

# SAFETY DATA SHEET

## Brigade 0.2 G

SDS # : 1686-6-A  
Revision date: 2019-06-21  
Format: NA  
Version 1.03



### 1. PRODUCT AND COMPANY IDENTIFICATION

#### Product Identifier

**Product Name** Brigade 0.2 G

#### Other means of identification

**Product Code(s)** 1686-6-A

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

**Active Ingredient(s)** Bifenthrin

**Chemical Family** Pyrethroid Pesticide

**Alternate Commercial Name** Talstar 0.2GR

#### Recommended use of the chemical and restrictions on use

**Recommended Use:** Insecticide, Miticide

**Restrictions on Use:** Use as recommended by the label.

#### Supplier 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 (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 / 741-5970 (CHEMTREC - International)  
1 703 / 527-3887 (CHEMTREC - Alternate)

### 2. HAZARDS IDENTIFICATION

#### Classification

#### **OSHA Regulatory Status**

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

Carcinogenicity	Category 1A
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**

H350 - May cause 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

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

**Precautionary Statements - Response**

P308 + P311 - If exposed or concerned: Call a POISON CENTER or doctor

**Precautionary Statements - Storage**

P405 - Store locked up

**Precautionary Statements - Disposal**

P501 - Dispose of contents/container according to label directions

**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 %
Crystalline silica, quartz	14808-60-7	>80
Bifenthrin	82657-04-3	0.2

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.

<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 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>	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.
<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>	Treat symptomatically. This product is a pyrethroid. If large amounts have been ingested, milk, cream, and other digestible fats and oils may increase absorption and so should be avoided.

## 5. FIRE-FIGHTING MEASURES

<b>Suitable Extinguishing Media</b>	Use CO <sub>2</sub> , dry chemical, or foam.
<b>Specific Hazards Arising from the Chemical</b>	Powdered material may form explosive dust-air mixtures
<b>Explosion data</b>	
<b>Sensitivity to Mechanical Impact</b>	No information available.
<b>Sensitivity to Static Discharge</b>	No information available.
<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 upwind.

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal Precautions</b>	Isolate and post spill area. Remove all sources of ignition. Ventilate the area. Wear suitable protective clothing, gloves and eye/face protection. For personal protection see section 8.
<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>	Keep people and animals away from and upwind of spill/leak. Keep material out of lakes, streams, ponds, and sewer drains. Keep out of waterways.
<b>Methods for Containment</b>	Use a wet sweeping compound or water to prevent dust formation.
<b>Methods for cleaning up</b>	Sweep up and shovel into suitable containers for disposal. Clean and neutralize spill area, tools and equipment by washing with 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. Store in original container.
<b>Incompatible products</b>	None known

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

Chemical name	ACGIH TLV	OSHA PEL	NIOSH	Mexico
Crystalline silica, quartz (14808-60-7)	TWA: 0.025 mg/m <sup>3</sup>	TWA: 50 µg/m <sup>3</sup>	IDLH: 50 mg/m <sup>3</sup> TWA: 0.05 mg/m <sup>3</sup>	Mexico: TWA 0.025 mg/m <sup>3</sup>
Chemical name	British Columbia	Quebec	Ontario TWAEV	Alberta
Crystalline silica, quartz (14808-60-7)	TWA: 0.025 mg/m <sup>3</sup>	TWA: 0.1 mg/m <sup>3</sup>	TWA: 0.10 mg/m <sup>3</sup> respirable	TWA: 0.025 mg/m <sup>3</sup>

**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** If there is a potential for exposure to particles which could cause eye discomfort, wear chemical goggles.

**Skin and Body Protection** Wear long-sleeved shirt, long pants, socks, and shoes.

**Hand Protection** Use protective gloves made of chemical materials such as nitrile or neoprene. Wash the outside of gloves with soap and water before reuse. Check regularly for leaks.

**Respiratory Protection** If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Respiratory protection must be provided in accordance with current local regulations.

**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**

<b>Appearance</b>	Granules
<b>Physical State</b>	Solid
<b>Color</b>	Cream to tan
<b>Odor</b>	Slight Musty
<b>Odor threshold</b>	No information available
<b>pH</b>	6.8-7.1
<b>Melting point/freezing point</b>	Not applicable
<b>Boiling Point/Range</b>	No information available
<b>Flash point</b>	Not applicable
<b>Evaporation Rate</b>	No information available
<b>Flammability (solid, gas)</b>	No information available
<b>Flammability Limit in Air</b>	
Upper flammability limit:	No information available
Lower flammability limit:	No information available
<b>Vapor pressure</b>	No information available
<b>Vapor density</b>	No information available
<b>Relative density</b>	1.39 lb/ft <sup>3</sup>
<b>Specific gravity</b>	No information available
<b>Water solubility</b>	No information available
<b>Solubility in other solvents</b>	No information available
<b>Partition coefficient</b>	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	50-53 lb/ft <sup>3</sup>

## 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. Keep away from open flames, hot surfaces and sources of ignition.
Incompatible materials	None known.
Hazardous Decomposition Products	Carbon oxides (COx), Hydrogen chloride, Hydrogen fluoride.

