



Preparation Date 17-Apr-2015

Revision date 19-Feb-2019

Revision Number: 6

# Safety Data Sheet

## 1. Identification of the Substance/Preparation and of the Company/Undertaking

### Identification of the product

**Product Description** AQUATHOL® K Aquatic Herbicide

### Other means of identification

**Product code** 12-204  
**UN/ID no.** 2902  
**Registration number(s)** 70506-176

### Recommended use of the chemical and restrictions on use

**Recommended use** Aquatic herbicide.  
**Uses advised against** Activities contrary to label recommendation

### Details of the Supplier of the Safety Data Sheet

**Supplier Address**  
UPL NA Inc.  
630 Freedom Business Center  
Suite 402  
King of Prussia, PA 19406

### Emergency telephone number

**Company Phone Number** 1-800-438-6071  
**Emergency telephone number** Chemtrec: (800) 424-9300 (24hrs) or (703) 527-3887  
Medical: Rocky Mountain Poison Control Center  
(866) 673-6671 (24hrs)

## 2. Hazards Identification

### Classification

#### OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Dermal	Category 4
Acute toxicity - Inhalation (Vapors)	Category 2

### Label elements

#### EMERGENCY OVERVIEW

**DANGER**

#### Hazard Statements

Harmful in contact with skin  
Fatal if inhaled



**Appearance** Yellow brown

**Physical state** Liquid

**Odor** Slight chlorine

**Precautionary Statements - Prevention**

Wear protective gloves/protective clothing/eye protection/face protection  
 Do not breathe dust/fume/gas/mist/vapors/spray  
 Use only outdoors or in a well-ventilated area  
 In case of inadequate ventilation wear respiratory protection

IF ON SKIN: Wash with plenty of soap and water  
 Call a POISON CENTER or doctor if you feel unwell  
 Wash contaminated clothing before reuse  
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
 Immediately call a POISON CENTER or doctor/physician

**Precautionary Statements - Storage**

Store in a well-ventilated place. Keep container tightly closed  
 Store locked up

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards Not Otherwise Classified (HNOC)****OTHER INFORMATION**

<b>3. Composition/information on Ingredients</b>
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Chemical name	CAS No	Weight-%
Dipotassium endothall salt	2164-07-0	40.3

If CAS number is "proprietary", the specific chemical identity and percentage of composition has been withheld as a trade secret.

<b>4. First aid measures</b>
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**FIRST AID MEASURES**

<b>Eye contact</b>	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. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
<b>Skin contact</b>	Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. Seek immediate medical attention/advice. Wash off immediately with plenty of water for at least 15 minutes. Remove and wash contaminated clothing before re-use.
<b>Inhalation</b>	Move to fresh air. MAY CAUSE ALLERGIC RESPIRATORY REACTION. Call a poison control center or doctor for further treatment advice.
<b>Ingestion</b>	Call a physician or poison control center immediately. May produce an allergic reaction. Clean mouth with water. Never give anything by mouth to an unconscious person. Seek immediate medical attention/advice. Do not induce vomiting without medical advice.

**Most Important Symptoms and Effects, Both Acute and Delayed**

**Most Important Symptoms and Effects**      Burning feeling and temporary redness.

**Indication of Any Immediate Medical Attention and Special Treatment Needed**

**Notes to physician**      No information available. Treat symptomatically.

<b>5. Fire-fighting measures</b>
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**Suitable extinguishing media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable extinguishing media** Decomposition by contact with water may generate vapours which can be ignited by heat or open flame.

**Specific hazards arising from the chemical**

No information available.

**Hazardous combustion products** Extreme temperatures convert Endothall product to endothall anhydride which is a strong vesicant causing blistering of eyes, mucous membranes and skin.

**Explosion data****Protective equipment and precautions for firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**Personal Precautions** Avoid contact with skin, eyes and clothing.

