Material Safety Data Sheet
MUSTANG™ INSECTICIDE

SDS #: 1495-A
Revision Date: 2012-03-25
Version 1

This MSDS has been prepared to meet U.S. OSHA Hazard Communication Standard 29 CFR 1910.1200 and Canada’s Workplace Hazardous Materials Information System (WHMIS) requirements.

### 1. PRODUCT AND COMPANY IDENTIFICATION

<table>
<thead>
<tr>
<th>Product name</th>
<th>MUSTANG™ INSECTICIDE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formula code</td>
<td>1495</td>
</tr>
<tr>
<td>Active Ingredient(s)</td>
<td>Zeta-cypermethrin (4s)</td>
</tr>
<tr>
<td>Alternate Commercial Name</td>
<td>Mustang 1.5 EW</td>
</tr>
<tr>
<td>Synonyms</td>
<td>FMC 56701; A mixture of the stereoisomers (S)-α-cyano-3-phenoxybenzyl (1RS,3RS;1RS,3SR)-3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropanecarboxylate where the ratio of the (S);(1RS,3RS) isomeric pair to the (S); (1RS,3SR) isomeric pair lies in the ratio range 45–55 to 55–45; (S)-cyano(3-phenoxyphenyl)methyl (±)-cis-trans-3-(2,2-dichloroethenyl)-2,2-dimethylcyclopropanecarboxylate</td>
</tr>
<tr>
<td>Chemical Family</td>
<td>Pyrethroid Pesticide</td>
</tr>
<tr>
<td>Recommended use</td>
<td>Insecticide</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>FMC Corporation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural Products Group</td>
<td></td>
</tr>
<tr>
<td>1735 Market Street</td>
<td></td>
</tr>
<tr>
<td>Philadelphia, PA 19103</td>
<td></td>
</tr>
<tr>
<td>Medical Emergencies:</td>
<td>(800) 331-3148 (U.S.A. &amp; Canada)</td>
</tr>
<tr>
<td>Emergency telephone number</td>
<td>+1 (651) 632-6793 (All Other Countries - Collect)</td>
</tr>
<tr>
<td>For leak, fire, spill or accident emergencies, call:</td>
<td></td>
</tr>
<tr>
<td>Phone: (215) 299-6000</td>
<td>+1 800 / 424 9300 (CHEMTREC - U.S.A.)</td>
</tr>
<tr>
<td>E-Mail: <a href="mailto:msdsinfo@fmc.com">msdsinfo@fmc.com</a></td>
<td>+1 703 / 527 3887 (CHEMTREC - Collect - All Other Countries)</td>
</tr>
</tbody>
</table>

### 2. Hazards identification

| Appearance | white liquid |
| Physical state | liquid |
| Odor | Sharp Acrid |

**Physical or Chemical Hazards**

**Potential health effects**

**Acute effects**

| Eyes | May cause slight irritation. |
| Skin | Substance may cause slight skin irritation. May cause sensitization by skin contact. |
| Inhalation | May cause irritation of respiratory tract. May cause additional effects as listed under “Ingestion”. |
| Ingestion | Toxic if swallowed. May cause central nervous system depression. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. |
MUSTANG™ INSECTICIDE

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>Zeta-cypermethrin</td>
<td>52315-07-8</td>
<td>17.1</td>
</tr>
<tr>
<td>Propylene glycol</td>
<td>57-55-6</td>
<td>5-10</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 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: No information available.

Sensitivity to Mechanical Impact: not applicable

Sensitivity to Static Discharge: not applicable

Suitable extinguishing media: Foam, Carbon dioxide (CO₂), Dry chemical, Soft stream or water fog only if necessary.

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.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>British Columbia</th>
<th>Quebec</th>
<th>Ontario TWAEV</th>
<th>Alberta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propylene glycol</td>
<td>57-55-6</td>
<td></td>
<td>TWA: 10 mg/m³ TWA: 50 ppm TWA: 155 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

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 facepiece respirator (N95, R95, or P95) which is approved for pesticides (U.S. NIOSH/MSHA, EU CEN or comparable certification organization).

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
white liquid

Color
white

Physical state
liquid

Odor
Sharp Acrid
10. Stability and reactivity

Stability

Stable

Conditions to avoid

Heat, flames and sparks.

Hazardous decomposition products

Carbon oxides, Hydrogen cyanide, Hydrogen chloride, Chlorine.

Hazardous polymerization

Hazardous polymerization does not occur

11. Toxicological information

Acute Toxicity

Signs of toxicity in laboratory animals included tremors, tonic - clonic convulsions, loss of muscle control, rales, bloody oral discharge, hypersensitivity to touch and ataxia.

