

# MATERIAL SAFETY DATA SHEET

CYNOFF® EC INSECTICIDE



MSDS Ref. No: 52315-07-8-4

Version: Global

Date Approved: 05/01/2003

Revision No: 8

This document has been prepared to meet the requirements of the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200; the EC directive, 2001/58/EC and other regulatory requirements. The information contained herein is for the concentrate as packaged, unless otherwise noted.

## 1. PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** CYNOFF® EC INSECTICIDE

**PRODUCT CODE:** 1167

**ACTIVE INGREDIENT:** Cypermethrin

**CHEMICAL FAMILY:** Pyrethroid Insecticide

**MOLECULAR FORMULA:** C<sub>22</sub>H<sub>19</sub>Cl<sub>2</sub>NO<sub>3</sub> (cypermethrin)

**SYNONYMS:** FMC 30980; (+/-)-a-cyano(3-phenoxyphenyl)methyl (+/-) cis, trans-3-(2,2-dichloroethenyl)-2,2-dimethylcyclopropanecarboxylate; IUPAC: (RS)-a-cyano-3-phenoxybenzyl (1RS)-cis-trans-3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropanecarboxylate

### MANUFACTURER

FMC CORPORATION  
Agricultural Products Group  
1735 Market Street  
Philadelphia, PA 19103 USA  
**General Information:** 800-321-1362

### Emergency Telephone Numbers:

**Emergency Phone (FMC)** 800-331-3148  
(U.S.A. & Canada)  
**Emergency Phone (FMC)** 716-735-3765  
(Reverse Charges)  
**CHEMTREC (U.S.):** (800) 424-9300  
(U.S.A. & Canada)  
(202) 483-7616 (All other countries)

## 2. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Chemical Name</u>	<u>CAS#</u>	<u>Wt.%</u>	<u>PEL/TLV</u>	<u>EC No.</u>	<u>EC Class</u>
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Cypermethrin	52315-07-8	24.8	None	None	None
Surfactant Blend	0000-00-0	<9.6	None	None	None
Phenylsulfonate	70528-83-5	<1.7	None	None	None
Isobutyl alcohol	78-83-1	<0.7	50 ppm	None	None

### 3. HAZARDS IDENTIFICATION

#### EMERGENCY OVERVIEW

##### IMMEDIATE CONCERNS:

- Amber liquid with a soapy odor.
- Slightly combustible. May support combustion at elevated temperatures.
- Thermal decomposition and burning may form toxic by-products.
- For large exposures or fire, wear personal protective equipment.
- Highly toxic to fish and aquatic organisms. Keep out of drains and water courses.
- Expected to be moderately irritating to the skin and eyes.

**POTENTIAL HEALTH EFFECTS:** Effects from overexposure result from inhalation or coming into contact with the eyes or skin. Symptoms of overexposure include decreased activity, tremors, convulsions, loss of bladder control, incoordination, and increased sensitivity to sound. Contact with cypermethrin may produce skin sensations such as numbing, burning and tingling. These skin sensations are reversible and usually subside within 12 hours.

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

### 4. FIRST AID MEASURES

**EYES:** Flush with water for at least 15 minutes. If irritation occurs and persists, contact a medical doctor.

**SKIN:** Remove contaminated clothing and thoroughly wash with soap and water. If irritation occurs and persists, contact a medical doctor.

**INGESTION:** Rinse mouth with water. Dilute by giving 1 or 2 glasses of water. Do not induce vomiting. Never give anything by mouth to an unconscious person. See a medical doctor immediately.

**INHALATION:** Remove to fresh air. If breathing difficulty or discomfort occurs and persists, contact a medical doctor.

**NOTES TO MEDICAL DOCTOR:** This product has low oral, dermal and inhalation toxicity. It is expected to be moderately irritating to the eyes and skin. It contains

cypermethrin, a pyrethroid insecticide. Do not administer milk, cream or other substances which contain vegetable or animal fats, as they enhance absorption. Central nervous system stimulation should be controlled with sedation by, e.g., barbiturates. The formulation contains phenylsulfonate, a corrosive material. Consideration should be given to gastric lavage with an endotracheal tube in place. Reversible skin sensations (paresthesia) may occur and ordinary skin salves have been found useful in reducing discomfort. Treatment is otherwise controlled removal of exposure followed by symptomatic and supportive care.