## 11. TOXICOLOGICAL INFORMATION

### Product Information

LD50 Oral	> 5000 mg/kg (rat)
LD50 Dermal	> 2000 mg/kg (rabbit)
LC50 Inhalation	No information available
Serious eye damage/eye irritation	Product dust may cause mechanical eye irritation.
Skin corrosion/irritation	Non-irritating.
Sensitization	Non-sensitizer

Chemical name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Bifenthrin (82657-04-3)	55 mg/kg ( rat )	> 2000 mg/kg ( rat )	0.8 mg/L ( female, rat ) 4 h

### Information on toxicological effects

Symptoms	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	Chronic exposure to silica dust may increase the risk of developing pneumoconiosis or silicosis, chronic diseases affecting the lungs, characterized by labored breathing, cough, reduction of work capacity, reduction of lung capacity, heart enlargement and failure
Mutagenicity	Bifenthrin: Not genotoxic in laboratory studies.
Carcinogenicity	Bifenthrin: Weak treatment-related response for liver adenocarcinomas and benign bladder tumors (lesion) in male mice
Neurological effects	Bifenthrin: Causes clinical signs of neurotoxicity (tremors, impaired gait, excessive salivation) following acute or subchronic exposure. Tremors disappeared with continued exposure
Reproductive toxicity	Bifenthrin: No toxicity to reproduction in animal studies.
Developmental toxicity	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.

**Neurological effects**

Bifenthrin: Causes clinical signs of neurotoxicity (tremors, impaired gait, excessive salivation) following acute or subchronic exposure. Tremors disappeared with continued exposure

**Aspiration hazard**

Chemical name	ACGIH	IARC	NTP	OSHA
Crystalline silica, quartz 14808-60-7	A2	Group 1	Known	X

**Legend:**

ACGIH (American Conference of Governmental Industrial Hygienists)

A2 - Suspected Human Carcinogen

IARC (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

NTP (National Toxicology Program)

Known - Known Carcinogen

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

X - Present

## 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

Chemical name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
hydrotreated light paraffinic oil 64742-55-8		96 h LC50: > 5000 mg/L (Oncorhynchus mykiss)	48 h EC50: > 1000 mg/L (Daphnia magna)

**Persistence and degradability**

Bifenthrin: Moderately persistent. Does not readily hydrolyze. Not readily biodegradable.

**Bioaccumulation**

Bifenthrin: The substance has a potential for bioconcentration.

**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. Proper personal protective equipment, as described in Sections 7 and 8, must be worn while handling materials for waste disposal.

**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**

This material is not a hazardous material as defined by U.S. Department of Transportation at 49 CFR Parts 100 through 185.

**TDG**

UN/ID no

UN3077

Proper Shipping Name

Environmentally hazardous substance, solid, n.o.s.

Hazard class

9

**Packing Group** III  
**Marine Pollutant** Bifenthrin.  
**Description** UN3077, Environmentally hazardous substance, solid, n.o.s. (bifenthrin), 9, III, Marine Pollutant

**ICAO/IATA**

**UN/ID no** UN3077  
**Proper Shipping Name** Environmentally hazardous substance, solid, n.o.s.  
**Hazard class** 9  
**Packing Group** III  
**Description** UN3077, Environmentally hazardous substance, solid, n.o.s. (bifenthrin), 9, PGIII, Marine Pollutant.

**IMDG/IMO**

**UN/ID no** UN3077  
**Proper Shipping Name** Environmentally hazardous substance, solid, n.o.s.  
**Hazard class** 9  
**Packing Group** III  
**EmS No.** F-A, S-F  
**Marine Pollutant** Bifenthrin  
**Description** UN3077, Environmentally hazardous substance, solid, n.o.s. (bifenthrin), 9, III, Marine Pollutant

<b>15. REGULATORY INFORMATION</b>
-----------------------------------

**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	0.2	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)

**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:*

**CAUTION**

*Harmful if absorbed through skin.*

**Brigade 0.2 G**

**SDS # :** 1686-6-A  
**Revision date:** 2019-06-21  
**Version** 1.03

*This pesticide is extremely toxic to fish and aquatic invertebrates.*

**US State Regulations****California Proposition 65**

This product does not contain any Proposition 65 chemicals.

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

Chemical name	New Jersey	Massachusetts	Pennsylvania
Crystalline silica, quartz 14808-60-7	X	X	X
Bifenthrin 82657-04-3	X		

**International Inventories**

Chemical name	TSCA (United States)	DSL (Canada)	EINECS/ELINC S (Europe)	ENCS (Japan)	China (IECSC)	KECL (Korea)	PICCS (Philippines)	AICS (Australia)
Crystalline silica, quartz 14808-60-7	X	X	X	X	X	X	X	X
Bifenthrin 82657-04-3				X	X	X		

**Mexico - Grade**

Serious risk, Grade 3

Chemical name	Carcinogen Status	Mexico
Crystalline silica, quartz	A2	Mexico: TWA 0.025 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

**CANADA****WHMIS Statement**

This product has been classified in accordance with the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR.

**WHMIS Hazard Class**

D2A - Very toxic materials

**16. OTHER INFORMATION**

<b>NFPA</b>	<b>Health Hazards</b> 2	<b>Flammability</b> 0	<b>Instability</b> 0	<b>Special Hazards</b> -
<b>HMIS</b>	<b>Health Hazards</b> 2*	<b>Flammability</b> 0	<b>Physical hazard</b> 0	<b>Personal Protection</b> X

\*Indicates a chronic health hazard.

**NFPA/HMIS Ratings Legend**

Severe = 4; Serious = 3; Moderate = 2; Slight = 1; Minimal = 0



Revision date: 2019-06-21  
Reason for revision: 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

© 2019 FMC Corporation. All Rights Reserved.

**End of Safety Data Sheet**