**Environmental Precautions**

**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 and material for containment and cleaning up**

**Methods for Clean-Up** Remove all ignition sources. Soak up with inert absorbent material. Ground and bond containers when transferring material. Keep in suitable and closed containers for disposal.

## 7. Handling and Storage

**Precautions for safe handling**

**Handling** Do not breathe vapours or spray mist. Avoid contact with skin, eyes and clothing. Keep out of reach of children. Empty containers may contain hazardous residues.

**Conditions for safe storage, including any incompatibilities**

**Storage** Store in an area where cross-contamination with pesticides, fertilizers, food or feed could not occur. Keep containers tightly closed in a cool, well-ventilated place.

**incompatible materials** No information available.

## 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. PESTICIDE APPLICATORS & WORKERS. THESE WORKERS MUST REFER TO PRODUCT LABELING AND DIRECTIONS FOR USE IN ACCORDANCE WITH EPA WORKER PROTECTION STANDARD 40 CFR PART 170.

**Personal protective equipment****Eye/Face Protection**

Tightly fitting safety goggles. or. Face-shield.

<b>Skin protection</b>	Chemical resistant gloves. Chemical resistant footwear plus socks.
<b>Respiratory protection</b>	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**

Do not eat, drink or smoke when using this product. Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and Chemical Properties

**Information on basic physical and chemical properties**

<b>Physical state</b>	Liquid	<b>Odor</b>	Slight chlorine
<b>Appearance</b>	Yellow brown		
<b>color</b>	No information available		

<u>Property</u>	<u>VALUES</u>	<u>Remarks/ • Method</u>
pH	7.4	
Melting point/freezing point	8.4 °C / 47 °F	
Boiling Point/Range	>100 °C	
Flash Point	Not Applicable	
Evaporation Rate	No information available	
Flammability (solid, gas)	No information available	
Flammability limit in air		
Upper Flammability Limit	No information available	
Lower Flammability Limit	No information available	
vapor pressure	No information available	
Vapor Density	No information available	
Specific gravity	1.285	
Water solubility	No information available	
Solubility in Other Solvents	No information available	
Partition coefficient: n-octanol/water	No information available	
Autoignition temperature	no data available	
Decomposition temperature	No information available	
Viscosity, kinematic	No information available	
Dynamic viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

**OTHER INFORMATION**

Softening point	No information available
molecular weight	No information available
VOC Content	No information available
Liquid Density	No information available

## 10. Stability and Reactivity

**Reactivity**

no data available

**Chemical stability**

Stable under recommended storage conditions.

**Possibility of hazardous reactions**

None under normal processing.

**Conditions to avoid**

No information available.

**incompatible materials**

No information available.

**Hazardous decomposition products**

Extreme temperatures may convert endothall product to endothall anhydride, a strong vesicant, causing blistering of eyes, mucous membranes and skin.

## 11. Toxicological Information

**Information on Likely Routes of Exposure**

<b>Inhalation</b>	Toxic by inhalation.
<b>Eye contact</b>	May cause irreversible damage to eyes.
<b>Skin contact</b>	May cause irritation. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.
<b>Ingestion</b>	MAY BE HARMFUL IF SWALLOWED.

**Component Information**

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. Dermal - Slightly toxic to Rabbits (LD50 2,000 mg/kg) Skin irritation - Non-irritating to rabbits Inhalation - Slightly toxic to rats (4 hr LC50 0.83 mg/l) aerosol Eye irritation - Cause irreversible eye damage in rabbits. Endothall- Intentional swallowing of 40 ml led to death within 12-hours. Skin allergy was observed in guinea pigs following repeated exposures. 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. Skeletal anomalies were observed in the offspring of rabbits and mice exposed orally 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.