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## 5. FIRE FIGHTING MEASURES

**FLASH POINT AND METHOD:** 115°C (240°F)

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

**FIRE / EXPLOSION HAZARDS:** Slightly combustible. This material may support combustion at elevated temperatures.

**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:** Heat and fire may result in thermal decomposition and the release of carbon monoxide, carbon dioxide, hydrogen cyanide, chlorine and hydrogen chloride.

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## 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".

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## 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. Store in original containers only. Keep out of reach of children and animals. Do not contaminate other pesticides, fertilizers, water, food or feed by storage or disposal.

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**ENGINEERING CONTROLS:** Use local exhaust at all process locations where vapor or mist may be emitted. Ventilate all transport vehicles prior to unloading.

### PERSONAL PROTECTIVE EQUIPMENT

**EYES AND FACE:** For splash, mist or spray exposure, wear chemical protective goggles or a face shield.

**RESPIRATORY:** For splash, mist or spray exposure wear, as a minimum, a properly fitted half-face or full-face air-purifying respirator which is approved for pesticides (U.S. NIOSH/MSHA, EU CEN or comparable certification organization). Respirator use and selection must be based on airborne concentrations.

**PROTECTIVE CLOTHING:** Depending upon concentrations encountered, wear coveralls or long-sleeved uniform and head covering. For larger exposures as in the case of spills, wear full body cover barrier suit, such as a PVC suit. Leather items - such as shoes, belts and watchbands - that become contaminated should be removed and destroyed. Launder all work clothing before reuse (separately from household laundry).

**WORK HYGIENIC PRACTICES:** Clean water should be available for washing in case of eye or skin contamination. Wash skin prior to eating, drinking or using tobacco. Shower at the end of the workday.

#### GLOVES:

Wear chemical protective gloves made of materials such as butyl rubber, nitrile or Viton® brand. Thoroughly wash the outside of gloves with soap and water prior to removal. Inspect regularly for leaks.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

**ODOR:** Soapy

**APPEARANCE:** Amber liquid

**pH:** 5.5 as 5% emulsion

**MELTING POINT:** 0°C (32°F)

**SOLUBILITY IN WATER:** Emulsion

**SPECIFIC GRAVITY:** 0.96 at 20°C

**MOLECULAR WEIGHT:** 416.3 (cypermethrin)

**WEIGHT PER VOLUME:** 8.04 lb/gal. (964 g/L)

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## 10. STABILITY AND REACTIVITY

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

**STABILITY:** Stable

**POLYMERIZATION:** Will not occur

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## 11. TOXICOLOGICAL INFORMATION

**DERMAL LD<sub>50</sub>:** >2000 mg/kg (rabbit)

**ORAL LD<sub>50</sub>:** 1085 mg/kg (rat)

**INHALATION LC<sub>50</sub>:** 12.35 mg/L/1 hr (rat) (maximum attainable concentration, zero mortalities)

**ACUTE EFFECTS FROM OVEREXPOSURE:** This product has low oral, dermal and inhalation toxicity. It is expected to be moderately irritating to the eyes and skin. Large doses of cypermethrin ingested by laboratory animals produced signs of toxicity including loss of motor control, tremors, decreased activity, urinary incontinence, incoordination, increased sensitivity to sound and convulsions. Experience to date indicates that contact with cypermethrin may produce skin sensations such as numbing, burning or tingling. These sensations are reversible and usually subside within 12 hours. Contact with phenylsulfonate may be corrosive to the skin and severely irritating to the eyes. Exposure to butanol vapors may produce headaches, drowsiness and irritation of the nose and throat. Excessive exposures to butanol liquid or vapors may result in contact dermatitis and irritation of the mucous membranes.

**CHRONIC EFFECTS FROM OVEREXPOSURE:** No data available for the

formulation. In studies with laboratory animals, cypermethrin did not cause reproductive toxicity, teratogenicity, neurotoxicity or carcinogenicity in male and female rats and male mice. Cypermethrin caused an increase in benign lung tumors in female mice at 1600 ppm in the diet. The EPA concluded on a weight of evidence approach that cypermethrin represents a low oncogenic potential to female mice at this dose level (approximately 228 mg/kg/day). Liver enlargement is often noted in laboratory animals that have ingested large doses of cypermethrin during their life span. An overall absence of genotoxicity has been demonstrated in tests of mutagenicity, DNA damage and chromosome aberrations. Disturbances in hearing and balance have been reported in workers exposed to butanol vapors.

