SAFETY DATA SHEET
MUSTANG® INSECTICIDE

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name MUSTANG® INSECTICIDE

Other means of identification

Product Code(s) 1495-A

Synonyms 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

Active Ingredient(s) Zeta-cypermethrin (4s)

Chemical Family Pyrethroid Pesticide

Alternate Commercial Name Mustang 1.5 EW

Recommended use of the chemical and restrictions on use

Recommended Use: Insecticide

Restrictions on Use: Use as recommended by the label

Manufacturer Address FMC Corporation
1735 Market Street
Philadelphia, PA 19103
(215) 299-6000 (General Information)
msdsinfo@fmc.com (E-Mail General Information)

Emergency telephone number

Medical Emergencies:
1 800 / 331-3148 (PROSAR - U.S.A. & Canada)
1 651 / 632-6793 (PROSAR - All Other Countries - Collect)
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

Classification

OSHA Regulatory Status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

<table>
<thead>
<tr>
<th>Acute toxicity - Oral</th>
<th>Category 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity - Inhalation (Dusts/Mists)</td>
<td>Category 3</td>
</tr>
</tbody>
</table>
GHS Label elements, including precautionary statements

**EMERGENCY OVERVIEW**

**Precautionary Statements - Prevention**
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P271 - Use only outdoors or in a well-ventilated area

**Precautionary Statements - Response**
P308 + P311 - IF exposed or concerned: Call a POISON CENTER or doctor
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P311 - Call a POISON CENTER or doctor
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor
P330 - Rinse mouth

**Precautionary Statements - Storage**
P405 - Store locked up
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

**Precautionary Statements - Disposal**
P501 - Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**
No hazards not otherwise classified were identified.

**Other Information**
Very toxic to aquatic life with long lasting effects

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Chemical Family**
Pyrethroid Pesticide.

<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>

Synonyms are provided in Section 1.
## 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 further treatment advice.

**Inhalation**
Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably 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 or give anything by mouth to an unconscious person. Do not give anything by mouth to an unconscious person.

**Most important symptoms and effects, both acute and delayed**
Central nervous system effects.

**Indication of immediate medical attention and special treatment needed, if necessary**
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

**Suitable Extinguishing Media**
Foam, Carbon dioxide (CO$_2$), Dry chemical, Soft stream or water fog only if necessary.

**Specific Hazards Arising from the Chemical**
Hazardous Combustion Products
Carbon oxides (COx), Hydrogen cyanide, Hydrogen chloride, Chlorine.

**Explosion data**
Sensitivity to Mechanical Impact
Not sensitive.

Sensitivity to Static Discharge
Not sensitive.

**Protective equipment and precautions for firefighters**
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## 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.

**Other**
For further clean-up instructions, call FMC Emergency Hotline number listed in Section 1 “Product and Company Identification” above.

**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.

## 7. HANDLING AND STORAGE

**Handling**
Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal.
8. EXPOSURE CONTROLS/PERSOAL PROTECTION

Control parameters

<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>-</td>
<td>-</td>
<td>TWA: 10 mg/m³ (aerosol only)</td>
<td>-</td>
</tr>
<tr>
<td>57-55-6</td>
<td></td>
<td></td>
<td>TWA: 50 ppm (aerosol and vapor)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>TWA: 155 mg/m³ (aerosol and vapor)</td>
<td></td>
</tr>
</tbody>
</table>

Appropriate engineering 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.

Individual protection measures, such as personal protective equipment

Eye/face Protection

For dust, splash, mist or spray exposure, wear chemical protective goggles.

Skin and Body Protection

Wear long-sleeved shirt, long pants, socks, and shoes.

Hand Protection

Protective gloves

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).

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.

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Appearance</th>
<th>White, liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>White</td>
</tr>
<tr>
<td>Odor</td>
<td>Sharp acrid</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>pH</td>
<td>4.4 - 4.5</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>No information available</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>
Evaporation Rate: No information available
Flammability (solid, gas): No information available
Flammability Limit in Air:
  Upper flammability limit: No information available
  Lower flammability limit: No information available
Vapor pressure: No information available
Vapor density: No information available
Density: 8.66 lb/gal
Specific gravity: 1.04
Water solubility: Emulsifies
Solubility in other solvents: No information available
Partition coefficient: No information available
Autoignition temperature: No information available
Decomposition temperature: No information available
Viscosity, kinematic: No information available
Viscosity, dynamic: No information available
Explosive properties: No information available
Oxidizing properties: No information available
Molecular weight: No information available
Bulk density: No information available

10. STABILITY AND REACTIVITY

Reactivity: None under normal use conditions
Chemical Stability: Stable under recommended storage conditions.
Possibility of Hazardous Reactions: None under normal processing.
Hazardous polymerization: Hazardous polymerization does not occur.
Conditions to avoid: Heat, flames and sparks.
Incompatible materials: None known.
Hazardous Decomposition Products: Carbon oxides (COx), Hydrogen cyanide, Hydrogen chloride, Chlorine.