**Information on Toxicological Effects**

**Symptoms** No information available.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

<b>Sensitization</b>	No information available.
<b>Mutagenic effects</b>	no data available.
<b>Carcinogenicity</b>	There are no known carcinogenic chemicals in this product.
<b>Reproductive effects</b>	Not Available.
<b>STOT - Single Exposure</b>	no data available.
<b>STOT - Repeated Exposure</b>	no data available.
<b>Aspiration hazard</b>	No information available.

**Numerical Measures of Toxicity - Product information**

<b>LD50 Dermal</b>	2000 mg/kg
<b>LC50 Inhalation</b>	0.83 mg/l (4-hr)

## 12. Ecological Information

### ecotoxicity

Endothall dipotassium salt:

Mallard duck LD50 = 328 mg/kg

Bluegill sunfish EC50= 1071 ppm

Rainbow trout EC50 = 363 ppm

Sheepshead minnow 96 hr EC50 = 340 ppm

Mysid shrimp 96 hr EC50 = 257 ppm

Eastern oyster 96 hr EC50 = 335 ppm

### Persistence/Degradability

no data available.

### Bioaccumulation/ Accumulation

No information available.

### Other Adverse Effects

no data available

## 13. Disposal Considerations

### Waste Treatment Methods

#### **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. Refer to product label.

## 14. Transport Information

### DOT

When shipped as a limited quantity by domestic highway,, as per 49 CFR 173.153 the combination package, not exceeding a gross weight of 66 pounds (30 kg), may contain inner packagings not over 1.3 gallons (5 L ) each. Limited quantity designated packagings are excepted from labeling and packaging specification requirements.

If the limited quantity package is shipped by air the package must also conform to applicable requirements of 173.27.

<b>UN/ID no.</b>	2902
<b>Proper shipping name</b>	Pesticides, liquid, toxic, n.o.s. (Endothal)
<b>Hazard class</b>	6.1
<b>Packing group</b>	PG III
<b>Reportable Quantity (RQ):</b>	1,000 lbs

### ICAO

<b>UN/ID no.</b>	2902
<b>Proper shipping name</b>	Pesticide, liquid, toxic, n.o.s (Endothall)
<b>Hazard class</b>	6.1
<b>Packing group</b>	PG III

### IATA

UN/ID no.	2902
Proper shipping name	Pesticide, liquid, toxic, n.o.s (Endothall)
Hazard class	6.1
Packing group	PG III

**IMDG**

UN/ID no.	2902
Proper shipping name	Pesticide, liquid, toxic, n.o.s (Endothall)
Hazard class	6.1
Packing group	PG III
EmS No.	F-A, S-A

<b>15. Regulatory Information</b>
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This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

**signal word** DANGER

**Ventilation Control** PESTICIDE APPLICATORS & WORKERS THESE WORKERS MUST REFER TO PRODUCT LABELING AND DIRECTIONS FOR USE IN ACCORDANCE WITH EPA WORKER PROTECTION STANDARD 40 CFR PART 170.

**Corrosive. Causes irreversible eye damage. May be fatal if swallowed. Harmful if inhaled or absorbed through skin. Pesticide is toxic to mammals.**

**International Inventories**

USINV	Present
DSL/NDSL	Present
EINECS/	Present
ELINCS	
ENCS	Not Present
China	Not Present
KECL	Not Present
PICCS	Not Present
AICS	Not Present
TSCA	Present

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

**Federal Regulations****SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

**CERCLA**

Not applicable

**CERCLA**

SARA Product RQ 0

RCRA  
Pesticide Information

State Regulations

State Right-to-Know  
Not applicable

International regulations

U.S. EPA Label information

EPA Pesticide registration number 70506-176

**16. Other Information**

NFPA HEALTH 3 flammability 0 Instability 0 Physical hazard -

Preparation Date 17-Apr-2015

Revision date 19-Feb-2019

Revision Summary

Update logo

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**End of SDS**





# Safety Data Sheet

Preparation Date 17-Apr-2015

Revision date 31-Dec-2018

Revision Number: 3

## 1. Identification of the Substance/Preparation and of the Company/Undertaking

**Product identifier**

Product Description: AQUATHOL® Super K

**Other means of identification**

Product code 12-388  
UN/ID no. 2588  
Registration number(s) 70506-191

**Recommended use of the chemical and restrictions on use**

Recommended use Aquatic herbicide.  
Uses advised against Activities contrary to label recommendation

