

# SAFETY DATA SHEET

Hero® EW Insecticide

SDS # : 6352-A

Revision date: 2016-05-26

Format: NA

Version 1.03



## 1. PRODUCT AND COMPANY IDENTIFICATION

### Product Identifier

**Product Name** Hero® EW Insecticide

### Other means of identification

**Product Code(s)** 6352-A

**Synonyms**

BIFENTHRIN: (2-methyl[1,1'-biphenyl]-3-yl)methyl  
3-(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethylcyclopropanecarboxylate (CAS name);  
2-methylbiphenyl-3-ylmethyl  
(Z)-(1RS)-cis-3-(2-chloro-3,3,3-trifluoroprop-1-enyl)-2,2-dimethylcyclopropanecarboxylate  
(IUPAC name);

ZETA-CYPERMETHRIN: (+/-)-α -cyano(3-phenoxyphenyl)methyl (+/-) cis,  
trans-3-(2,2-dichloroethyl)-2,2-dimethylcyclopropanecarboxylate (CAS name); (RS)- α  
-cyano-3-phenoxybenzyl  
(1RS)-cis-trans-3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropanecarboxylate (IUPAC name)

**Active Ingredient(s)** Bifenthrin, Zeta-cypermethrin

**Chemical Family** Pyrethroid Pesticide

### 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  
2929 Walnut Street  
Philadelphia, PA 19104  
(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)

Acute toxicity - Oral	Category 3
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Carcinogenicity	Category 2
Specific target organ toxicity (single exposure)	Category 1
Specific target organ toxicity (repeated exposure)	Category 1
Aspiration toxicity	Category 1

**GHS Label elements, including precautionary statements**

**EMERGENCY OVERVIEW**

**Danger**

**Hazard Statements**

H301 - Toxic if swallowed  
H304 - May be fatal if swallowed and enters airways  
H332 - Harmful if inhaled  
H351 - Suspected of causing cancer  
H370 - Causes damage to organs  
H372 - Causes damage to organs through prolonged or repeated exposure



**Precautionary Statements - Prevention**

P201 - Obtain special instructions before use  
P202 - Do not handle until all safety precautions have been read and understood  
P281 - Use personal protective equipment as required  
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  
P260 - Do not breathe dust/fume/gas/mist/vapors/spray

**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  
P312 - Call a POISON CENTER or doctor if you feel unwell  
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor  
P331 - Do NOT induce vomiting  
P330 - Rinse mouth

**Precautionary Statements - Storage**

P405 - Store locked up

**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.

Chemical name	CAS-No	Weight %
Bifenthrin	82657-04-3	9.72
Zeta-cypermethrin (F2700)	52315-07-8	3.24
Naphtha (petroleum), heavy aromatic	64742-94-5	10-15
Glycerin	56-81-5	5-10
2-Methylnaphthalene	91-57-6	<6
1-Methylnaphthalene	90-12-0	<4

Synonyms are provided in Section 1.

**4. FIRST AID MEASURES**

<b>Eye Contact</b>	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.
<b>Skin Contact</b>	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.
<b>Inhalation</b>	Move to fresh air. If person is not breathing, call 911 (within the U.S. and Canada) or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.
<b>Ingestion</b>	Immediately call a poison control center or doctor. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give any liquid to the person. Do not induce vomiting or give anything by mouth to an unconscious person.
<b>Most important symptoms and effects, both acute and delayed</b>	Central nervous system effects.
<b>Indication of immediate medical attention and special treatment needed, if necessary</b>	Treatment is symptomatic and supportive. Contains petroleum distillate. Vomiting may cause aspiration pneumonia. This product is a pyrethroid. If large amounts have been ingested, the stomach and intestines should be evacuated. Digestible fats, oils, or alcohol may increase absorption and so should be avoided.

**5. FIRE-FIGHTING MEASURES**

<b>Suitable Extinguishing Media</b>	Foam. Carbon dioxide (CO <sub>2</sub> ). Dry chemical. Water spray or fog.
<b>Specific Hazards Arising from the Chemical</b>	
<b>Hazardous Combustion Products</b>	Carbon oxides (COx), Hydrogen chloride, Hydrogen cyanide, Chlorine.
<b>Explosion data</b>	
<b>Sensitivity to Mechanical Impact</b>	Not sensitive.
<b>Sensitivity to Static Discharge</b>	Not sensitive.
<b>Protective equipment and precautions for firefighters</b>	As in any fire, wear self-contained breathing apparatus and full protective gear. Isolate fire area. Evaluate downwind.

