



Cerexagri-Nisso LLC

AQUATHOL (R) K Aquatic Herbicide

Material Safety Data Sheet

Cerexagri-Nisso LLC

1 PRODUCT AND COMPANY IDENTIFICATION

Pre-Harvest Division

Cerexagri-Nisso LLC
630 Freedom Business Center, Suite 402
King of Prussia, PA 19406

EMERGENCY PHONE NUMBERS:

Chemtrec: (800) 424-9300 (24hrs) or (703) 527-3887
Medical: Rocky Mountain Poison Control Center
(866) 767-5089 (24Hrs)

Information Telephone Numbers	Phone Number	Available Hrs
R&D Technical Service	610-878-6100	8:00am to 5:00pm EST
Customer Service	1-800-438-6071	8:00am - 5:00 pm EST

Product Name AQUATHOL (R) K Aquatic Herbicide
Product Synonym(s)

Chemical Family Dicarboxylic Acid
Chemical Formula C8H8O5K2
Chemical Name Dipotassium Endothall
EPA Reg Num 4581-204-82695
Product Use Contact killer for submerged aquatic weeds

2 COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient Name	CAS RegistryNumber	Typical Wt. %	OSHA
Endothal-potassium	2164-07-0	40.3	Y

The substance(s) marked with a "Y" in the OSHA column, are identified as hazardous chemicals according to the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

3 HAZARDS IDENTIFICATION

Emergency Overview

Yellow brown liquid, very faint chlorine odor.
KEEP OUT OF REACH OF CHILDREN.

DANGER!

Causes irreversible eye damage
MAY BE FATAL IF SWALLOWED.
MAY BE FATAL IF INHALED.

HARMFUL IF ABSORBED THROUGH SKIN.

Do not get in eyes, on skin or on clothing.
Do not breathe vapor.

Potential Health Effects

Inhalation and skin contact are expected to be the primary routes of occupational exposure to this material. Based on single exposure animal tests, it is considered to be moderately toxic if swallowed, slightly toxic if absorbed through skin or inhaled, non-irritating to skin and causes irreversible eye damage.



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4 FIRST AID MEASURES

IF IN EYES,

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

IF ON SKIN, immediately wash with cool/cold water. If irritation develops, immediately obtain medical attention.

IF SWALLOWED,

- Call a poison control center or doctor immediately for treatment advice.
- 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.
- Do not give anything by mouth to an unconscious person.

IF INHALED,

- Move person 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 poison control center or doctor for further treatment advice.

NOTE TO PHYSICIANS, Measures against circulatory shock, respiratory depression, and convulsion may be needed.

5 FIRE FIGHTING MEASURES

Fire and Explosive Properties

Auto-Ignition Temperature	N/A	
Flash Point	N/A	Flash Point Method
Flammable Limits- Upper	N/A	
Lower	N/A	

Extinguishing Media

Use water spray, carbon dioxide, foam or dry chemical.

Fire Fighting Instructions

Fire fighters and others who may be exposed to products of combustion should wear full fire fighting turn out gear (full Bunker Gear) and self-contained breathing apparatus (pressure demand NIOSH approved or equivalent). Fire fighting equipment should be thoroughly decontaminated after use.

Fire and Explosion Hazards

None known.

6 ACCIDENTAL RELEASE MEASURES

In Case of Spill or Leak

- Stop the leak, if possible. Shut off or remove all ignition sources.
- Ventilate the space involved. Avoid generation of vapors.
- Prevent waterway contamination. Construct a dike to prevent spreading.
- Use non-sparking equipment to clean up spill.
- Absorb, sweep up, place in appropriate containers for recovery or disposal.



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6 ACCIDENTAL RELEASE MEASURES

Collect run-off water and transfer to drums or tanks for later disposal.
After removal, clean area with soap and water, collect rinsate. Remove from spill location.
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.

7 HANDLING AND STORAGE

Handling

Do not breathe vapor. Do not breathe mist.
Wash thoroughly after handling. Keep container closed.

Empty container may contain hazardous residues.
KEEP OUT OF REACH OF CHILDREN.

Use only with adequate ventilation.

Storage

Do not store in a manner where cross-contamination with pesticides, fertilizers, food or feed could occur.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls

Investigate engineering techniques to reduce exposures. Provide ventilation if necessary to minimize exposure. Dilution ventilation is acceptable, but local mechanical exhaust ventilation preferred, if practical, at sources of air contamination such as open process equipment. Consult ACGIH ventilation manual or NFPA Standard 91 for design of exhaust systems.

Eye / Face Protection

Where there is potential for eye contact, wear chemical goggles and have eye flushing equipment immediately available.

Skin Protection

Minimize skin contamination by following good industrial hygiene practice. Wearing rubber gloves is recommended. Wash hands and contaminated skin thoroughly after handling.

Respiratory Protection

Where airborne exposure is likely, use NIOSH approved respiratory protection equipment appropriate to the material and/or its components. If exposures cannot be kept at a minimum with engineering controls, consult respirator manufacturer to determine appropriate type equipment for a 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 or positive-pressure airline with auxiliary self-contained air supply. Respiratory protection programs must comply with 29 CFR § 1910.134.

