1. PRODUCT AND COMPANY IDENTIFICATION

Product name: CYNOFF® EC INSECTICIDE

Formula code: 1167-A

Active Ingredient(s): Cypermethrin

Synonyms:
FMC 30980; (RS)-α-cyano-3-phenoxybenzyl
(1RS,3RS;1RS,3SR)-3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropanecarboxylate;
cyano(3-phenoxyphenyl)methyl 3-(2,2-dichloroethenyl)-2,2-dimethylcyclopropanecarboxylate

Chemical Family: Pyrethroid Pesticide

Recommended use: Insecticide

Manufacturer: FMC Corporation
Agricultural Products Group
1735 Market Street
Philadelphia, PA 19103

General Information:
Phone: (215) 299-6000
E-Mail: msdsinfo@fmc.com

Emergency telephone number:
(800) 331-3148 (FMC - U.S.A. & Canada)
(716) 735-3765 (FMC - Reverse charges)

For leak, fire, spill or accident emergencies, call:
+1 800 / 424 9300 (CHEMTREC - U.S.A.)
+1 703 / 527 3887 (CHEMTREC - Collect - All Other Countries)

2. Hazards identification

Appearance: amber liquid

Physical state: liquid

Odor: soapy

Physical or Chemical Hazards: 

Potential health effects

Acute effects

Eyes: May cause moderate eye irritation.

Skin: May cause moderate skin irritation. May cause sensitization by skin contact.

Inhalation: May cause drowsiness and dizziness. May cause additional affects as listed under "Ingestion".

Ingestion: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May cause central nervous system depression.

Chronic effects: Effects are expected to be similar to those that are seen with acute toxicity.

Environmental hazard: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
3. Composition/information on ingredients

Hazardous ingredients

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methyl laurate</td>
<td>111-82-0</td>
<td>50-60</td>
</tr>
<tr>
<td>Cypermethrin</td>
<td>52315-07-8</td>
<td>24.8</td>
</tr>
<tr>
<td>Benzenesulfonic acid, dodecyl-, branched, calcium salts</td>
<td>70528-83-5</td>
<td>1-5</td>
</tr>
</tbody>
</table>

4. First aid measures

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

Skin contact: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

Inhalation: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

Ingestion: 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.

Notes to physician: This product is a pyrethroid. If large amounts have been ingested, the stomach and intestines should be evacuated. Treatment is symptomatic and supportive. Digestible fats, oils, or alcohol may increase absorption and so should be avoided.

5. Fire-fighting measures

Flash Point: 115 °C / 239 °F
Method: closed cup

Sensitivity to Mechanical Impact: not applicable
Sensitivity to Static Discharge: not applicable

Suitable extinguishing media: Carbon dioxide (CO₂), Dry chemical, Alcohol-resistant foam, Water spray.

Protective equipment and precautions for firefighters: Wear self-contained breathing apparatus and protective suit.

NFPA
- Health Hazard: 2
- Flammability: 1
- Stability: 0
- Special Hazards: -

6. Accidental release measures

Personal precautions: Isolate and post spill area. Remove all sources of ignition. Wear suitable protective clothing, gloves and eye/face protection. For personal protection see section 8.

Environmental precautions: Keep people and animals away from and upwind of spill/leak. Keep material out of lakes, streams, ponds, and sewer drains.
Methods for containment: Dike to prevent runoff. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

Methods for cleaning up: Clean and neutralize spill area, tools and equipment by washing with bleach water and soap. Absorb rinsate and add to the collected waste. Waste must be classified and labeled prior to recycling or disposal. Dispose of waste as indicated in Section 13.

Other: For further clean-up instructions call FMC Emergency Hotline number listed in Section 1 "Product and Company Identification" above.

7. Handling and storage

Handling: Do not contaminate other pesticides, fertilizers, water, food or feed by storage or disposal.

Storage: Keep in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Keep out of reach of children and animals. Store in original container only.

8. Exposure controls/personal protection

Exposure guidelines: This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Occupational exposure controls

Engineering measures: Apply technical measures to comply with the occupational exposure limits. When working in confined spaces (tanks, containers, etc.), ensure that there is a supply of air suitable for breathing and wear the recommended equipment.