**Details of the Supplier of the Safety Data Sheet**

Supplier Address  
UPL NA Inc.  
630 Freedom Business Center  
Suite 402  
King of Prussia, PA 19406

**Emergency telephone number**

Company Phone Number 1-800-438-6071  
Emergency telephone number Chemtrec: (800) 424-9300 (24hrs) or (703) 527-3887  
Medical: Rocky Mountain Poison Control Center  
(866) 673-6671 (24hrs)

## 2. Hazards Identification

**Classification**

**OSHA Regulatory Status**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral	Category 3
Acute toxicity - Dermal	Category 4

**Label elements**

### EMERGENCY OVERVIEW

**DANGER**

**Hazard Statements**

Toxic if swallowed  
Harmful in contact with skin



Appearance Tan

Physical state granular

Odor odorless

**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product  
Wear protective gloves/protective clothing/eye protection/face protection

IF ON SKIN: Wash with plenty of soap and water  
Call a POISON CENTER or doctor if you feel unwell  
Wash contaminated clothing before reuse  
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician  
Rinse mouth

**Precautionary Statements - Storage**

Store locked up

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards Not Otherwise Classified (HNOC)****OTHER INFORMATION****3. Composition/information on Ingredients**

Chemical name	CAS No	Weight-%
Dipotassium endothall salt	2164-07-0	63
2-propenamamide polymer with potassium	31212-13-2	28

If CAS number is "proprietary", the specific chemical identity and percentage of composition has been withheld as a trade secret.

**4. First aid measures****FIRST AID MEASURES**

<b>Eye contact</b>	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.
<b>Skin contact</b>	Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
<b>Inhalation</b>	If breathing is irregular or stopped, administer artificial respiration. <b>MAY CAUSE ALLERGIC RESPIRATORY REACTION.</b> Call a poison control center or doctor for further treatment advice.
<b>Ingestion</b>	Call a physician or poison control center immediately. Clean mouth with water. Never give anything by mouth to an unconscious person.

**Most Important Symptoms and Effects, Both Acute and Delayed**

**Most Important Symptoms and Effects** no data available.

**Indication of Any Immediate Medical Attention and Special Treatment Needed**

**Notes to physician** No information available. Treat symptomatically.

**5. Fire-fighting measures****Suitable extinguishing media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable extinguishing media** no data available.

**Specific hazards arising from the chemical**

No information available.

**Hazardous combustion products**No information available.

**Explosion data**

**Protective equipment and precautions for firefighters**

Use personal protective equipment. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

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

**Environmental Precautions**

**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 and material for containment and cleaning up**

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

## 7. Handling and Storage

**Precautions for safe handling**

**Handling** Empty containers may contain hazardous residues. Keep out of reach of children. Avoid contact with skin and eyes. Do not eat, drink or smoke when using this product.

**Conditions for safe storage, including any incompatibilities**

**Storage** Keep in properly labelled containers. Store in an area where cross-contamination with pesticides, fertilizers, food or feed could not occur. Keep containers tightly closed in a cool, well-ventilated place.

**incompatible materials** No materials to be especially mentioned.

## 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**

Use eye protection to avoid eye contact. Where there is potential for eye contact have eye flushing equipment available. If splashes are likely to occur, wear. Goggles.

**Skin protection**

Chemical resistant gloves. Long sleeved clothing. Long pants. Socks and footwear.

