

SAFETY DATA SHEET
Brigadier® Insecticide

SDS # : 6369-A
Revision date: 2016-05-26
Format: NA
Version 1.03



1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name Brigadier® Insecticide

Other means of identification

Product Code(s) 6369-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);

IMIDACLOPRID: (E)-1-(6-chloro-3-pyridylmethyl)-N-nitroimidazolidin-2-ylideneamine

Active Ingredient(s) Bifenthrin, Imidacloprid

Chemical Family Pyrethroid Pesticide, Neonicotinoid

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
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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

GHS Label elements, including precautionary statements

EMERGENCY OVERVIEW

Danger

Hazard Statements
 H301 - Toxic if swallowed
 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
- 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, Neonicotinoid.

Chemical name	CAS-No	Weight %
Imidacloprid	138261-41-3	11.3
Bifenthrin	82657-04-3	11.3
Glycerin	56-81-5	5-10

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	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.
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	None known.
Hazardous Combustion Products	Carbon oxides (COx), Hydrogen chloride, Hydrogen fluoride.
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 and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Isolate and post spill area. 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.
Methods for cleaning up	Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. 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 Strong acids Strong bases Strong oxidizing agents

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Chemical name	ACGIH TLV	OSHA PEL	NIOSH	Mexico
Glycerin (56-81-5)	-	TWA: 15 mg/m ³ TWA: 5 mg/m ³	-	Mexico: TWA 10 mg/m ³
Chemical name	British Columbia	Quebec	Ontario TWAEV	Alberta
Glycerin (56-81-5)	TWA: 10 mg/m ³ TWA: 3 mg/m ³	TWA: 10 mg/m ³	-	TWA: 10 mg/m ³

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 mask.

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance White to Tan Liquid

Physical State Liquid

Color White to Tan

Odor No information available

Odor threshold No information available

pH 7.0

Melting point/freezing point Not applicable

Boiling Point/Range No information available

Flash point > 100 °C / > 200 °F (estimated)

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	9.04 lb/gal
Specific gravity	No information available
Water solubility	Dispersible in water
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	Excessive heat
Incompatible materials	Strong acids. Strong bases. Strong oxidizing agents.
Hazardous Decomposition Products	Carbon oxides (COx), Hydrogen chloride, Hydrogen fluoride,

11. TOXICOLOGICAL INFORMATION

Product Information

LD50 Oral	175 mg/kg (rat)
LD50 Dermal	> 5,000 mg/kg (rabbit)
LC50 Inhalation	> 2.32 mg/L 4 hr (rat)
Serious eye damage/eye irritation	Non-irritating.
Skin corrosion/irritation	Slightly or non-irritating (rabbit).
Sensitization	Non-sensitizing

Information on toxicological effects

Symptoms	Large doses of bifenthrin ingested by laboratory animals produced signs of toxicity including convulsions, tremors and bloody nasal discharge.
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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.
Mutagenicity	Imidacloprid, Bifenthrin: Not genotoxic in laboratory studies.
Carcinogenicity	Bifenthrin: Weak treatment-related response for liver adenocarcinomas and benign bladder tumors (lesion) in male mice. Imidacloprid: No evidence of carcinogenicity from animal studies.
Neurological effects	Bifenthrin: Causes clinical signs of neurotoxicity (tremors, impaired gait, excessive salivation) following acute or subchronic exposure. Tremors disappeared with continued exposure. Imidacloprid: Slight neurobehavioral effects at highest dose.
Reproductive toxicity	Bifenthrin: No toxicity to reproduction in animal studies.
Developmental toxicity	Imidacloprid, Bifenthrin: 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	Bifenthrin: Central Nervous System. Imidacloprid: Thyroid, liver.
Neurological effects	Bifenthrin: Causes clinical signs of neurotoxicity (tremors, impaired gait, excessive

salivation) following acute or subchronic exposure. Tremors disappeared with continued exposure. Imidacloprid: Slight neurobehavioral effects at highest dose.
 No information available.

Aspiration hazard

Chemical name	ACGIH	IARC	NTP	OSHA
Imidacloprid 138261-41-3		Group 2A		

12. ECOLOGICAL INFORMATION

Ecotoxicity

Imidacloprid (138261-41-3)				
Active Ingredient(s)	Duration	Species	Value	Units
Imidacloprid	96 h LC50	Fish	211	mg/L
	48 h EC50	Daphnia	85	mg/L
	LD50	Bee	0.0039	µg/bee
	LD50 Oral	Bobwhite quail	152	mg/kg

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

Persistence and degradability Bifenthrin: Moderately persistent. Does not readily hydrolyze. Not readily biodegradable.
 Imidacloprid: Persistent in soil.

Bioaccumulation Bifenthrin: The substance has some potential to bioaccumulate in the environment.

Mobility Bifenthrin: 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

UN/ID no	UN3352
Proper Shipping Name	Pyrethroid pesticide, liquid, toxic
Hazard class	6.1
Packing Group	III
Special Provisions	IB3, T7, TP2, TP28
Description	UN3352, Pyrethroid pesticide, liquid, toxic, 6.1, PG III

Emergency Response Guide Number 151

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.

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UN/ID no UN3352
Proper Shipping Name Pyrethroid pesticide, liquid, toxic
Hazard class 6.1
Packing Group III
Marine Pollutant Bifenthrin, Imidacloprid.
Description UN3352, Pyrethroid pesticide, liquid, toxic (Bifenthrin, Imidacloprid), 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
Special Provisions A3, A4
Description UN3352 Pyrethroid pesticide, liquid, toxic (Bifenthrin, Imidacloprid), 6.1, PG III, Marine pollutant

IMDG/IMO

UN/ID no UN3352
Proper Shipping Name Pyrethroid pesticide, liquid, toxic
Hazard class 6.1
Packing Group III
EmS No. F-A, S-A
Marine Pollutant Bifenthrin, Imidacloprid
Description UN3352, Pyrethroid pesticide, liquid, toxic (Bifenthrin, Imidacloprid), 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 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	11.3	1.0

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 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
Formaldehyde 50-00-0	100 lb			X
Naphthalene 91-20-3	100 lb	X	X	X

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

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Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
Formaldehyde 50-00-0	100 lb 45.4 kg	100 lb
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.

This pesticide is extremely toxic to fish and aquatic invertebrates.

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

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

Chemical name	New Jersey	Massachusetts	Pennsylvania
Bifenthrin 82657-04-3	X		
Glycerin 56-81-5	X	X	X

International Inventories

Chemical name	TSCA (United States)	DSL (Canada)	EINECS/ELINCS (Europe)	ENCS (Japan)	China (IECSC)	KECL (Korea)	PICCS (Philippines)	AICS (Australia)
Imidacloprid 138261-41-3			X		X		X	
Bifenthrin 82657-04-3				X	X	X		
Glycerin 56-81-5	X	X	X	X	X	X	X	X

Mexico - Grade

Moderate risk, Grade 2

Chemical name	Carcinogen Status	Mexico
Glycerin		Mexico: TWA 10 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
Imidacloprid	500 5000 kg/yr	500 kg/yr
Formaldehyde	100 2500 kg/yr	100 kg/yr
Bifenthrin	100 2500 kg/yr	100 kg/yr