Personal Protective Equipment

General Information: If the product is used in mixtures, it is recommended that you contact the appropriate protective equipment suppliers. These recommendations apply to the product as supplied.

Respiratory protection: For dust, splash, mist or spray exposures wear a filtering mask.

Eye/face protection: For dust, splash, mist or spray exposure, wear chemical protective goggles or a face-shield

Skin and body protection: Wear long-sleeved shirt, long pants, socks, shoes, and gloves.

Hand protection: Protective gloves

Hygiene measures: Clean water should be available for washing in case of eye or skin contamination. Wash skin prior to eating, drinking, chewing gum or using tobacco. Shower or bathe at the end of working. Remove and wash contaminated clothing before re-use. Launder work clothing separately from regular household laundry.

9. Physical and chemical properties

Appearance: amber liquid
Color: amber
Physical state: liquid
Odor: soapy
pH: 5.5
Melting Point/Range: 0 °C / 32 °F
Freezing point: No information available
Boiling Point/Range: No information available.
Flash Point: 115 °C / 239 °F closed cup
Evaporation rate: No information available
Autoignition Temperature: No information available
Vapor pressure: No information available
Vapor density: No information available
Density: 8.04 lb/gal
Specific Gravity: 0.96 @ 20 °C
Water solubility: Emulsifies
Percent volatile: No information available
Partition coefficient: No information available
Viscosity: No information available
Oxidizing properties: not applicable

10. Stability and reactivity

Stability: Stable
Conditions to avoid: Heat, flames and sparks
Hazardous decomposition products: Thermal decomposition can lead to release of irritating and toxic gases and vapors: Carbon oxides, Hydrogen cyanide, Chlorine, Hydrogen chloride.
Hazardous polymerization: Hazardous polymerization does not occur

11. Toxicological information

Acute Toxicity
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.
Eye contact: Moderately irritating (rabbit).
Skin contact: Moderately irritating (rabbit).
LD50 Dermal: > 2000 mg/kg (rabbit)
LD50 Oral: 1085 mg/kg (rat)
LC50 Inhalation: 12.35 mg/L 1 hr (rat) - Maximum attainable concentration (zero mortality)
Sensitization: Sensitizer

Chronic Toxicity - Other Ingredient(s)
Effects are expected to be similar to those that are seen with acute toxicity.

Carcinogenicity
Cypermethrin caused an increase in benign lung tumors in mice, but not in rats, and was negative for genotoxicity. EPA has classified zeta-cypermethrin as a possible human carcinogen based on this information, but does not regulate based on its low cancer risk. Not recognized as carcinogenic by Research Agencies (IARC, NTP, OSHA, ACGIH).

Mutagenicity
Cypermethrin: Not genotoxic.

Reproductive toxicity
Cypermethrin: No toxicity to reproduction.

Neurological Effects
Cypermethrin did not cause neurotoxicity in animal experiments.

Developmental Toxicity
Cypermethrin: Not teratogenic in animal studies.
Target Organ Effects

Cypermethrin: Liver enlargement is often noted in laboratory animals that have ingested large doses of during their life span.

12. Ecological information

Marine pollutant
Cypermethrin

Ecotoxicity

Ecotoxicity effects

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

<table>
<thead>
<tr>
<th>Cypermethrin (52315-07-8)</th>
<th>Duration</th>
<th>Species</th>
<th>Value</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cypermethrin</td>
<td>LC50</td>
<td>Aquatic organisms</td>
<td>0.005 - 0.13</td>
<td>µg/L.</td>
</tr>
<tr>
<td></td>
<td>LC50</td>
<td>Fish</td>
<td>0.09 - 3.42</td>
<td>µg/L.</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Bobwhite quail</td>
<td>&gt; 2000</td>
<td>mg/kg</td>
</tr>
<tr>
<td></td>
<td>LD50</td>
<td>Bee</td>
<td>0.023-0.56</td>
<td>µg/bee</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Toxicity to algae</th>
<th>Toxicity to fish</th>
<th>Toxicity to microorganisms</th>
<th>Toxicity to daphnia and other aquatic invertebrates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methyl laurate</td>
<td>1.5 mg/L EC50 96 h</td>
<td>LC50&gt; &gt;1000 mg/L Lepomis macrochirus 96 h</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Environmental Fate