**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

### Information on basic physical and chemical properties

Physical state	granular	Odor	odorless
Appearance	Tan		
color	No information available		

<u>Property</u>	<u>VALUES</u>	<u>Remarks/ • Method</u>
pH	6.9	
Melting point/freezing point	7.9 °C / 46 °F	
Boiling Point/Range	No information available	
Flash Point	No information available	
Evaporation Rate	No information available	
Flammability (solid, gas)	No information available	
Flammability limit in air		
Upper Flammability Limit	No information available	
Lower Flammability Limit	No information available	
vapor pressure	No information available	
Vapor Density	No information available	
Specific gravity	0.607 g/cm <sup>3</sup>	
Water solubility	No information available	
Solubility in Other Solvents	No information available	
Partition coefficient: n-octanol/water	No information available	
Autoignition temperature	no data available	
Decomposition temperature	No information available	
Viscosity, kinematic	No information available	
Dynamic viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

### OTHER INFORMATION

Softening point	No information available
molecular weight	No information available
VOC Content	No information available
Liquid Density	No information available

## 10. Stability and Reactivity

### Reactivity

no data available

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

None under normal processing.

### 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.

## 11. Toxicological Information

**Information on Likely Routes of Exposure**

<b>Product information</b>	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.
<b>Inhalation</b>	May be harmful if inhaled.
<b>Eye contact</b>	May cause irreversible damage to eyes.
<b>Skin contact</b>	Slightly irritating.
<b>Ingestion</b>	Toxic if swallowed.
<b>Component Information</b>	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.

**Information on Toxicological Effects**

**Symptoms** No information available.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

<b>Sensitization</b>	No information available.
<b>Mutagenic effects</b>	no data available.
<b>Carcinogenicity</b>	There are no known carcinogenic chemicals in this product.
<b>Reproductive effects</b>	Not Available.
<b>STOT - Single Exposure</b>	no data available.
<b>STOT - Repeated Exposure</b>	no data available.
<b>Aspiration hazard</b>	No information available.

**Numerical Measures of Toxicity - Product information**

<b>LD50 Oral</b>	98 mg/kg (rat)
<b>LD50 Dermal</b>	> 2000 mg/kg (rat)

## 12. Ecological Information

**ecotoxicity**

Endothall dipotassium salt:  
Mallard duck LD50 = 328 mg/kg  
Bluegill sunfish EC50= 1071 ppm  
Rainbow trout EC50 = 363 ppm  
Sheepshead minnow 96 hr EC50 = 340 ppm

Mysid shrimp 96 hr EC50 = 257 ppm  
Eastern oyster 96 hr EC50 = 335 ppm

**Persistence/Degradability**  
no data available.

**Bioaccumulation/ Accumulation**  
No information available.

**Other Adverse Effects**  
no data available

### 13. Disposal Considerations

#### **Waste Treatment Methods**

**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. Refer to product label.

### 14. Transport Information

**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

**UN/ID no.** 2588  
**Proper shipping name** Pesticides, solid, toxic, n.o.s. (Endothall)  
**Hazard class** 6.1  
**Packing group** PG III  
**Reportable Quantity (RQ):** 1,000 lbs (Endothall)

#### **TDG**

#### **ICAO**

**UN/ID no.** 2588  
**Proper shipping name** Pesticide, solid, toxic, n.o.s (Endothall)  
**Hazard class** 6.1  
**Packing group** PG III

#### **IATA**

**UN/ID no.** 2588  
**Proper shipping name** Pesticide, solid, toxic, n.o.s (Endothall)  
**Hazard class** 6.1  
**Packing group** PG III

#### **IMDG**

**UN/ID no.** 2588  
**Proper shipping name** Pesticide, solid, toxic, n.o.s (Endothall)  
**Hazard class** 6.1  
**Packing group** PG III

EmS No.

