

# CYNOFF® EC INSECTICIDE

**Product Name:** CYNOFF® EC INSECTICIDE  
**MATERIAL SAFETY DATA SHEET**

This document has been prepared to meet the requirements of the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200; the EU Directive, 91/155/EEC and other regulatory requirements. The information contained herein is for the concentrate as packaged, unless otherwise noted.

## 1. Company and Product Identification

**FMC CORPORATION**  
**Agricultural Products Group**  
1735 Market Street  
Philadelphia, PA 19103 U.S.A.  
Code Number: 1167

**Active Ingredient:** Cypermethrin

**Chemical Family:** Pyrethroid Insecticide

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

**Synonyms:** FMC 30980; (±)-α-cyano-(3-phenoxyphenyl)methyl (±)-*cis,trans*-3-(2,2-dichloro ethenyl)-2,2-dimethylcyclopropanecarboxylate; **IUPAC:** (RS)-α-cyano-3-phenoxybenzyl (1RS)-*cis-trans*-3-(2,2-dichlorovinyl)-1,1-dimethylcyclopropane carboxylate

## EMERGENCY TELEPHONE NUMBERS:

CHEMTREC

(800)424-9300 (U.S.A. & Canada)

(202)483-7616 (All Other Countries)

FMC CORPORATION

(800)331-3148 (U.S.A. & Canada)

(716)735-3765 (All Other Countries-*reverse charges*)

**General Information:** (800)321-1362

## 2. Composition/Information on Ingredients

Ingredient Name	CAS #	EU Number	PEL/TLV	EU Class
Cypermethrin (24.8%)	52315-07-8	None	None	None
Surfactant Blend (<9.6%)	None	None	None	None
Phenylsulfonate (<1.7%)	70528-83-5	None	None	None
Isobutanol (<0.7%)	78-83-1	None	50 ppm (supplier)	None

## 3. Hazards Identification

### Emergency Overview:

- 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 either inhaling or coming into contact with the skin or eyes. 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 by Exposure:** 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.

**Inhalation:** Remove to fresh air. If breathing difficulty or discomfort 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.

**Note to Medical Doctor:** Cynoff EC has low oral, dermal and inhalation toxicity, and 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 of cypermethrin. Central nervous system stimulation can be controlled with sedation, e.g., barbiturates. The formulation contains phenylsulfonate, a corrosive material. Consideration should be given to gastric lavage with an endotracheal tube in place. Treatment is otherwise controlled removal from exposure followed by symptomatic and supportive care. Reversible skin sensations (paresthesia) may occur and ordinary skin salves have been found useful in reducing discomfort.

## 5. Fire Fighting Measures

**Flash Point:** 115°C (240°F)

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

**Degree of Fire/Explosion Hazard:** Slightly combustible. May support combustion at elevated temperatures.

**Special 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:** Upon burning, carbon monoxide, carbon dioxide, hydrogen cyanide, chlorine and hydrogen chloride may be produced.

## 6. Accidental Release Measures

Isolate and post spill area. Wear protective clothing and respiratory protection as prescribed in Section 8, "Exposure Controls/Personal Protection". Keep unprotected persons and animals out of the area. Keep pesticides 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 pesticides into a drum and label contents.

To clean and neutralize spill area, tools and equipment, wash with a suitable solution of caustic or soda ash and an appropriate alcohol (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

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.

## 8. Exposure Controls/Personal Protection

Personal protective recommendations for mixing or applying this product are prescribed on the product label. Information stated below provides useful, additional guidance for individuals whose use or handling of this product is not guided by the product label.

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

**Work 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 rain 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).

**Eye Protection:** For splash, spray or mist exposure, wear chemical protective goggles or a face shield.

**Respiratory Prot.:** For splash, spray or mist 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.

**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.

**Personal Hygiene:** 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.

## 9. Physical/Chemical Properties

**Appearance:** Amber liquid

**Odor:** Soapy

**Melting Point:** 0°C (32°F)

**Specific Gravity:** 0.96 at 20°C

**pH:** 5.5 as 5% emulsion

**Solubility (H<sub>2</sub>O):** Emulsion

**Molecular Weight:** 416 (cypermethrin)

**Flash Point:** 115°C (240°F)

**Weight per Volume:** 8.04 lb/gal (964 g/L)

## 10. Stability and Reactivity

**Stability:** Stable

**Hazardous Polymerization:** Will not occur

**Conditions/Materials to Avoid (Incompatibility):** Excessive heat and fire.

## 11. Toxicological Information

**Rat Acute Oral:** LD50 = 1085 mg/kg

**Rabbit Acute Dermal:** LD50 > 2000 mg/kg

**Rat Acute Inhalation:** LC50 = 12.35 mg/L/1 hr

(maximum attainable concentration, no mortalities)

**Acute Effects From Overexposure:** Cynoff EC 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 skin 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 headache, 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 Cynoff EC. In studies with laboratory animals, cypermethrin did not cause reproductive toxicity, teratogenicity, neurotoxicity or carcinogenicity. Cypermethrin caused an increased incidence of benign lung tumors in female mice at 1600 ppm in the diet. The EPA concluded, on a weight of evidence approach, that cypermethrin presents 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 lifespan. 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:** No

**NTP:** No

**Other (ACGIH/OSHA):** No

## 12. Environmental Information

**The information presented below is for the active ingredient, cypermethrin.**

**Physical/Environmental Properties:** 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 P<sub>ow</sub> of 5.0, but has demonstrated a low potential for bioconcentration (BCF = 17). Cypermethrin is not mobile in soil.

**Environmental Toxicology:** 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.

**13. Disposal Considerations**

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 because regulatory requirements may change, contact the appropriate regulatory authority prior to disposal.

Non-returnable containers which held these materials 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 rinse being incinerated. Do not cut or weld metal containers. Vapors that form may create an explosion hazard.

**14. Transportation Information**

**For road, rail and air:** Insecticides, NOI, other than Poison.

**For water:** Environmentally hazardous substance, liquid, n.o.s., 9, UN3082, III.

**MARPOL Designation:** Severe Marine Pollutant (cypermethrin 24.8%)

**Reportable Quantity:** Not listed.

Insecticide, NOI, other than Poison. NMFC Item 102120. Cynoff® EC

**15. Regulatory Information**

**Australian Hazard Code:** 3XE

**U.S. CERCLA Reportable Quantity (RQ):** This product contains the following ingredients listed in 40 CFR Table 302.4:

	Percentage by weight	Final RQ (lb.)
isobutyl alcohol	0.7	5,000

**U.S. EPA Category & Signal Word:** CAUTION

**U.S. SARA Title III**

**Section 302 Extremely Hazardous Substances (40 CFR 355):** Not Listed

**Section 302.4 Reportable Quantity (RQ) (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 lb. This product contains the following ingredients with a TPQ of less than 10,000 lb.: None.

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

**MSDS #:** 52315-07-8-4

**Rev. #:** 6

**Date:** 09/27/96

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