<table>
<thead>
<tr>
<th>Cypermethrin (52315-07-8)</th>
<th>Type of Test</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cypermethrin</td>
<td>Bioconcentration factor (BCF)</td>
<td>443</td>
</tr>
<tr>
<td></td>
<td>Half-life in soil</td>
<td>2 - 4 weeks</td>
</tr>
<tr>
<td></td>
<td>log Pow</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Mobility in soil</td>
<td>Not expected to reach groundwater</td>
</tr>
<tr>
<td></td>
<td>Stability in water</td>
<td>Hydrolysis unstable at pH 9, half life 20-29 days at pH 5 and 7.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methyl laurate</td>
<td>6.02</td>
</tr>
</tbody>
</table>

13. Disposal considerations

Waste disposal methods
Improper disposal of excess pesticide, spray mixture, or rinsate is prohibited. If these wastes cannot be disposed of by use according to label instructions, contact appropriate disposal authorities for guidance.

Contaminated packaging
Containers must be disposed of in accordance with local, state and federal regulations. Refer to the product label for container disposal instructions.

14. Transport information

DOT
Not regulated for transportation if shipped in Non Bulk packaging. The classification below pertains to the shipment in Bulk packaging.

Packaging Type
Bulk.
**CYNOFF® EC INSECTICIDE**

**Proper shipping name**  
Enviornmentally hazardous substance, liquid, n.o.s.

**Hazard Class**  
9

**UN/ID No**  
UN3082

**Packing group**  
III

**Marine pollutant**  
Cypermethrin

**Description**  
UN3082, Environmentally hazardous substance, liquid, toxic (Cypermethrin), 9, PG III, Marine Pollutant

**Additional information**  
When shipped in BULK this product is classified as a Marine Pollutant.

**TDG**

Classification below is only applicable when shipped by vessel and is not applicable when shipped by road or rail only.

**Proper shipping name**  
Enviornmentally hazardous substance, liquid, n.o.s.

**Hazard Class**  
9

**UN/ID No**  
UN3082

**Packing group**  
III

**Marine pollutant**  
Cypermethrin

**Description**  
UN3082, Environmentally hazardous substance, liquid, n.o.s. (Cypermethrin), 9, PG III, Marine Pollutant

**ICAO/IATA**

**UN/ID No**  
UN3082

**Proper shipping name**  
Enviornmentally hazardous substance, liquid, n.o.s.

**Hazard Class**  
9

**UN/ID No**  
UN3082

**Packing group**  
III

**Marine pollutant**  
Cypermethrin

**Description**  
UN3082, Environmentally hazardous substance, liquid, n.o.s. (Cypermethrin), 9, PG III, Marine Pollutant

**IMDG/IMO**

**Proper shipping name**  
Enviornmentally hazardous substance, liquid, n.o.s.

**Hazard Class**  
9

**UN/ID No**  
UN3082

**Packing group**  
III

**EmS No.**  
F-A, S-F

**Marine pollutant**  
Cypermethrin

**Description**  
UN3082, Environmentally hazardous substance, liquid, n.o.s. (Cypermethrin), 9, PG III, Marine Pollutant

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**15. Regulatory information**

**U.S. Federal Regulations**

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

**SARA 311/312 Hazard Categories**

Acute Health Hazard  
yes

Chronic Health Hazard  
yes

Fire Hazard  
no

Sudden Release of Pressure Hazard  
no

Reactive Hazard  
no

**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.
International Regulations

Mexico - Grade  
Slight risk, Grade 1

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

WHMIS Hazard Class  
D2B  Toxic materials

16. Other information

Revision Date: 2012-02-10
Reason for revision: (M)SDS sections updated.

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End of Material Safety Data Sheet