11. TOXICOLOGICAL INFORMATION

Product Information

<table>
<thead>
<tr>
<th>Test</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 Oral</td>
<td>234 mg/kg (rat)</td>
</tr>
<tr>
<td>LD50 Dermal</td>
<td>&gt; 2,000 mg/kg (rabbit)</td>
</tr>
<tr>
<td>LC50 Inhalation</td>
<td>&gt; 0.89 mg/L (4-hr) (rat)</td>
</tr>
</tbody>
</table>

Serious eye damage/eye irritation: Mildly irritating (rabbit).
Skin corrosion/irritation: Slightly or non-irritating (rabbit).
Sensitization: Sensitizer

Information on toxicological effects

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

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic toxicity: Zeta-cypermethrin: Long-term exposure caused neurotoxicity (body tremors, decreased motor activity), decreased body weight and increased liver weight.
Mutagenicity: Zeta-cypermethrin: Not genotoxic in laboratory studies
Carcinogenicity: Cypermethrin caused an increase in benign lung tumors in mice, but not in rats. EPA has classified cypermethrin as a possible human carcinogen based on this information, but does not regulate based on its low cancer risk.
Neurological effects  
Zeta-cypermethrin: Causes neurotoxicity (tremors and decreased motor activity) following acute, subchronic or chronic exposure.

Reproductive toxicity  
Zeta-cypermethrin: No toxicity to reproduction in animal studies.

Developmental toxicity  
Zeta-cypermethrin: Not teratogenic in animal studies.

STOT - single exposure  
May cause respiratory irritation. See listed target organs below.

STOT - repeated exposure  
May cause damage to organs through prolonged or repeated exposure. See listed target organs below.

Target organ effects  
Zeta-cypermethrin: Central Nervous System (CNS), blood.

Neurological effects  
Zeta-cypermethrin: Causes neurotoxicity (tremors and decreased motor activity) following acute, subchronic or chronic exposure.

Aspiration hazard  
No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

<table>
<thead>
<tr>
<th>Zeta-cypermethrin (52315-07-8)</th>
<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>48 h EC50</td>
<td>Crustacea</td>
<td>0.14</td>
<td>µg/L</td>
<td></td>
</tr>
<tr>
<td></td>
<td>96 h LC50</td>
<td>Fish</td>
<td>0.69</td>
<td>µg/L</td>
<td></td>
</tr>
<tr>
<td></td>
<td>72 h EC50</td>
<td>Algae</td>
<td>&gt;1</td>
<td>mg/L</td>
<td></td>
</tr>
<tr>
<td></td>
<td>21 d NOEC</td>
<td>Crustacea</td>
<td>0.01</td>
<td>µg/L</td>
<td></td>
</tr>
<tr>
<td></td>
<td>21 d NOEC</td>
<td>Fish</td>
<td>0.015</td>
<td>µg/L</td>
<td></td>
</tr>
</tbody>
</table>

Persistence and degradability  

Bioaccumulation  
Zeta-cypermethrin: The substance does not have a potential for bioconcentration.

Mobility  
Zeta-cypermethrin: Immobile, Not expected to reach groundwater.

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

<table>
<thead>
<tr>
<th>UN/ID no</th>
<th>UN3352</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proper Shipping Name</td>
<td>Pyrethroid pesticide, liquid, toxic</td>
</tr>
<tr>
<td>Hazard class</td>
<td>6.1</td>
</tr>
<tr>
<td>Packing Group</td>
<td>III</td>
</tr>
<tr>
<td>Marine Pollutant</td>
<td>Zeta-cypermethrin</td>
</tr>
<tr>
<td>Description</td>
<td>UN3352, Pyrethroid pesticide, liquid, toxic, 6.1, PG III, Marine Pollutant</td>
</tr>
</tbody>
</table>

TDG  
The "Marine Pollutant" marking is only applicable when shipped by vessel, and is not applicable when shipped only by road or rail in Canada.

<table>
<thead>
<tr>
<th>UN/ID no</th>
<th>UN3352</th>
</tr>
</thead>
<tbody>
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<td>Proper Shipping Name</td>
<td>Pyrethroid pesticide, liquid, toxic</td>
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<td>III</td>
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<tr>
<td>Marine Pollutant</td>
<td>Zeta-cypermethrin</td>
</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute health hazard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chronic health hazard</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Fire hazard</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Sudden release of pressure hazard</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>

Clean Water Act
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

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.

FIFRA Information
This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

WARNING
This pesticide is extremely toxic to fish, aquatic invertebrates, oysters and shrimp.

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.
U.S. State Right-to-Know Regulations

This product does not contain any substances regulated by state right-to-know regulations

International Inventories

<table>
<thead>
<tr>
<th>Component</th>
<th>TSCA (United States)</th>
<th>DSL (Canada)</th>
<th>EINECS/ELINCS (Europe)</th>
<th>ENCS (Japan)</th>
<th>China (IECSC)</th>
<th>KECL (Korea)</th>
<th>PICCS (Philippines)</th>
<th>AICS (Australia)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zeta-cypermethrin</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>52315-07-8 (17.1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Propylene glycol</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>57-55-6 (5-10)</td>
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</tr>
</tbody>
</table>

Mexico - Grade Moderate risk, Grade 2

WHMIS Hazard Class D1B - Toxic materials
D2B - Toxic materials

16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Instability</th>
<th>Special Hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HMIS</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Physical hazard</th>
<th>Personal Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2*</td>
<td>1</td>
<td>0</td>
<td>X</td>
</tr>
</tbody>
</table>

Revision date: 2015-04-20
Revision note (M)SDS sections updated

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Prepared By: FMC Corporation

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End of Safety Data Sheet