Eye contact

Slightly or non-irritating (rabbit).

Skin contact

Slightly or non-irritating (rabbit).

LD50 Dermal

> 2,000 mg/kg (rabbit)

LD50 Oral

234 mg/kg (rat)

LC50 Inhalation:

> 0.89 mg/L (4-hr) (rat)

Sensitization

Sensitizer

Chronic Toxicity - Other Ingredient(s)

Chronic Toxicity

Effects are expected to be similar to those that are seen with acute toxicity. Avoid repeated exposure. Prolonged exposure may cause chronic effects.

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

Zeta-cypermethrin: Not genotoxic.

Reproductive toxicity

Zeta-cypermethrin: No toxicity to reproduction.

Neurological Effects

Cypermethrin did not cause neurotoxicity in animal experiments.
Developmental Toxicity

Zeta-cypermethrin: Not teratogenic in animal studies.

12. Ecological information

Marine pollutant
Zeta-cypermethrin

Ecotoxicity

<table>
<thead>
<tr>
<th>Active Ingredient(s)</th>
<th>Duration</th>
<th>Species</th>
<th>Value</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zeta-cypermethrin</td>
<td>LC50</td>
<td>Aquatic organisms</td>
<td>0.005 - 0.15</td>
<td>µg/L</td>
</tr>
<tr>
<td></td>
<td>LC50</td>
<td>Fish</td>
<td>0.07 - 2.37</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>0.0014 - 0.043</td>
<td>µg/bee</td>
</tr>
</tbody>
</table>

Chemical Name | Toxicity to algae | Toxicity to fish | Toxicity to microorganisms | Toxicity to daphnia and other aquatic invertebrates |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Propylene glycol</td>
<td>19000 mg/L EC50 96 h (Pseudokirchneriella subcapitata)</td>
<td>LC50 51600 mg/L Oncorhynchus mykiss 96 h LC50 41 - 47 mL/L Oncorhynchus mykiss 96 h LC50 51400 mg/L Pimephales promelas 96 h LC50 710 mg/L Pimephales promelas 96 h</td>
<td></td>
<td>EC50 &gt; &gt;10000 mg/L 24 h EC50 &gt; &gt;1000 mg/L 48 h</td>
</tr>
</tbody>
</table>

Environmental Fate

<table>
<thead>
<tr>
<th>Active Ingredient(s)</th>
<th>Type of Test</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zeta-cypermethrin</td>
<td>Bioconcentration factor (BCF), Bluefill sunfish (Lepomis macrochirus)</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>

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

Packaging Type | Bulk, Non-Bulk
Proper shipping name | Pyrethroid pesticide, liquid, toxic
Hazard Class: 6.1  
UN/ID No: UN3352  
Packing group: III  
Marine pollutant: Zeta-cypermethrin  
Description: UN3352, Pyrethroid pesticide, liquid, toxic (Zeta-cypermethrin (4s)), 6.1, PG III, Marine Pollutant  
Additional information: Marine Pollutant mark is applicable to BULK packages only.

TDG  
Proper shipping name: Pyrethroid pesticide, liquid, toxic  
Hazard Class: 6.1  
UN/ID No: UN3352  
Packing group: III  
Marine pollutant: Zeta-cypermethrin  
Description: UN3352, Pyrethroid pesticide, liquid, toxic (Zeta-cypermethrin (4s)), 6.1, PG III, Marine Pollutant

ICAO/IATA  
UN/ID No: UN3352  
Proper shipping name: Pyrethroid pesticide, liquid, toxic  
Hazard Class: 6.1  
Packing group: III  
Marine pollutant: Zeta-cypermethrin  
Description: UN3352, Pyrethroid pesticide, liquid, toxic (Zeta-cypermethrin (4s)), 6.1, PG III, Marine Pollutant

IMDG/IMO  
Proper shipping name: Pyrethroid pesticide, liquid, toxic  
Hazard Class: 6.1  
UN/ID No: UN3352  
Packing group: III  
EmS No.: F-A, S-A  
Marine pollutant: Zeta-cypermethrin  
Description: UN3352, Pyrethroid pesticide, liquid, toxic (Zeta-cypermethrin (4s)), 6.1, PG III, Marine Pollutant

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
Moderate risk, Grade 2

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
D1B  Toxic materials
D2B  Toxic materials

16. Other information

Revision Date: 2012-03-25
Reason for revision: (M)SDS sections updated.

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End of Material Safety Data Sheet