

Elf Atochem

HYDROTHOL 191 AQUATIC ALGICIDE AND HERBICIDE

HYDROTHOL 191 Aquatic algicide and herbicide  
Elf Atochem North America, Inc.

1 PRODUCT AND COMPANY IDENTIFICATION

Agrichemicals Group  
Elf Atochem North America, Inc.  
2000 Market St.  
Philadelphia, PA 19103-3222

EMERGENCY PHONE NUMBERS:  
Chemtrec: (800) 424-9300 (24hrs) or (703) 527-3887  
Medical: Rocky Mountain Poison Control Center  
(303) 623-5716 (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 HYDROTHOL 191 Aquatic algicide and herbicide  
Product Synonym(s)

Chemical Family Dicarboxylic Acid - Monoamine Salt  
Chemical Formula C8H9O5 + HN(CH3)2 R, (where R is C8-C18)  
Chemical Name Endothall Mono (N, N-Dimethylalkylamine) Salt

EPA Reg Num 4581-174  
Product Use Aquatic herbicide and algicide

2 COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient Name	CAS RegistryNumber	Typical Wt. %	OSHA
Mono(N,N-dimethyl-alkylamine) salt of endothall	66330-88-9	53.0	Y

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

3 HAZARDS IDENTIFICATION

Emergency Overview: Yellowish brown liquid with very faint chlorine odor. KEEP OUT OF REACH OF CHILDREN. DANGER!  
Causes irreversible eye damage. MAY BE FATAL IF ABSORBED THROUGH SKIN. MAY BE FATAL IF SWALLOWED. CAUSES SKIN BURNS. Do not get in eyes, on skin or on clothing.  
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 or absorbed through skin, slightly toxic if inhaled and severely irritating to eyes and skin.

4 FIRST AID MEASURES

IF IN EYES, Hold eyelids open and flush with a steady, gentle stream of water for 15 minutes. Get medical attention.  
IF ON SKIN, Wash with plenty of soap and water. Get medical attention.  
IF SWALLOWED, Call a physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. If person is unconscious, do not give anything by mouth and do not induce vomiting.  
IF INHALED, Remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth to mouth. Get medical attention.

5 FIRE FIGHTING MEASURES

Fire and Explosive Properties  
Auto-Ignition Temperature NE  
Flash Point >100 deg C 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  
Small spills: soak up with an inert absorbent. Scoop up and place in a clean, dry container. Consult with environmental engineer or professional to determine if neutralization is appropriate and for handling procedures for residual materials.  
Large spills: Pump into marked containers for disposal or reclamation. 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: Use only with adequate ventilation. Do not get in eyes, on skin or on clothing. Do not breathe mist. Empty container may contain hazardous residues. Keep container closed. Wash thoroughly after handling.  
Storage: Keep from freezing; material may coagulate.

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: Avoid breathing vapor or mist. Where airborne exposure is likely, use NIOSH approved respirator with a N 95 particulate filter. If exposures cannot be kept at a minimum with engineering controls, use NIOSH approved respiratory protection equipment as noted above. 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 Section 1910.134.

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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.

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 9 PHYSICAL AND CHEMICAL PROPERTIES  
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Appearance/Odor Yellowish brown liquid with very faint chlorine odor.  
 pH NA  
 Specific Gravity 1.044 @ 25 deg C  
 Vapor Pressure 9.45 X 10<sup>-6</sup> Torr (endothal amine salt)  
 Vapor Density NA  
 Melting Point N/A  
 Freezing Point <0 deg C  
 Boiling Point 100 deg C  
 Solubility In Water >50 g/100ml (amine salt)  
 Percent Volatile 47.0  
 Viscosity 100 cps @ 25 deg C

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 10 STABILITY AND REACTIVITY  
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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: Extreme temperatures may convert endothall product to endothall anhydride, a strong vesicant, causing blistering of eyes, mucous membranes, and skin. (See Section 16)