**6. ACCIDENTAL RELEASE MEASURES**

<b>Personal Precautions</b>	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.
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<b>Other</b>	For further clean-up instructions, call FMC Emergency Hotline number listed in Section 1 "Product and Company Identification" above.
<b>Environmental Precautions</b>	See Section 12 for additional Ecological Information.
<b>Methods for Containment</b>	Dike to prevent runoff. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.
<b>Methods for cleaning up</b>	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

<b>Handling</b>	Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal.
<b>Storage</b>	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. Keep/store only in original container.
<b>Incompatible products</b>	None known

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

Chemical name	ACGIH TLV	OSHA PEL	NIOSH	Mexico
Glycerin (56-81-5)	-	TWA: 15 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup>	-	Mexico: TWA 10 mg/m <sup>3</sup>
2-Methylnaphthalene (91-57-6)	TWA: 0.5 ppm	-	-	-
1-Methylnaphthalene (90-12-0)	TWA: 0.5 ppm	-	-	-
Chemical name	British Columbia	Quebec	Ontario TWA EV	Alberta
Glycerin (56-81-5)	TWA: 10 mg/m <sup>3</sup> TWA: 3 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>	-	TWA: 10 mg/m <sup>3</sup>
2-Methylnaphthalene (91-57-6)	TWA: 0.5 ppm Skin	-	TWA: 0.5 ppm  Skin	-
1-Methylnaphthalene (90-12-0)	TWA: 0.5 ppm Skin	-	TWA: 0.5 ppm  Skin	-

### Appropriate engineering controls

<b>Engineering measures</b>	Apply technical measures to comply with the occupational exposure limits. Ensure adequate ventilation, especially in confined areas. When working in confined spaces (tanks, containers, etc.), ensure that there is a supply of air suitable for breathing and wear the recommended equipment.
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### Individual protection measures, such as personal protective equipment

<b>Eye/Face Protection</b>	For dust, splash, mist or spray exposure, wear chemical protective goggles.
<b>Skin and Body Protection</b>	Wear long-sleeved shirt, long pants, socks, and shoes.
<b>Hand Protection</b>	Protective gloves
<b>Respiratory Protection</b>	For dust, splash, mist or spray exposures wear elastomeric full-face or half mask respirator

with appropriate cartridges and/or filters, 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**

Appearance	Off-white Liquid
Physical State	Liquid
Color	Off-white
Odor	Hydrocarbon-like
Odor threshold	No information available
pH	4.2 @ 24.9 °C
Melting point/freezing point	Not applicable
Boiling Point/Range	No information available
Flash point	> 98.89 °C / > 210 °F
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	8.83 lbs/gal (1.058 g/mL)
Specific gravity	No information available
Water solubility	No information available
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 chloride. Hydrogen cyanide. Chlorine.

**11. TOXICOLOGICAL INFORMATION****Product Information**

LD50 Oral	175 mg/kg (rat)
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LD50 Dermal	> 5000 mg/kg (rat)
LC50 Inhalation	> 2.12 mg/L (rat) (4-hr)
Serious eye damage/eye irritation	Mild Irritant.
Skin corrosion/irritation	Moderately irritating (rabbit).
Sensitization	Non-sensitizing

#### Information on toxicological effects

<b>Symptoms</b>	Large doses of bifenthrin ingested by laboratory animals produced signs of toxicity including convulsions, tremors and bloody nasal discharge. Large doses of zeta-cypermethrin, ingested by laboratory animals, may produce signs of toxicity including tremors, incoordination, convulsions, staggered gait, and oral discharge.
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#### Delayed and immediate effects as well as chronic effects from short and long-term exposure