Airborne Exposure Guidelines for Ingredients

The components of this product have no established Airborne Exposure Guidelines

- Only those components with exposure limits are printed in this section.
- Skin contact limits designated with a "Y" above have skin contact effect. Air sampling alone is insufficient to accurately quantitate exposure. Measures to prevent significant cutaneous absorption may be required.
- ACGIH Sensitizer designator with a value of "Y" above means that exposure to this material may cause allergic reactions.
- WEEL-AIHA Sensitizer designator with a value of "Y" above means that exposure to this material may cause allergic skin reactions.



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9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance/Odor	Yellow brown liquid, very faint chlorine odor.
pH	7.4 (nominal)
Specific Gravity	1.285 (H ₂ O=1)
Vapor Pressure	negligible
Vapor Density	NE
Melting Point	NA
Freezing Point	NA
Boiling Point	>100 deg C
Solubility In Water	Miscible
Percent Volatile	59.7

10 STABILITY AND REACTIVITY

Stability

This material is chemically stable under normal and anticipated storage and handling conditions.

Hazardous Polymerization

Does not occur.

Incompatibility

Materials that react with water.

Hazardous Decomposition Products

Elevated temperatures may convert endothall to anhydride, a strong vesicant, causing blistering of eyes, mucous membranes, and skin. (*See section 16)

11 TOXICOLOGICAL INFORMATION

Toxicological Information

Data on this material and/or its components are summarized below.

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.

Single exposure (acute) studies indicate:

Oral - Moderately Toxic to Rats [LD50 99.5 mg/kg (Category II)]

Dermal - Slightly Toxic to Rabbits [LD50 2,000 mg/kg (Category III)]

Inhalation - Slightly Toxic to Rats [4-hr LC50 0.83 mg/l; aerosol (Category II)]

Eye Irritation - Causes irreversible eye damage in rabbits (Category I)

Skin Irritation - Non-irritating to Rabbits (Category IV)

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,



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11 TOXICOLOGICAL INFORMATION

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.

12 ECOLOGICAL INFORMATION

Ecotoxicological Information

Data on this material and/or its components are summarized below.

Endothal-potassium

This material is practically non-toxic to bluegill sunfish (LC50 316-501.2 mg/l), rainbow trout (LC50 107-528.7 mg/l), eastern oysters (LC50 117 mg/l), largemouth bass (LC50 130 mg/l), fiddler crab (LC50 752.4 mg/l) and sheepshead minnow (LC50 340 mg/l), and slightly toxic to mysid shrimp (LC50 79 mg/l) and smallmouth bass (LC50 47 mg/l). It is practically non-toxic to slightly toxic to *Daphnia magna* (EC50 72-319.5 mg/l) and no more than moderately toxic to freshwater blue-green algae (LC50 >4.8 mg/l), freshwater diatoms (LC50 >3.6 mg/l), freshwater green algae (LC50 >4.8 mg/l) and marine diatoms (LC50 >9.0 mg/l).

The 8-day LC50 for bobwhite quail and mallard ducklings is >5,000 ppm, the 21-day LD50 for mallard ducks is 344 mg/kg, the 14-day EC50 for duckweed is 0.84 mg/l and the 14-day LC50 for juvenile chinook salmon is 62.5 ppm.

Chemical Fate Information

Data on this material and/or its components are summarized below.

Endothal-potassium

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

13 DISPOSAL CONSIDERATIONS

Waste Disposal

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



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14 TRANSPORT INFORMATION

DOT Name	Pesticides, liquid, toxic, n.o.s.
DOT Technical Name	Endothall
DOT Hazard Class	6.1
UN Number	2902
DOT Packing Group	PG III
RQ	1000 lbs.
DOT Special Information	DOT HM215C= The Keep Away From Foodstuffs (KAFF) label is authorized until October 2003. During the transition period the KAFF or the Toxic label may be used. After October 2003 only the Toxic label is authorized.

15 REGULATORY INFORMATION

Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370)

Immediate (Acute) Health	Y	Fire	N
Delayed (Chronic) Health	N	Reactive	N
		Sudden Release of Pressure	N

Ingredient Related Regulatory Information:

SARA Reportable Quantities

CERCLA RQ

SARA TPQ

Endothal-potassium

NE

SARA Title III, Section 313

This product does contain chemical(s) which are defined as toxic chemicals under and subject to the reporting requirements of, Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372. See Section 2

Endothal-potassium

16 OTHER INFORMATION

Revision Information

Revision Date	05 JAN 2006	Revision Number	13
Supersedes Revision Dated	03-JAN-2006		

Revision Summary

Update section 1

Key

NE= Not Established NA= Not Applicable (R) = Registered Trademark

Miscellaneous

Proper PPE and ventilation should be used when using high heat, such as welding or oxy-acetylene torch cutting, on machinery that may have endothal residue.

Aquathol (R) is a registered trademark of Cerexagri, Inc.



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