

# MATERIAL SAFETY DATA SHEET

THIONEX® EC

Page 1 of 5

## 1. PRODUCT AND COMPANY IDENTIFICATION

Product name: **THIONEX® EC (PCP 23453)**  
Chemical name of active ingredient(s): Endosulfan:Hexachlorohexahydromethano-2,4,3-benzodioxathiepin-3-oxide  
Registrant:/Manufacturer: Makhteshim Agan of North America, Inc.  
4515 Falls of Neuse Road, Suite 300  
Raleigh, NC 27609  
Phone: 919-256-9300  
Phone: 1-800-535-5053  
For fire, spill, and/or leak emergencies, contact Infotrac: Phone: 1-877-250-9291  
For medical emergencies and health and safety inquiries, contact Prozar:

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL NAME	CAS NUMBER	%	ACGIH/TLV	OSHA/PEL	OTHER	NTP/IARC/OSHA (Carcinogen)
Endosulfan	115-29-7	38.18	0.1 mg/m <sup>3</sup> (TWA)	-	0.1 mg/m <sup>3</sup> (TWA) (Canada)	NA
Aromatic hydrocarbons <i>Contains (% of total):</i>	64742-94-5	54.82	-	-	100 mg/m <sup>3</sup> (supplier)	NA
Naphthalene	91-20-3	5.4	52 mg/m <sup>3</sup> (TWA)	52 mg/m <sup>3</sup> (TWA)	50 mg/m <sup>3</sup> (TWA) (Canada)	NTP: 2* IARC: 2B**

\*NTP: 2 – Substances or groups of substances which may reasonably be anticipated to be carcinogens.

\*\*IARC: 2B - The agent is possibly carcinogenic to humans.

## 3. HAZARDS IDENTIFICATION

**EMERGENCY OVERVIEW:** Keep out of reach of children. Poisonous if swallowed, inhaled, or absorbed through the skin. Avoid breathing spray mist or dust. Avoid contact with skin, eyes, or clothing. Wash with soap and water before eating, drinking or smoking. Change to clean clothing and wash contaminated clothing separately from other laundry before reuse. This product is very toxic to fish. Do not contaminate any body of water. Do not apply or allow to drift to areas occupied by unprotected persons or animals.

**POTENTIAL HEALTH EFFECTS:** Effects from overexposure result from swallowing, inhaling, or absorption through the skin. Symptoms of endosulfan poisoning include nausea, headache, general feeling of unwell, weakness and generalized convulsions.

**MEDICAL CONDITIONS AGGRAVATED:** None presently known.

## 4. FIRST AID MEASURES

<b>IF SWALLOWED:</b>	<ul style="list-style-type: none"><li>Immediately call a poison control center or doctor.</li><li>Do not induce vomiting unless told to do so by a poison control center or doctor.</li><li>Do not give any liquid to the person.</li><li>Do not give anything by mouth to an unconscious person.</li></ul>
<b>IF INHALED:</b>	<ul style="list-style-type: none"><li>Move person to fresh air.</li><li>If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.</li><li>Call a poison control center or doctor for further treatment advice.</li></ul>

# MATERIAL SAFETY DATA SHEET

THIONEX® EC

Page 2 of 5

<b>IF ON SKIN OR CLOTHING:</b>	<ul style="list-style-type: none"><li>• Take off contaminated clothing.</li><li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>
<b>IF IN EYES:</b>	<ul style="list-style-type: none"><li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li><li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact PROSAR at 1-877-250-9291 for emergency medical treatment information.

**NOTE TO PHYSICIAN:** Endosulfan is a central nervous system stimulant absorbable by mouth, inhalation, or through contact with skin. It may cause convulsions. There is no specific antidote. Diazepam I.V. is the drug of choice. Barbituric acid derivatives such as Phenobarbital may be used additionally. A neuromuscular blocking agent may be used if convulsions persist. This type of drug may be used *only* if complete control of respiration can be maintained. Epinephrine derivatives are absolutely contraindicated. This formula contains petroleum hydrocarbons (xylene range aromatic solvent). Care should be taken to prevent aspiration because of the possibility of chemical pneumonia or pulmonary edema due to the organic solvent in the formulation.

## 5. FIRE FIGHTING MEASURES

**FLASH POINT AND METHOD:** 62.2°C (TCC)

**EXTINGUISHING MEDIA:** Foam, CO<sub>2</sub> or dry chemical. Soft stream water fog only if necessary. Contain all runoff.

