

SAFETY DATA SHEET
STEED™ INSECTICIDE

SDS # : 6528-A
Revision date: 2016-05-26
Format: NA
Version 1.03



1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name STEED™ INSECTICIDE

Other means of identification

Product Code(s) 6528-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-dichloroethenyl)-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

Alternate Commercial Name F9043 EC

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 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 3
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
H302 - Harmful if swallowed
H304 - May be fatal if swallowed and enters airways
H331 - Toxic 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
- P311 - Call a POISON CENTER or doctor
- 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
- 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.

Chemical name	CAS-No	Weight %
Bifenthrin	82657-04-3	9.8
Zeta-cypermethrin (F2700)	52315-07-8	8.2
Naphtha (petroleum), heavy aromatic	64742-94-5	50-60
2-Methylnaphthalene	91-57-6	<17
Naphthalene	91-20-3	<8
1-Methylnaphthalene	90-12-0	<7
Petroleum distillates, solvent dewaxed light paraffinic	64742-56-9	5-10
Petroleum distillates, solvent dewaxed heavy paraffinic	64742-65-0	<5

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 (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.
Ingestion	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 Never 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. Contains petroleum distillate. Vomiting may cause aspiration pneumonia.

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	None known
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 See Section 12 for additional Ecological Information.

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.

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. Keep/store only in original container.

Incompatible products None known

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Chemical name	ACGIH TLV	OSHA PEL	NIOSH	Mexico
2-Methylnaphthalene (91-57-6)	TWA: 0.5 ppm	-	-	-
Naphthalene (91-20-3)	TWA: 10 ppm	TWA: 10 ppm TWA: 50 mg/m ³	IDLH: 250 ppm TWA: 10 ppm TWA: 50 mg/m ³ STEL: 15 ppm STEL: 75 mg/m ³	Mexico: TWA 10 ppm Mexico: TWA 50 mg/m ³ Mexico: STEL 15 ppm Mexico: STEL 75 mg/m ³
1-Methylnaphthalene (90-12-0)	TWA: 0.5 ppm	-	-	-
Chemical name	British Columbia	Quebec	Ontario TWAEV	Alberta
2-Methylnaphthalene (91-57-6)	TWA: 0.5 ppm Skin	-	TWA: 0.5 ppm Skin	-
Naphthalene (91-20-3)	TWA: 10 ppm STEL: 15 ppm Skin	TWA: 10 ppm TWA: 52 mg/m ³ STEL: 15 ppm STEL: 79 mg/m ³	TWA: 10 ppm STEL: 15 ppm Skin	TWA: 10 ppm TWA: 52 mg/m ³ STEL: 15 ppm STEL: 79 mg/m ³ Skin
1-Methylnaphthalene (90-12-0)	TWA: 0.5 ppm Skin	-	TWA: 0.5 ppm Skin	-

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, shoes, chemical-resistant gloves and headgear.
Hand Protection	Protective gloves
Respiratory Protection	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	Amber Liquid
Physical State	Liquid
Color	Amber
Odor	Hydrocarbon-like
Odor threshold	No information available
pH	4.2 (1% solution) at 24°C (75.2°F)
Melting point/freezing point	Not applicable
Boiling Point/Range	No information available
Flash point	103 °C / 217 °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	No information available
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	14.06 mPa s
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 fluoride.

11. TOXICOLOGICAL INFORMATION

Product Information

LD50 Oral 310.2 mg/kg (rat)
 LD50 Dermal > 5,000 mg/kg (rat)
 LC50 Inhalation 0.51 -2.04 mg/L 4 hr (rat)

Serious eye damage/eye irritation Mildly irritating.
 Skin corrosion/irritation Moderately irritating (rabbit).
 Sensitization Non-sensitizing

Information on toxicological effects

Symptoms Large doses of zeta-cypermethrin, ingested by laboratory animals, may produce signs of toxicity including tremors, incoordination, convulsions, staggered gait, and oral discharge. Large doses of bifenthrin ingested by laboratory animals produced signs of toxicity including convulsions, tremors and bloody nasal discharge.

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

Chronic toxicity 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.

Mutagenicity Bifenthrin, Zeta-cypermethrin: Not genotoxic in laboratory studies.
Carcinogenicity 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. There was no evidence of carcinogenic activity of naphthalene in male mice, but there was some evidence of carcinogenic activity in female mice and clear evidence of carcinogenic activity in male and female rats in 2-year inhalation studies conducted by the National Toxicology Program (NTP).

Neurological effects 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.

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

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

STOT - single exposure Causes damage to organs: See listed target organs below.

STOT - repeated exposure Causes damage to organs through prolonged or repeated exposure: See listed target organs below.

Target organ effects Central Nervous System (CNS),

Neurological effects 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.