F-A, S-A

**15. Regulatory Information**

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

signal word

DANGER

**Keep out of Reach of Children. Corrosive. Causes irreversible eye damage. May be fatal if swallowed. Harmful if absorbed through the skin. Pesticide is toxic to mammals.**

**International Inventories**

USINV	Present
DSL/NDSL	Present
EINECS/ ELINCS	Not Present
ENCS	Not Present
China	Not Present
KECL	Not Present
PICCS	Not Present
AICS	Not Present
TSCA	Present

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

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IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

**Federal Regulations****SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

**CERCLA**

Not applicable

**CERCLA**

**SARA Product RQ** 0

**RCRA****Pesticide Information****State Regulations****State Right-to-Know**

Not applicable

**International regulations****U.S. EPA Label information**

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EPA Pesticide registration number 70506-191

**16. Other Information**

**NFPA**                      **HEALTH 3**                      **flammability 0**                      **Instability 1**                      **Physical hazard -**

**Preparation Date**                      17-Apr-2015

**Revision date**                      31-Dec-2018

**Revision Summary**

Update logo Update section 1 Update Section 16\*\*\*

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**End of SDS**





# Safety Data Sheet

**United Phosphorus, Inc.**

Preparation Date 23-Apr-2015

Revision date 23-Apr-2015

Revision Number: 1

## 1. Identification of the Substance/Preparation and of the Company/Undertaking

### Product identifier

Product Description: Cascade

### Other means of identification

Item#: 12-204B  
UN-No 2902  
Synonyms Not Available  
Registration number(s) 70506-176

### Recommended use of the chemical and restrictions on use

Recommended use Aquatic herbicide  
Uses advised against Activities contrary to label recommendation

### Details of the Supplier of the Safety Data Sheet

**Supplier Address**  
United Phosphorus Inc.  
630 Freedom Business Center  
Suite 402  
King of Prussia, PA 19406

### Emergency telephone number

**Company Phone Number** 1-800-438-6071  
**Emergency telephone number** Chemtrec: (800) 424-9300 (24hrs) or (703) 527-3887  
Medical: Rocky Mountain Poison Control Center  
(866) 673-6671 (24hrs)

## 2. Hazards Identification

### Classification

#### **OSHA Regulatory Status**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral	Category 5
Acute toxicity - Inhalation (Vapors)	Category 3
Serious eye damage/eye irritation	Category 1

### Label elements

#### **EMERGENCY OVERVIEW**

#### **hazard statements**

Toxic if inhaled  
**MAY BE HARMFUL IF SWALLOWED**  
Causes serious eye damage



<b>appearance</b> Yellow brown	<b>Physical state</b> liquid	<b>Odor</b> Slight chlorine
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**Precautionary Statements - Prevention**

Wash hands thoroughly after handling  
 Do not get in eyes, on skin, or on clothing  
 Do not eat, drink or smoke when using this product  
 Wear protective gloves/protective clothing/eye protection/face protection

**Hazards Not Otherwise Classified (HNOC)****OTHER INFORMATION**

- Toxic to mammals.

### 3. Composition/information on Ingredients

Chemical name	CAS-No	Weight %	Trade secret
Dipotassium endothall salt	2164-07-0	40.3	

If CAS number is "proprietary", the specific chemical identity and percentage of composition has been withheld as a trade secret.

### 4. First aid measures

**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. Immediate medical attention is required.

**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 to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a physician or poison control center immediately.

**Ingestion** Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person. Do not induce vomiting without medical advice.

**Most Important Symptoms and Effects, Both Acute and Delayed**

**Most Important Symptoms and Effects** Causes serious eye damage.

**Indication of Any Immediate Medical Attention and Special Treatment Needed**

**Notes to physician** No information available. Treat symptomatically.

### 5. Fire-fighting measures

**Suitable extinguishing media**

Carbon dioxide (CO2). Dry chemical. Water. Foam. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable extinguishing media** No information available.

**Specific hazards arising from the chemical**

No information available.

**Hazardous combustion products** Extreme temperatures convert Endothall product to endothall anhydride which is a strong vesicant causing blistering of eyes, mucous membranes and skin.