**FIRE/EXPLOSION HAZARDS:** Moderately combustible. When heated above the flash point, this material releases vapors which, when mixed with air, can burn or be explosive.

**FIRE FIGHTING PROCEDURES:** Isolate fire area. Evacuate downwind. Wear full protective clothing and self-contained breathing apparatus. Do not breathe smoke, gases, or vapors generated.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Carbon monoxide, carbon dioxide, hydrogen chloride, and oxides of sulfur.

## 6. ACCIDENTAL RELEASE MEASURES

**RELEASE NOTES:** Isolate and post spill area. Wear protective clothing and personal protective equipment as prescribed in Section 8, "Exposure Controls/Personal Protection". Keep unprotected persons and animals out of the area.

Keep material out of lakes, streams, ponds, and sewer drains. Dike to confine spill and absorb with a non-combustible absorbent such as clay, sand, or soil. Vacuum, shovel, or pump waste into a drum and label contents for disposal.

To clean and neutralize spill area, tools, and equipment, wash with a suitable solution of caustic or soda ash, and an appropriate alcohol (i.e. methanol, ethanol, or isopropanol). Follow this by washing with a strong soap and water solution. Absorb, as above, any excess liquid and add to the drums of waste already collected. Repeat if necessary. Dispose of drummed waste according to the method outlined in Section 13, "Disposal Considerations".

## 7. HANDLING AND STORAGE

**GENERAL PROCEDURES:** Store in a cool, dry, well-ventilated place. Do not use or store near heat, open flame, or hot surfaces. Keep out of reach of children and animals. Store in original containers only. Carefully open containers. After partial use, replace lid and close tightly. Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION, AND PACKAGING OF THE PRODUCT.**

# MATERIAL SAFETY DATA SHEET

THONEX® EC

Page 3 of 5

**FOR COMMERCIAL APPLICATION AND ON-FARM APPLICATIONS, CONSULT THE PRODUCT LABEL.**

**EYE PROTECTION:** Appropriate eye protection must be worn when working with this material or serious harm can result.

**RESPIRATORY/VENTILATION:** Use of approved respiratory protection is recommended. Use this material only in well-ventilated areas.

**SKIN PROTECTION:** Do not get on skin or clothing. Skin contact should be avoided by wearing protective clothing including chemical resistant gloves, long sleeved shirt, long pants, shoes and socks. Discard clothing and other absorbent materials that may have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

## USER SAFETY RECOMMENDATIONS:

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**EXPOSURE GUIDELINES:** Refer to Section 2.

**ENGINEERING CONTROLS:** Refer to product label.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**ODOR:** Aromatic hydrocarbon

**APPEARANCE:** Amber Liquid

**SPECIFIC GRAVITY:** 1.103

**pH:** 7.2

## 10. STABILITY AND REACTIVITY

**CONDITIONS TO AVOID:** Excessive heat and fire.

**STABILITY:** Stable

**POLYMERIZATION:** Will not occur

## 11. TOXICOLOGICAL INFORMATION

**ACUTE ORAL LD<sub>50</sub>:** 44.9 mg/kg (rat)

**ACUTE DERMAL LD<sub>50</sub>:** 256 mg/kg (rabbit)

**ACUTE INHALATION LC<sub>50</sub>:** 22 mg/L/4 hr. (rat)

**ACUTE EFFECTS FROM OVEREXPOSURE:** This product is highly toxic if swallowed, inhaled, or absorbed through the skin. It is moderately irritating to the eyes and skin. Signs of toxicity in laboratory animals included tremors, convulsions, decreased locomotion, chromorhinorrhea, and oral discharge. Inhalation of aromatic hydrocarbon vapors may cause dizziness, disturbances in vision, drowsiness, respiratory irritation, and eye, skin, and mucous membrane irritation. Vomiting after ingestion of this product may cause aspiration of aromatic hydrocarbons into the lungs, which may result in fatal pulmonary edema.

**CHRONIC EFFECTS FROM OVEREXPOSURE:** No data available for the formulation. In chronic studies with laboratory animals, endosulfan showed no evidence of carcinogenicity. Endosulfan caused toxic nephropathy in rat chronic feeding studies. In a two-generation reproduction study with laboratory animals, endosulfan caused decreased litter weights at the highest dose. Endosulfan was non-mutagenic in a battery of tests. Chronic exposure to aromatic hydrocarbons may cause headaches, dizziness, loss of sensation or feelings (such as numbness), and liver and kidney damage. Inhalation of xylene vapors at high doses has also resulted in an increased incidence of malformations and decreases in fetal weight in laboratory animals.