Aspiration hazard Potential for aspiration if swallowed.

Chemical name	ACGIH	IARC	NTP	OSHA
Zeta-cypermethrin (F2700) 52315-07-8		Group 2A		
Naphthalene 91-20-3	A3	Group 2B	Reasonably Anticipated	X
Petroleum distillates, solvent dewaxed light paraffinic 64742-56-9	A2	Group 1	Known	
Petroleum distillates, solvent dewaxed heavy paraffinic 64742-65-0	A2	Group 1	Known	

12. ECOLOGICAL INFORMATION**Ecotoxicity**

Bifenthrin (82657-04-3)				
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

Persistence and degradability Bifenthrin: Moderately persistent. Does not readily hydrolyze. Not readily biodegradable. Zeta-cypermethrin: Non-persistent. Readily hydrolyzed. Not readily biodegradable.

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

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

UN/ID no	UN3082
Proper Shipping Name	Environmentally hazardous substance, liquid, n.o.s.
Hazard class	9
Packing Group	III
Reportable Quantity (RQ)	Naphthalene: RQ kg= 702.07
Marine Pollutant	Zeta-cypermethrin.
Description	UN3082, Environmentally hazardous substance, liquid, n.o.s., 9, III, Marine Pollutant (Zeta-Cypermethrin)

TDG	
UN/ID no	UN3082
Proper Shipping Name	Environmentally hazardous substance, liquid, n.o.s.
Hazard class	9
Packing Group	III
Marine Pollutant	Bifenthrin, Zeta-cypermethrin.

Description UN3082, Environmentally hazardous substance, liquid, n.o.s., 9, III, Marine Pollutant (Bifenthrin, Zeta-Cypermethrin)

ICAO/IATA

UN/ID no UN3082
Proper Shipping Name Environmentally hazardous substance, liquid, n.o.s.
Hazard class 9
Packing Group III
Description UN3082, Environmentally hazardous substance, liquid, n.o.s., 9, III, Marine Pollutant (Bifenthrin, Zeta-Cypermethrin)

IMDG/IMO

UN/ID no UN3082
Proper Shipping Name Environmentally hazardous substance, liquid, n.o.s.
Hazard class 9
Packing Group III
EmS No. F-A, S-F
Marine Pollutant Bifenthrin, Zeta-cypermethrin
Description UN3082, Environmentally hazardous substance, liquid, n.o.s., 9, III, Marine Pollutant (Bifenthrin, Zeta-Cypermethrin)

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	9.8	1.0
Naphthalene - 91-20-3	91-20-3	<8	0.1

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

Clean Water Act

This product contains the following substances which are regulated 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
Acetic Acid 64-19-7	5000 lb			X
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
Acetic Acid 64-19-7	5000 lb 2270 kg	
Naphthalene 91-20-3	100 lb 45.4 kg	

STEED™ INSECTICIDE

SDS # : 6528-A
Revision date: 2016-05-26
Version 1.03

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. Harmful if inhaled or absorbed through the skin. 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.

Chemical name	California Prop. 65
Naphthalene - 91-20-3	Carcinogen

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	
2-Methylnaphthalene 91-57-6	X		
Naphthalene 91-20-3	X	X	X
1-Methylnaphthalene 90-12-0	X	X	X
Petroleum distillates, solvent dewaxed light paraffinic 64742-56-9		X	

International Inventories

Chemical name	TSCA (United States)	DSL (Canada)	EINECS/ELINCS (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
2-Methylnaphthalene 91-57-6	X	X	X	X	X		X	X
Naphthalene 91-20-3	X	X	X	X	X	X	X	X
1-Methylnaphthalene 90-12-0	X	X	X	X	X		X	X
Petroleum distillates, solvent dewaxed light paraffinic 64742-56-9	X	X	X		X	X	X	X
Petroleum distillates,	X	X	X		X	X	X	X

solvent dewaxed heavy paraffinic 64742-65-0								
---	--	--	--	--	--	--	--	--

Mexico - Grade Moderate risk, Grade 2

Chemical name	Carcinogen Status	Mexico
Naphthalene		Mexico: TWA 10 ppm Mexico: TWA 50 mg/m ³ Mexico: STEL 15 ppm Mexico: STEL 75 mg/m ³

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
 D2B - Toxic materials



16. OTHER INFORMATION

NFPA	Health Hazards 3	Flammability 1	Instability 0	Special Hazards -
HMIS	Health Hazards 2*	Flammability 1	Physical hazard 0	Personal Protection X

*Indicates a chronic health hazard.

Revision date: 2016-05-26
 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 Logo - Trademark of FMC Corporation

© 2016 FMC Corporation. All Rights Reserved.

End of Safety Data Sheet