## CARCINOGENICITY:

IARC: Not listed

NTP: Not listed

OSHA: Not listed

OTHER: (ACGIH) Not listed

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## 12. ECOLOGICAL INFORMATION

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

**ENVIRONMENTAL DATA:** When applied at agricultural use rates, cypermethrin has a moderate rate of degradation in the soil. At termiticidal use rates, cypermethrin degrades at a slower rate which is governed by soil characteristics (e.g., pH). The rate of cypermethrin hydrolysis is somewhat faster under alkaline conditions than at neutral or acidic pH. Cypermethrin has a high affinity for organic matter and a Log Pow of 5.0, but has demonstrated a low potential for bioconcentration (BCF = 17). Cypermethrin is not mobile in soil.

**ECOTOXICOLOGICAL INFORMATION:** Cypermethrin is considered highly toxic to fish and aquatic arthropods, and has LC50 values which range from 0.004 µg/L to 3.6 µg/L. The aquatic arthropods tended to be some of the more sensitive species. Care should be taken to avoid contamination of the aquatic environment. Cypermethrin is slightly toxic to birds and oral LD50 values are greater than 10,248 mg/kg.

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## 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 which 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.

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## 14. TRANSPORT INFORMATION

### SPECIAL SHIPPING NOTES:

U.S. DEPARTMENT OF TRANSPORTATION (DOT):

Non-bulk Packages:

U.S. Surface Freight Class: Insecticides, NOI, other than Poison. NMFC Item 102120.

Notes: Cynoff EC is not subject to the hazardous materials regulations.

Bulk Packages:

Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s.

Technical Name(s): cypermethrin

Class or Division: 9

ID Number: UN 3082

Packing Group: III

Marine Pollutant(s): cypermethrin

Label(s): Class 9, 9

Placard(s): Class 9, 3082, 9

Mark(s): 3082

ERG No.: 171

Notes: Marine pollutant mark may be displayed.

### INTERNATIONAL MARITIME DANGEROUS GOODS CODE:

Substance or Article: Environmentally hazardous substance, liquid, n.o.s.

Technical Name(s): cypermethrin

Class or Division: 9

ID Number: UN 3082

Packing Group: III

Marine Pollutant(s): cypermethrin 24.8%

Label(s): Class 9, 9

Placard(s): Class 9, 308, 9

Mark(s): Environmentally hazardous substance, liquid, n.o.s. (cypermethrin 24.8%), UN 3082 and Marine Pollutant

EmS No.: F-A, S-F

Flash Point: 115°C

**ADR - EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY ROAD:**

UN Number: Un 382

Name and Description: Environmentally hazardous substance, liquid, n.o.s.

Technical Name(s): cypermethrin

Class or Division: 9

Classification Code: M6

Packing Group: III

Marine Pollutant: cypermethrin 24.8%

Label(s): 9

Placard(s): 9

Marks: 3082 and Marine Pollutant

Road or Rail: ADR

Notes: Marks identical to those required by International Maritime Dangerous Goods Code may be used.

**INTERNATIONAL CIVIL AVIATION ORGANIZATION (ICAO) / INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA):**

Notes: Prevail FT is not subject to regulation when shipped by air

Other Shipping Information:

For air - Insecticides, NOI, other than Poison

**HARMONIZED SYSTEM:**

Import to the U.S.A.: 3808.10.2500

Export from the U.S.A.: 3808.10.0000

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## **15. REGULATORY INFORMATION**

### **UNITED STATES**

#### **SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)**

##### **SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355):**

Not listed

##### **SECTION 311 HAZARD CATEGORIES (40 CFR 370):** Immediate, Delayed

**SECTION 312 THRESHOLD PLANNING QUANTITY (40 CFR 370):** The threshold planning quantity (TPQ) for this product, if treated as a mixture, is 10,000 lbs. This product contains the following ingredients with a TPQ of less than 10,000 lbs.: None

**SECTION 313 REPORTABLE INGREDIENTS (40 CFR 372):** There are no ingredients in this product which are subject to Section 313 reporting requirements.

**CERCLA (COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT):** Listed.

<b><u>Chemical Name</u></b>	<b><u>Wt.%</u></b>	<b><u>RQ</u></b>
Isobutyl alcohol	<0.7	5000 lbs.

### COMMENTS:

Australian Hazard Code : 3XE

U.S. EPA Signal Word : CAUTION

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## 16. OTHER INFORMATION

### REVISION SUMMARY

This MSDS replaces Revision #7, dated August 13, 1998. Changes in information are as follows:

Section 14 (Transport Information)

Viton - E.I. du Pont de Nemours and Co. Trademark;  
Cynoff and FMC Logo - FMC Trademarks

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