<b>Chronic toxicity</b>	Bifenthrin: Long-term exposure caused neurotoxicity (tremors and impaired gait) in the early exposure in animal studies, but tremors disappeared with continued exposure. Zeta-cypermethrin: Long-term exposure caused neurotoxicity (body tremors, decreased motor activity), decreased body weight and increased liver weight.
<b>Mutagenicity</b>	Bifenthrin, Zeta-cypermethrin: Not genotoxic in laboratory studies.
<b>Carcinogenicity</b>	Bifenthrin: Weak treatment-related response for liver adenocarcinomas and benign bladder tumors (lesion) in male mice. 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.
<b>Neurological effects</b>	Bifenthrin: Causes clinical signs of neurotoxicity (tremors, impaired gait, excessive salivation) following acute or subchronic exposure. Tremors disappeared with continued exposure. Zeta-cypermethrin: Causes neurotoxicity (tremors and decreased motor activity) following acute, subchronic or chronic exposure.
<b>Reproductive toxicity</b>	Bifenthrin, Zeta-cypermethrin: No toxicity to reproduction in animal studies.
<b>Developmental toxicity</b>	Bifenthrin, Zeta-cypermethrin: Not teratogenic in animal studies.
<b>STOT - single exposure</b>	Causes damage to organs. See listed target organs below.
<b>STOT - repeated exposure</b>	Causes damage to organs through prolonged or repeated exposure. See listed target organs below.
<b>Target organ effects</b>	Bifenthrin, Zeta-cypermethrin: Central Nervous System (CNS), blood
<b>Neurological effects</b>	Bifenthrin: Causes clinical signs of neurotoxicity (tremors, impaired gait, excessive salivation) following acute or subchronic exposure. Tremors disappeared with continued exposure. Zeta-cypermethrin: Causes neurotoxicity (tremors and decreased motor activity) following acute, subchronic or chronic exposure.
<b>Aspiration hazard</b>	No information available.

Chemical name	ACGIH	IARC	NTP	OSHA
Zeta-cypermethrin (F2700) 52315-07-8		Group 2A		

ACGIH (American Conference of Governmental Industrial Hygienists)

A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer)

Group 2B - Possibly Carcinogenic to Humans

NTP (National Toxicology Program)

Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

X - Present

## 12. ECOLOGICAL INFORMATION

#### Ecotoxicity

<b>Bifenthrin (82657-04-3)</b>				
Active Ingredient(s)	Duration	Species	Value	Units
Bifenthrin	96 h LC50	Fish	0.1	µg/L
	72 h EC50	Algae	0.822	mg/L

	48 h EC50	Crustacea	0.11	µg/L
	21 d NOEC	Fish	0.012	µg/L
	21 d NOEC	Crustacea	0.0013	µg/L

Zeta-cypermethrin (F2700) (52315-07-8)				
Active Ingredient(s)	Duration	Species	Value	Units
Zeta-cypermethrin	48 h EC50	Crustacea	0.14	µg/L
	96 h LC50	Fish	0.69	µg/L
	72 h EC50	Algae	>1	mg/L
	21 d NOEC	Crustacea	0.01	µg/L
	21 d NOEC	Fish	0.015	µg/L

<b>Persistence and degradability</b>	Bifenthrin: Moderately persistent. Does not readily hydrolyze. Not readily biodegradable. Zeta-cypermethrin: Non-persistent. Readily hydrolyzed. Not readily biodegradable.
<b>Bioaccumulation</b>	Bifenthrin: The substance has a potential for bioconcentration.  Zeta-cypermethrin: The substance does not have a potential for bioconcentration.
<b>Mobility</b>	Bifenthrin, Zeta-cypermethrin: Immobile, Not expected to reach groundwater.

### 13. DISPOSAL CONSIDERATIONS

<b>Waste disposal methods</b>	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.
<b>Contaminated Packaging</b>	Dispose of in accordance with local regulations.