**Explosion data**

**Protective equipment and precautions for firefighters**

Use personal protective equipment. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**Personal Precautions** Avoid contact with the skin and the eyes. Use personal protective equipment. Wear protective gloves/clothing and eye/face protection. Wash thoroughly after handling

**Environmental Precautions**

**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 pertinent environmental permits.

**Methods and material for containment and cleaning up**

**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

**Precautions for safe handling**

**Handling** Do not breathe vapours or spray mist. Keep out of reach of children. Empty containers may contain hazardous residues. Wear personal protective equipment. Remove and wash contaminated clothing before re-use. Avoid contact with skin and eyes. Do not eat, drink or smoke when using this product. Pesticide applicators and workers must refer to product labeling and directions for use. Wash thoroughly after handling.

**Conditions for safe storage, including any incompatibilities**

**Storage** Store in an area where cross-contamination with pesticides, fertilizers, food or feed could not occur. Keep containers tightly closed in a cool, well-ventilated place. Keep out of the reach of children.

**incompatible materials** No information available.

## 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**

Use eye protection to avoid eye contact. Where there is potential for eye contact have eye flushing equipment available. Safety glasses with side-shields. If splashes are likely to occur, wear. Goggles.

**Skin protection**

Chemical resistant gloves. waterproof gloves. Long sleeved clothing. Long pants. Socks and footwear.

**Respiratory protection**

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**

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

**Information on basic physical and chemical properties**

Physical state	liquid	Odor	Slight chlorine
appearance	Yellow brown		
color	No information available		

<u>Property</u>	<u>VALUES</u>	<u>Remarks/ • Method</u>
pH	7.4	
Melting point/freezing point	8.4 °C / 47 °F	
Boiling Point/Range	>100 °C	
Flash Point		
Evaporation Rate	No information available	
flammability (solid, gas)	No information available	
Flammability limit in air		
Upper Flammability Limit	No information available	
Lower Flammability Limit	No information available	
vapor pressure	No information available	
Vapor Density	No information available	
Specific gravity	1.285	
Water solubility	No information available	
Solubility in Other Solvents	No information available	
Partition coefficient: n-octanol/water	No information available	
Autoignition temperature	No information available	
decomposition temperature	No information available	
Viscosity, kinematic	No information available	
Dynamic viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

**OTHER INFORMATION**

Softening point	No information available
molecular weight	No information available
VOC Content	No information available
density	No information available
Bulk density	No information available

## 10. Stability and Reactivity

**Reactivity**

no data available

**Chemical stability**

Stable under recommended storage conditions.

**Possibility of hazardous reactions**

None under normal processing.

**Conditions to avoid**

No information available.

**incompatible materials**

No information available.

**Hazardous decomposition products**

Extreme temperatures may convert endothall product to endothall anhydride, a strong vesicant, causing blistering of eyes, mucous membranes and skin.

## 11. Toxicological Information

### Information on Likely Routes of Exposure

<b>Inhalation</b>	Harmful by inhalation.
<b>Eye contact</b>	May cause irreversible damage to eyes.
<b>Skin contact</b>	Endothall has been shown to cause skin sensitization in susceptible persons.
<b>Ingestion</b>	Endothall = intentional ingestion of endothall of 40 ml led to death within 12 hours.

### **Component Information**

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. Endothall- Intentional swallowing of 40 ml led to death within 12-hours. Skin allergy was observed in guinea pigs following repeated exposures. 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. Skeletal anomalies were observed in the offspring of rabbits and mice exposed orally 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.

### Information on Toxicological Effects

**Symptoms** No information available.

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

<b>sensitization</b>	No information available.
<b>Mutagenic effects</b>	No information available.
<b>Carcinogenicity</b>	There are no known carcinogenic chemicals in this product.
<b>Reproductive effects</b>	Not Available.
<b>STOT - Single Exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.
<b>Aspiration hazard</b>	No information available.