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 11 TOXICOLOGICAL INFORMATION  
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Toxicological Information: Data on this material and/or its components are summarized below.  
 Hydrothol 191  
 Single exposure (acute) studies indicate that this material is moderately toxic if swallowed (rat LD50 233.4 mg/kg) or absorbed through skin (rabbit LD50 480.9 mg/kg), slightly toxic if inhaled (rat 4-hr LC50 0.7 mg/l) and severely irritating to rabbit eyes and skin. No skin allergy was observed in guinea pigs following repeated exposure.  
 7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid (technical active ingredient)  
 Intentional swallowing of 40 ml of endothall 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 given endothall orally during pregnancy, even at dosages which produced adverse effects on the mothers. Skeletal anomalies were observed in the offspring of rabbits and mice given endothall orally during pregnancy, but only a dosages which produced adverse effects in the mothers. Endothall produced no genetic changes in standard tests using bacterial and animal cells or animals.

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 12 ECOLOGICAL INFORMATION  
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Ecotoxicological Information: Hydrothol 191  
 This material is highly toxic to Daphnia magna (48-hr LC50 0.36 mg/l), fathead minnow (96-hr LC50 0.94 mg/l), golden shiner (120-hr LC50 0.32 mg/l) and scud (96-hr TL50 0.48 mg/l). It is moderately toxic to mussels (48-hr LC50 4.85 mg/l) and rainbow trout (96-hr LC50 1.7 mg/l). The 7-day LC50 for Ceriodaphnia was 0.18-0.19 mg/l and 0.304 mg/l for fathead minnow.  
 7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid (technical active ingredient)  
 Endothall is slightly toxic to bluegill sunfish (96-hr LC50 77 mg/l), rainbow trout (96-hr LC50 49 mg/l), Daphnia magna (48-hr LC50 92 mg/l), eastern oysters (96-hr LC50 54 mg/l), mysid shrimp (96-hr LC50 39 mg/l) and fiddler crab (96-hr LC50 85.1 mg/l). It is practically non-toxic to sheepshead minnow (96-hr LC50 110 mg/l) and common mummichog (96-hr LC50 213.9 mg/l). Endothall has an 8-day LC50 of >5,000 ppm (bobwhite quail and mallard ducklings), a 21-day LD50 of 111 mg/kg (mallard ducks), a 30-day MATC of 19 mg/l (fathead minnows) and a 21-day MATC of 6.7 mg/l (Daphnia magna). No adverse effects were observed in mallard ducks and bobwhite quail following repeated (20-weeks) administration in the diet.  
 Chemical Fate Information: 7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid (technical active ingredient)  
 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). Endothall adsorbed readily from aqueous solution on to Crosby silt loam. Endothall is not expected to bioaccumulate with bioaccumulation factors (BCF) of 10 for mosquito fish and 0.003-0.008 for bluegills.

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 13 DISPOSAL CONSIDERATIONS  
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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  
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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 1000lbs.  
 DOT Special Information DOT HM215C = The Keep away from foodstuffs (KAFF) label is authorized until October 2003. During this transition period the KAFF or Toxic label may be used. After October 2003, all 6.1 - PG III materials must carry the Toxic label.

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 15 REGULATORY INFORMATION  
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Hazard Categories Under Criteria of SARA Title IIII Rules (40 CFR Part 370)  
 Immediate (Acute) Health Y  
 Delayed (Chronic) Health N  
 Fire N  
 Reactive N  
 Sudden Release of Pressure N

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Ingredient Related Regulatory Information:

SARA Reportable Quantities	CERCLA RQ	SARA TPQ
Mono(N,N-dimethylalkylamine) salt of endothall	NE	NE

16 OTHER INFORMATION

Revision Information

Revision Date 02 OCT 2000 Revision Number 1

Supercedes Revision Dated

Revision Summary: Add MSDS to system

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.

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Product Code: 12-174

Revision: 1

Issued: 02 OCT 2000

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