

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

Product name	MUSTANG™ INSECTICIDE
Formula code	1495
Active Ingredient(s)	Zeta-cypermethrin (4s)
Alternate Commercial Name	Mustang 1.5 EW
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 (\pm)-cis-trans-3-(2,2-dichloroethenyl)-2,2-dimethylcyclopropanecarboxylate
Chemical Family	Pyrethroid Pesticide
Recommended use	Insecticide
<u>Manufacturer</u>	<u>Emergency telephone number</u>
FMC Corporation Agricultural Products Group 1735 Market Street Philadelphia, PA 19103 General Information: Phone: (215) 299-6000 E-Mail: msdsinfo@fmc.com	Medical Emergencies: (800) 331-3148 (U.S.A. & Canada) +1 (651) 632-6793 (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

<u>Appearance</u>	white liquid
<u>Physical state</u>	liquid
<u>Odor</u>	Sharp Acrid
<u>Physical or Chemical Hazards</u>	.
<u>Potential health effects</u>	
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.

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

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

3. Composition/information on ingredients

Hazardous ingredients

Chemical Name	CAS-No	Weight %
Zeta-cypermethrin	52315-07-8	17.1
Propylene glycol	57-55-6	5-10

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.

Chemical Name	British Columbia	Quebec	Ontario TWAEV	Alberta
Propylene glycol 57-55-6			TWA: 10 mg/m ³ TWA: 50 ppm TWA: 155 mg/m ³	

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

pH	4.4 - 4.5 @ 25 °C
Melting Point/Range	No information available.
Freezing point	No information available
Boiling Point/Range	not applicable
Flash Point	No information available.
Evaporation rate	not applicable
Autoignition Temperature	not applicable
Vapor pressure	No information available
Vapor density	No information available
Density	8.66 lb/gal
Specific Gravity	1.04
Water solubility	Emulsifies
Percent volatile	No information available
Partition coefficient:	not applicable
Viscosity	No information available
Oxidizing properties	not applicable

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

Zeta-cypermethrin (52315-07-8)

Active Ingredient(s)	Duration	Species	Value	Units
Zeta-cypermethrin	LC50	Aquatic organisms	0.005 - 0.15	µg/L
	LC50	Fish	0.07 - 2.37	µg/L
	LD50 Oral	Bobwhite quail	>2000	mg/kg
	LD50	Bee	0.0014 - 0.043	µg/bee

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Propylene glycol	19000 mg/L EC50 96 h (Pseudokirchneriella subcapitata)	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		EC50 > >10000 mg/L 24 h EC50 > >1000 mg/L 48 h

Environmental Fate

Zeta-cypermethrin (52315-07-8)

Active Ingredient(s)	Type of Test	Result
Zeta-cypermethrin	Bioconcentration factor (BCF), Bluefill sunfish (Lepomis macrochirus)	443
	Half-life in soil	2 - 4 weeks
	log Pow	5
	Mobility in soil	Not expected to reach groundwater
	Stability in water	Hydrolysis unstable at pH 9, half life 20-29 days at pH 5 and 7.

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

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

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.

Disclaimer

FMC Corporation believes that the information and recommendations contained herein (including data and statements) are accurate as of the date hereof. NO WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE, WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, IS MADE CONCERNING THE INFORMATION PROVIDED HEREIN. The information provided herein relates only to the specified product designated and may not be applicable where such product is used in combination with any other materials or in any process. Use of this product is regulated by the U.S. Environmental Protection Agency (EPA). It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Further, since the conditions and methods of use are beyond the control of FMC Corporation, FMC corporation expressly disclaims any and all liability as to any results obtained or arising from any use of the products or reliance on such information.

Prepared By

FMC Corporation
FMC Logo - Trademark of FMC Corporation
© 2012 FMC Corporation. All Rights Reserved

End of Material Safety Data Sheet