

MATERIAL SAFETY DATA SHEET

Hazardous according to criteria of Worksafe Australia

COMPANY DETAILS

Company: FMC (Chemicals) Pty Ltd.
Address: 77 Tingira Street, Pinkenba, Qld 4008
Telephone Number: 07 3866 7700 **Fax Number:** 07 3866 7777
Emergency Telephone Number: 1800 033 111 (All hours - Australia wide)

Page 1 of Total 4
Date of Issue: May 2001
MSDS No. FMC/BRIG/1

IDENTIFICATION

Product Name: BRIGADE[®] GRANULAR INSECTICIDE

Physical Description/Properties:

Other Names:	Bifenthrin,	Appearance:	Tan, solid granules.
Common Name:	Bifenthrin	Odour:	Slightly musty.
Shipping Name:	Non Dangerous Goods	Bulk Density:	1.39 g/mL
UN Number:	Not applicable (na)	Flashpoint (°C):	Not applicable.
Dangerous Goods Class:	na	Flammability Limits (%):	Not available
Packaging Group:	na	Solubility in Water:	Insoluble.
Hazchem Code:	na	Corrosive hazard:	Non corrosive; compatible with aluminium, glass & steel containers.
EPG:	na	Use:	A granular Insecticide.
Poisons Schedule:	Exempt		

Ingredients:

Chemical	CAS Number	Proportion
Bifenthrin	82657-04-3	2 g/kg
Hydrated Aluminum Silicate	14808-60-7	< 1%
Light Paraffinic Distillate	64741-89-5	< 1%
Lignosulfonate Acid	102-71-6	< 1%
Silica, quartz (Screened sand)	14808-60-7	> 60%
Other ingredients deemed non-hazardous	-	<10%

HEALTH HAZARD INFORMATION

Health Effects: Studies with laboratory animals have shown this product to have low toxicity. Ingestion of large doses of bifenthrin by laboratory animals produced signs of toxicity which included clonic convulsions, tremors and bloody nasal discharge. This product has only a very low proportion of bifenthrin (0.2%), and these symptoms are unlikely to be caused by this product. However, this product does contain a light paraffinic distillate (<1%) which has been classified as a Category 2 carcinogen.

Product Name:	BRIGADE GRANULAR INSECTICIDE	Page 2 of Total 4 Issued: May 2001 MSDS No. FMC/BRIG/1
----------------------	---	--

Acute:

Swallowed: This product has very low toxicity if swallowed; the Acute Oral LD₅₀ (rat) > 5000 mg/kg.

Eye Contact: Non-irritating to the eye. Excessive exposure to granules may cause irritate the eyes. This product contains a granular material (sand) that may cause mechanical irritation to the eyes.

Skin Contact: Non-irritating to the skin. Acute Dermal LD₅₀ (rabbit) > 2000 mg/kg.

Inhaled: Unlikely to be a hazard.

Chronic: No data available on this formulation. In studies with laboratory animals, Bifenthrin Technical did not cause teratogenicity or reproductive toxicity. Tremors were associated with repeated exposure of dogs, rats, rabbits, and mice to bifenthrin. The overall results from a battery of genotoxicity studies indicate that bifenthrin is not considered to be genotoxic. Ames test results were negative.

Crystalline forms of silica (quartz), over prolonged period, may cause silicosis.

The light paraffinic distillate used in this product is classified as a Category 2 carcinogen and is present at a concentration of < 1% of the product. R45 - May cause cancer.

FIRST AID

Swallowed: If poisoning occurs, contact a doctor or Poisons Information Centre.

Eyes: Flush with water. If irritation occurs and persists, obtain medical attention.

Skin: If on skin or clothing, remove any contaminated clothing, and wash skin with soap and water.

Inhaled: Remove to fresh air.

ADVICE TO DOCTOR:

Brigade Granular Insecticide has low oral and dermal toxicity, and is non-irritating to the eyes and skin. This product contains a granular material (sand) that may cause mechanical irritation to the eyes. Treatment is otherwise controlled removal of exposure followed by symptomatic and supportive care.