### Numerical Measures of Toxicity - Product information

<b>LD50 Dermal</b>	2000 mg/kg (rabbit)
<b>LC50 Inhalation:</b>	0.83 mg/l (4-hr)

## 12. Ecological Information

### ecotoxicity

Endothall dipotassium salt:  
 Mallard duck LD50 = 328 mg/kg  
 Bluegill sunfish EC50 = 1071 ppm  
 Rainbow trout EC50 = 363 ppm  
 Sheepshed minnow 96 hr EC50 = 340 ppm  
 Mysid shrimp 96 hr EC50 = 257 ppm  
 Eastern oyster 96 hr EC50 = 335 ppm

**Persistence/Degradability**

Rapidly biodegraded in aqueous systems indigenous microbial population to CO<sub>2</sub> and other non-toxic products.

**Bioaccumulation/ Accumulation**

No information available.

**Other Adverse Effects**

No information available

### 13. Disposal Considerations

**Waste Treatment Methods**

<b>Waste Disposal Method</b>	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.
<b>Contaminated packaging</b>	Refer to product label.

### 14. Transport Information

**DOT**

<b>UN-No</b>	2902
<b>Proper shipping name</b>	Pesticides, liquid, toxic, n.o.s. (Endothal)
<b>Hazard class</b>	6.1
<b>Packing group</b>	PG III
<b>Reportable Quantity (RQ):</b>	1,000 lbs

**ICAO**

<b>UN-No</b>	2902
<b>Proper shipping name</b>	Pesticide, liquid, toxic, n.o.s (Endothall)
<b>Hazard class</b>	6.1
<b>Packing group</b>	PG III

**IATA**

<b>UN-No</b>	2902
<b>Proper shipping name</b>	Pesticide, liquid, toxic, n.o.s (Endothall)
<b>Hazard class</b>	6.1
<b>Packing group</b>	PG III

**IMDG/IMO**

<b>UN-No</b>	2902
<b>Proper shipping name</b>	Pesticide, liquid, toxic, n.o.s (Endothall)
<b>Hazard class</b>	6.1
<b>Packing group</b>	PG III
<b>EmS No.</b>	F-A, S-A

### 15. Regulatory Information

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling

requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

**signal word** DANGER!

**Ventilation Control** PESTICIDE APPLICATORS & WORKERS THESE WORKERS MUST REFER TO PRODUCT LABELING AND DIRECTIONS FOR USE IN ACCORDANCE WITH EPA WORKER PROTECTION STANDARD 40 CFR PART 170.

Causes irreversible eye damage. May be fatal if swallowed. Harmful if inhaled or absorbed through skin. Keep out of Reach of Children. Pesticide is toxic to mammals.

### International Inventories

USINV	Not determined
DSL/NDSL	Not determined
EINECS/ELINCS	Complies
ENCS	Does not comply
China	Does not comply
KECL	Does not comply
PICCS	Does not comply
AICS	Does not comply
TSCA	Complies

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

### Federal Regulations

#### SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and and Title 40n of the Code of Federal Regulations, Part 372:

Chemical name	SARA 313 - Threshold Values
Dipotassium endothall salt - 2164-07-0	1.0

#### SARA 311/312 Hazardous

##### Categorization

Acute health hazard	yes
Chronic health hazard	NO
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

#### CERCLA

SARA Product RQ 0

#### RCRA

#### Pesticide Information

#### State Regulations

#### State Right-to-Know

Chemical name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island

Dipotassium endothall salt		X			
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**International regulations**

**U.S. EPA Label information**

EPA Pesticide registration number 70506-176

**16. Other Information**

**NFPA**                      **HEALTH 3**                      **flammability 0**                      **Instability 1**                      **Physical hazard -**

Preparation Date                      23-Apr-2015

Revision date                      23-Apr-2015

Revision Summary

Update to GHS format

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**End of MSDS**