# MATERIAL SAFETY DATA SHEET

THIONEX® EC

Page 4 of 5

## 12. ECOLOGICAL INFORMATION

Unless otherwise indicated, the data presented below are based on the active ingredient.

**ENVIRONMENTAL DATA:** In natural waters, endosulfan is more readily degraded at pH 7 (half-life=5 weeks) than at pH 5.5 (half-life=5 months). The half-life in soils varies with soil type and environmental conditions, with 120 days being average under agricultural conditions. The  $\alpha$ - and  $\beta$ -isomers degrade at different rates, with the  $\beta$ -isomer being more persistent. Endosulfan has a slight potential for movement in soils; however, the potential is decreased with increasing organic matter content of the soil. The bioconcentration factor for endosulfan varies by species and length of exposure but is generally less than 100.

**ECOTOXICOLOGICAL INFORMATION:** Endosulfan is considered highly toxic to fish with LC<sub>50</sub> values of 1.0 to 10.0 µg/L. Crustaceans and mollusks are less sensitive with LC<sub>50</sub> values of 10 to 1600 µg/L. Endosulfan is slightly toxic to birds and oral LD<sub>50</sub> values range from 200 to 1000 mg/kg.

## 13. DISPOSAL CONSIDERATIONS

**DISPOSAL METHOD:** Open dumping or burning of this material or its packaging is prohibited. If spilled material cannot be disposed of by use according to label instructions, an acceptable method of disposal is to incinerate in accordance with local, state and national environmental laws, rules, standards, and regulations. However, because acceptable methods of disposal may vary by location and regulatory requirements may change, the appropriate agencies should be contacted prior to disposal.

**EMPTY CONTAINER:** Non-returnable containers that held this material should be cleaned, prior to disposal, by triple rinsing. Containers which held this material may be cleaned by being triple-rinsed, and recycled, with the rinsate being incinerated. Do not cut or weld metal containers. Vapors that form may create an explosion hazard.

## 14. TRANSPORT INFORMATION

### DOT CLASSIFICATION:

**Non-bulk:** UN2996, Organochlorine Pesticides, Liquid, Toxic, (Endosulfan), 6.1, PG II, RQ

**Bulk (>119 gallons):** UN2996, Organochlorine Pesticides, Liquid, Toxic, (Endosulfan), 6.1, PG II, RQ, Marine Pollutant

### INTERNATIONAL TRANSPORTATION:

**IMO (vessel):** UN2996, Organochlorine Pesticides, Liquid, Toxic, (Endosulfan), 6.1, PG II, RQ, Marine Pollutant

**IATA (air):** UN2996, Organochlorine Pesticides, Liquid, Toxic, (Endosulfan), 6.1, PG II, RQ

## 15. REGULATORY INFORMATION

### CANADIAN REGULATIONS:

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the CPR.

### INGREDIENT DISCLOSURE LIST:

Naphthalene (CAS# 91-20-3)

1,2,4-Trimethylbenzene (CAS# 95-63-6)

### SARA TITLE III:

Sara (313): Naphthalene CAS# 91-20-3 (5.42%)  
1,2,4-Trimethylbenzene CAS# 95-63-6 (0.93%)

Sara (311,312): Immediate Health Effects  
Chronic Health Effects  
Fire Hazard

Sara (302): Endosulfan CAS #115-29-7 (38.18%)

**CERCLA RQ:** Endosulfan RQ=1 lbs  
Naphthalene RQ=100 lbs

# MATERIAL SAFETY DATA SHEET

THIONEX® EC

Page 5 of 5

**RCRA CLASSIFICATION:** Under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

**TSCA STATUS:** The ingredients of this product are listed on the TSCA inventory or are exempt.

## 16. OTHER INFORMATION

HAZARD RATINGS	NFPA	HMIS		
HEALTH:	3	3	0	MINIMAL
FLAMMABILITY:	2	2	1	SLIGHT
REACTIVITY:	0	1	2	MODERATE
			3	HIGH
			4	SEVERE

**MSDS DATE:** 8-3-09. Supersedes versions dated 12-17-08 and 11-14-05. Changes made to sections 2, 14 and 15.

The information contained herein is given in good faith and is believed to be correct, but no warrant, express or implied, is made. Consult Makhteshim Agan of North America, Inc. for further information.