



# Safety Data Sheet

Preparation Date 17-Apr-2015

Revision date 22-Oct-2024

Revision Number: 10

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

### Identification of the product

Product Description Cascade

### Other means of identification

Internal SDS code 12-204B  
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.  
PO Box 12219  
Research Triangle Park, NC 27709-12219

### 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 and Drug Safety (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 (Dusts/Mists)	Category 3

### Label elements

#### EMERGENCY OVERVIEW

**DANGER**

#### Hazard Statements

Harmful in contact with skin  
Toxic if inhaled



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

Wear protective gloves/protective clothing/eye protection/face protection

Do not get in eyes, on skin, or on clothing

Use only outdoors or in a well-ventilated area

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

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**

- No information available

**3. Composition/information on Ingredients**

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.

**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. 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.

**Skin contact**

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.

**Inhalation**

Move to fresh air. 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. 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. Skin burns may occur upon prolonged exposure.

**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** 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. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

### 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**

##### **Skin protection**

##### **Respiratory protection**

Tightly fitting safety goggles. or. Face-shield.

Chemical resistant gloves. Chemical resistant footwear plus socks.

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

### **9.1 Information on basic physical and chemical properties**

<b>Appearance</b>	Yellow brown	
<b>Physical state</b>	Liquid	
<b>Odor</b>	Slight chlorine	
<b>color</b>	No information available	
<b>Property</b>	<b>VALUES</b>	<b>Remarks/ Method</b>
<b>pH</b>	7.4	None known
<b>Melting point/freezing point</b>	8.4 °C	None known
<b>Boiling Point/Range</b>	>100 °C	None known
<b>Flash Point</b>	Not Applicable	None known
<b>Evaporation Rate</b>		None known
<b>Flammability (solid, gas)</b>		None known
		<b>vapor density</b> negligible
<b>Specific gravity</b>	1.285	None known
<b>Bulk density</b>		None known
<b>Water solubility</b>		None known
<b>Solubility in Other Solvents</b>	No information available	None known
<b>Partition coefficient: n-octanol/water</b>		None known
<b>Autoignition temperature</b>		None known
<b>Decomposition temperature</b>		None known
<b>Viscosity</b>		None known

### **9.2 OTHER INFORMATION- NONE**

## 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. Prolonged skin contact may cause burns.
<b>Ingestion</b>	MAY BE HARMFUL IF SWALLOWED.

### **Components 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**

<b>Symptoms</b>	No information available.
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### **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  
Sheepshed 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 can be 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

### 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

<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

**IMDG**

<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
<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.

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

**International Inventories**

<b>USINV</b>	Present
<b>DSL/NDSL</b>	Present
<b>EINECS/</b>	Present
<b>ELINCS</b>	
<b>ENCS</b>	Not Present
<b>China</b>	Not Present
<b>KECL</b>	Not Present
<b>PICCS</b>	Not Present
<b>AICS</b>	Not Present
<b>TSCA</b>	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****RCRA****Pesticide Information**

**State Regulations****State Right-to-Know**

Chemical name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Dipotassium endothall salt - 2164-07-0		X			

**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 22-Oct-2024

**Revision Summary**

Update section 14

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**End of SDS**