avoid contact with eyes. Goggles.

Skin Protection

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. NIOSH approved half- or full-face respirator with a cartridge or canister approved for dusts and mists or a cartridge with any N, R, P, or He filter. Note: the quarter face cupstyle respirator does not meet this requirement.

General Hygiene Considerations
Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing before re-use. Wear suitable gloves and eye/face protection. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES
### 10. STABILITY AND REACTIVITY

**Stability**
Stable under normal conditions

**Conditions to Avoid**
No information available

**Incompatible Materials**
No materials to be especially mentioned

**Hazardous Decomposition Products**
Extreme temperatures may convert endothall product to endothall anhydride, a strong vesicant, 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 98 mg/kg)  
Dermal - No more than slightly toxic to rabbits (LD50 > 2,000 mg/kg)  
Eye Irritation - Severely irritating to rabbits  
Skin Irritation - Slightly irritating to rabbits  
No skin allergy was observed in guinea pigs following repeated exposure.

**Component Information**
Endothal-potassium Although no allergic skin reactions were observed in guinea pigs following exposure to this material in water, allergic skin reactions were observed following exposure to this material in ethanol. Repeated application to the skin of rats produced severe skin irritation, liver, and kidney effects considered to be secondary to irritation, and increased mortality. Long-term dietary administration produced no adverse effects in rats.

**Chronic Toxicity**

**Carcinogenicity**
There are no known carcinogenic chemicals in this product.
12. ECOLOGICAL INFORMATION

Ecotoxicity
Endothall dipotassium salt ecotoxicity

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

Acute Toxicity Avian
Mallard duck (Anas platyrhynchos), LD50 = 328 mg/kg

Acute Toxicity Freshwater Fish
Bluegill sunfish (Lepomis macrochirus), flow-thru, EC50 = 1071 ppm
Rainbow trout (Oncorhynchus mykiss), flow-thru, EC50 = 363 ppm
Chanel catfish (Ictalurus punctatus), static, EC50 = >100 ppm

Acute Toxicity Freshwater Invertebrates
Waterflea (Daphnia magna), flow-thru 48hr, EC50 = 223 ppm
Scud (Gammarius lacustris), static 48hr, EC50 = 313 ppm

Acute Toxicity Estuarine/Marine Fish
Sheepshead minnow (Cyprinodon variegates), flow-thru 96hr,
EC50 = 340 ppm
Coho salmon (Oncorhynchus kisutch), static, 96hr, EC50 = >100 ppm

Acute Toxicity Estuarine/Marine Invertebrates
Mysid shrimp (Mysidopsis bahia), flow-thru 96hr, EC50 = 257 ppm
Eastern oyster (Crassostrea virginica) shell deposition,
flow-thru 96hr, EC50 = 335 ppm.

Chem Fate: This material is rapidly degraded in aqueous systems by indigenous microbial population to CO2 and other non-toxic natural products.

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. Clean container promptly after emptying. (if plastic pail) Triple rinse (or equivalent). Then offer for recycling if available or puncture and dipose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

(if plastic bag) Completely empty bag into application equipment. Then offer for recycling if available or dipose of empty bag 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
AQUATHOL® Super K

12-388

DOT

Proper Shipping Name: Pesticides, solid, toxic, n.o.s. (Endothall)
Hazard Class: 6.1
UN-No: 2588
Packing Group: PG III
Reportable Quantity (RQ): 1,000 lbs (Endothall)

Proper Shipping Name: Pesticide, solid, toxic, n.o.s. (Endothall)
Hazard Class: 6.1
UN-No: 2588
Packing Group: PG III

DOT

When shipped as a limited quantity by domestic highway, as per 49 CFR 173.153(b) the combination package, not exceeding a gross weight of 66 pounds (30kg), may contain inner packages not over 11 lbs (5 kg) each. Limited quantity designated packagings are excepted from labeling and packaging specification requirements. If the Limited Quantity package is being shipped by air the package must conform to the applicable requirements of 173.27

Proper Shipping Name: Pesticides, solid, toxic, n.o.s. (Endothall)
Hazard Class: 6.1
UN-No: 2588
Packing Group: PG III

Chemical Name: Dipotassium endothall salt
CAS-No: 2164-07-0
Weight %: 63
SARA 313 - Threshold Values: 1.0

SARA 311/312 Hazardous Categorization

15. REGULATORY INFORMATION

International Inventories

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<th>Chemical Name</th>
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<td>(6)-883</td>
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USA

Federal Regulations

SARA 313
Y

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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

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<th>Chemical Name</th>
<th>Massachusetts</th>
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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 | 09-Jan-2013
Revision Summary
Update section 14
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End of MSDS