### 14. TRANSPORT INFORMATION

#### DOT

<b>UN/ID no</b>	UN3352
<b>Proper Shipping Name</b>	Pyrethroid pesticide, liquid, toxic
<b>Hazard class</b>	6.1
<b>Packing Group</b>	III
<b>Marine Pollutant</b>	Zeta-cypermethrin F2700 (Bulk Only).
<b>Description</b>	UN3352, Pyrethroid pesticide, liquid, toxic, 6.1, PGIII, Marine Pollutant (Zeta-cypermethrin (F2700))

#### 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.
<b>UN/ID no</b>	UN3352
<b>Hazard class</b>	6.1
<b>Packing Group</b>	III
<b>Marine Pollutant</b>	Bifenthrin. Zeta-cypermethrin.
<b>Description</b>	UN3352, Pyrethroid pesticide, liquid, toxic (Bifenthrin), 6.1, PGIII, Marine Pollutant (Bifenthrin, Zeta-cypermethrin (F2700))

#### ICAO/IATA

<b>UN/ID no</b>	UN3352
<b>Hazard class</b>	6.1
<b>Packing Group</b>	III
<b>Description</b>	UN3352, Pyrethroid pesticide, liquid, toxic (Bifenthrin), 6.1, PGIII, Marine Pollutant (Bifenthrin, Zeta-cypermethrin (F2700))

#### IMDG/IMO

<b>UN/ID no</b>	UN3352
<b>Hazard class</b>	6.1
<b>Packing Group</b>	III

<b>EmS No.</b> <b>Marine Pollutant</b> <b>Description</b>	F-A, S-A Bifenthrin Zeta-cypermethrin UN3352, Pyrethroid pesticide, liquid, toxic (Bifenthrin), 6.1, PGIII, Marine Pollutant (Bifenthrin, Zeta-cypermethrin (F2700))
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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 contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Chemical name	CAS-No	Weight %	SARA 313 - Threshold Values %
Bifenthrin - 82657-04-3	82657-04-3	9.72	1.0

#### **SARA 311/312 Hazard Categories**

<b>Acute health hazard</b>	Yes
<b>Chronic health hazard</b>	Yes
<b>Fire hazard</b>	No
<b>Sudden release of pressure hazard</b>	No
<b>Reactive Hazard</b>	No

#### **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)

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Naphthalene 91-20-3	100 lb	X	X	X

#### **CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
Naphthalene 91-20-3	100 lb 45.4 kg	

#### **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**

*May be fatal if swallowed. Causes moderate eye irritation.*

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

### US State Regulations

#### **California Proposition 65**

This product contains the following Proposition 65 chemicals.

#### **U.S. State Right-to-Know Regulations**



Chemical name	New Jersey	Massachusetts	Pennsylvania
Bifenthrin 82657-04-3	X		
Zeta-cypermethrin (F2700) 52315-07-8		X	
Glycerin 56-81-5	X	X	X
2-Methylnaphthalene 91-57-6	X		
1-Methylnaphthalene 90-12-0	X	X	X

**International Inventories**

Chemical name	TSCA (United States)	DSL (Canada)	EINECS/ELINC S (Europe)	ENCS (Japan)	China (IECSC)	KECL (Korea)	PICCS (Philippines)	AICS (Australia)
Bifenthrin 82657-04-3				X	X	X		
Zeta-cypermethrin (F2700) 52315-07-8			X		X	X	X	X
Naphtha (petroleum), heavy aromatic 64742-94-5	X	X	X	X	X	X	X	X
Glycerin 56-81-5	X	X	X	X	X	X	X	X
2-Methylnaphthalene 91-57-6	X	X	X	X	X		X	X
1-Methylnaphthalene 90-12-0	X	X	X	X	X		X	X

**Mexico - Grade**

Moderate risk, Grade 2

Chemical name	Carcinogen Status	Mexico
Glycerin		Mexico: TWA 10 mg/m <sup>3</sup>

Chemical name	Mexico - Pollutant Release and Transfer Register - Reporting Emissions for Fabrication, Process or Use - Threshold Quantities	Pollutant Release and Transfer Register - Reporting Emissions - Threshold Quantities
Bifenthrin	100 2500 kg/yr	100 kg/yr

**WHMIS Hazard Class**
D1B - Toxic materials  
D2A - Very toxic materials
**16. OTHER INFORMATION**

NFPA	Health Hazards 2	Flammability 1	Instability 0	Special Hazards -
HMIS	Health Hazards 2*	Flammability 1	Physical hazard 0	Personal Protection X

NFPA/HMIS Ratings Legend

\* - Chronic hazard

Revision date:

2016-05-26

Reason for revision: (M)SDS sections updated

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**End of Safety Data Sheet**