PRECAUTIONS FOR USE

Exposure Standards: No exposure limit has been assigned by NOHSC Australia for bifenthrin. The following non-active constituent exposure standard is applicable:

Atmospheric Contaminant	Exposure Standard - Time-Weighted Average
Quartz	0.2 mg/m ³

Engineering Controls: Ventilate all transport vehicles prior to unloading. General air replacement or dilution ventilation is sufficient for material handling and storage, but local exhaust ventilation should be used when filling or emptying this product.

Product Name:	BRIGADE GRANULAR INSECTICIDE	Page 3 of Total 4 Issued: May 2001 MSDS No. FMC/BRIG/1
----------------------	---	--

Personal Protection:

Work Clothing: For normal handling wear long sleeve uniform or overalls.

Personal Hygiene: Wash skin before eating, drinking or smoking.

Flammability: This material may support combustion at elevated temperatures.

SAFE HANDLING INFORMATION

Storage & Transport: Brigade Granular Insecticide is not classified as a Dangerous Good under the Australian Code. Store in the original containers in a cool, dry, well ventilated location. Keep out of the reach of children and animals. Do not locate near or contaminate food or feed by storage or disposal.

Spills and Disposal: In the case of spillage contain spilled material by dyking. Dispose of waste as indicated below or according to the Australian Standard 2507 - Storage and Handling of Pesticides. Wear prescribed protective clothing and equipment. Keep material out of streams and sewers. Vacuum, shovel or pump waste into an approved drum. To decontaminate spill area, tools and equipment, wash with a suitable solution (ie organic solvent, detergent, bleach or caustic) and add the solution to the drums of wastes already collected. Label for contents. Dispose of drummed wastes, including decontamination solution, in accordance with the requirements of Local or State Waste Management Authorities.

Dangerous to Fish: Do NOT allow spilled product or wash solution to enter sewers, drains, dams, creeks or any other waterways.

Puncture, shred or bury empty containers in a local authority landfill. If not available bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, vegetation and roots. Empty containers and product should not be burnt.

Fire/Explosion Hazard:

Extinguishing Media - Foam, CO₂ or dry chemical. Soft stream water fog only if necessary. Contain all runoff.

Degree of Hazard - Slightly combustible. Material may support combustion at elevated temperatures.

Special Fire Fighting Procedures - Isolate fire area. Evacuate downwind residents. Wear full protective clothing and self-contained breathing apparatus. Do not breathe or contact smoke, gases or vapours generated.

Hazardous Decomposition Products - Carbon monoxide, carbon dioxide, hydrogen chloride, chlorine, fluorine and hydrogen fluoride.

Product Name:	BRIGADE GRANULAR INSECTICIDE	Page 4 of Total 4 Issued: May 2001 MSDS No. FMC/BRIG/1
----------------------	---	--

OTHER INFORMATION

Environmental Information: No data is available on Brigade Granular Insecticide. The active ingredient, bifenthrin (0.2%), degrades at a moderate rate in soils ($t_{1/2}$ = 50 to 205 days), and more rapidly on the surface of bare soils ($t_{1/2}$ = 7 to 62 days). Bifenthrin is tightly bound in most soils and an extremely low water solubility. Bifenthrin is highly toxic to aquatic organisms.

Environmental Toxicology: Bifenthrin is highly toxic to fish and aquatic arthropods with LC_{50} values ranging from 0.0038 µg/L to 17.8 µg/L. In general, the aquatic arthropods are the most sensitive species. Care should be taken to avoid contamination of the aquatic environment. Bifenthrin had no effect on mollusks at its limit of water solubility. Bifenthrin is only slightly toxic to both waterfowl and upland game birds (LC_{50} values range from 1800 mg/kg to > 2,150 mg/kg).

CONTACT POINT : The Manager, FMC (Chemicals) Pty Ltd, Pinkenba, Brisbane, QLD
Telephone: 07 3866 7700 Facsimile: 07 3866 7777

FMC® Spirit Of Invention Changes Lives
www.fmc-aust.com