

SAFETY DATA SHEET

BRIGADE GRANULAR INSECTICIDE

1. PRODUCT AND COMPANY IDENTIFICATION

Material Identification	BRIGADE GRANULAR INSECTICIDE
Product description	Bifenthrin granular insecticide.
Use	A granular insecticide for control of certain pests in turf; ants, fleas and ticks in external surrounds of buildings and structures.
Company details	FMC New Zealand Limited 6 Clayton Street, Newmarket Auckland 1023
Telephone	Freephone: 0800 65 80 80
New Zealand Distributor	Garrards (NZ) Ltd Unit 4/27B Cain Road Penrose, New Zealand
Telephone	(09) 526 5232
24-hour Emergency phone	National Poisons Centre 0800 POISON (0800 764766)
Date of Issue	August 2018

2. HAZARDS IDENTIFICATION



HSNO Classification	9.1A (Aquatic toxicant), 9.3C (Terrestrial vertebrates toxin), 9.4A (Terrestrial invertebrate toxin)
Hazards	Ecotoxic-very toxic to aquatic organisms. Harmful to terrestrial vertebrates. Very toxic to terrestrial invertebrates.

3.COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	CAS No.	Proportion
Bifenthrin	82657-04-3	0.2% w/w
Quartz (Silica crystalline)	14808-60-7	>90%w/w
Other ingredients		<5% w/w

4. FIRST AID MEASURES

Inhalation	If inhaled, remove to fresh air. If breathing discomfort occurs, contact a doctor immediately.
Skin contact	If spilt on the skin, remove contaminated clothing and wash affected areas of skin immediately. DO NOT Scrub the skin. Remove and wash contaminated clothing before re-use.
Eye contact	If concentrate is splashed in eyes, flush with running water for at least

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15 minutes. If irritation occurs and persists take to hospital without delay. For advice contact the National Poisons Centre 0800 POISON (0800 764766)

Ingestion If swallowed, DO NOT induce vomiting. For advice, contact the National Poisons Centre 0800 POISON (0800 764766) or call a doctor immediately.

5. FIRE FIGHTING MEASURES

Flashpoint Non-flammable but slightly combustible. May support combustion at elevated temperatures.

Extinguishing Media Soft stream water, fog, foam, CO₂ or dry chemical.

Fire Fighting Instructions Evacuate personnel to a safe area. Keep personnel removed and upwind of fire. Wear self-contained breathing apparatus. Wear full protective equipment. Shut off source of fuel, if possible and without risk. Use water spray. Cool tank/container with water spray. Fight fire from maximum distance, use extreme caution as heat may decompose material and rupture containers.

If area is heavily exposed to fire and if conditions permit, let fire burn itself out since water may increase the area contaminated.

Combustion products Hazardous gases produced in a fire under conditions that produce incomplete combustion may consist of carbon monoxide, carbon dioxide, hydrogen chloride, chlorine, fluorine and hydrogen fluoride.

Hazchem Code 2

6. ACCIDENTAL RELEASE MEASURES

Spill precautions Use appropriate Personal Protective Equipment during clean up. (See section 8). Evacuate personnel, thoroughly ventilate area, and use self contained breathing apparatus. Remove source of heat, sparks, flame, impact friction or electricity. Keep upwind of leak - evacuate until gas has dispersed.

Spill containment Contain spill. Prevent product from entering sewers, waterways or low areas.

Spill clean up Soak up with sawdust, sand or other absorbent material. Shovel or sweep up. Never return to container for reuse. DO NOT flush to surface water or sanitary sewer system. To clean spill area, tools and equipment, wash with a solution of soap, water and acetic acid/vinegar. Follow this with a neutralisation step of washing with bleach or caustic soda ash solution. Absorb as above and add to the drums of waste already collected. See section 13 for disposal directions.

7. HANDLING AND STORAGE

Handling Do not breathe product. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. Wash clothing after use. Do not store or consume food, drink or tobacco in areas where they may become contaminated with this material.

Storage Store product in original container, tightly closed, away from other pesticides, fertiliser, food or feed and under lock and key. Store in a cool, well ventilated location. Avoid excess heat. Not for use or storage

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in or around the home. Do not store with Classes 1, 2, 3.2, 4, 5 substances. Stores containing more than 100kg of this product, either alone or in aggregate with other hazardous substances are subject to requirement of an emergency management plan, secondary containment and signage.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits No NOHSC Australia exposure standard has been established for bifenthrin. The following standard may apply to the product:

Atmospheric Contaminant	Exposure Standard (TWA) ^a	STEL
Silica Crystalline (quartz)	0.1 mg/m ³	-
a = TWA - Time-weight Average		b = STEL - Short Term Exposure Standard

Engineering Controls Thoroughly 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.

Personal Protection Avoid skin and eye contact. Do not breathe dust. Wear long sleeve shirt; long-legged pants; shoes and socks
IMPORTANT! Always wash hands, face and arms with soap and water before smoking, eating drinking.
AFTER WORK: Before removing gloves, wash them with soap and water. Take off all work clothes and shoes. Shower using soap and water. Wear only clean clothes when leaving job - do not wear contaminated clothing. Personal clothing worn during work must be stored and laundered separately from protective clothing and household articles.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	Solid
Colour	Tan
Boiling Point	Not available
Bulk density	1.39g/mL
Flash Point	Not applicable
Solubility	Product suspends in water
Corrosivity	Non corrosive. Compatible with aluminium, stainless steel and glass.
Oxidisation	Not an oxidiser.

(Also, see sections 5&10)

10. STABILITY AND REACTIVITY

Stability Stable at normal temperatures and storage conditions.
Incompatible materials No incompatibilities reasonably foreseeable.

11. TOXICOLOGICAL INFORMATION

Acute Effects
Eye Excessive exposure to granules may cause irritation to the eyes. This

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Skin

product contains a granular material (sand) that may cause mechanical irritation to the eyes.

Inhalation

Non-irritating to the skin. The acute dermal LD₅₀ in the rabbit is > 2,000mg/kg.

Ingestion

As this product is a granule it is unlikely to be an inhalation hazard.

Chronic Effects

Low oral toxicity (Acute oral LD₅₀ => 5,000 mg/kg for the rat).

No data available on this formulation. Bifenthrin technical did not cause teratogenicity or reproductive toxicity.

Tremors were associated with repeated exposure to 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 silica - also known as silicon dioxide (SiO₂) - is the basic component of sand, quartz and granite rock and is found in varying proportions in aggregates, sand, mortar, concrete and stone, and is also in the air and the soil. Processes which may give rise to airborne concentrations of crystalline silica dust include hard rock mining, excavation, tunnelling and earthworks, construction, foundry operations, ceramics production, stone works, refractory brick production, abrasive blasting, agricultural ploughing and harvesting, and the production of asphalt, agricultural chemicals, abrasives, glass and paint. If the dust given off from working with these materials is fine enough to be breathed into the lungs, it is termed "respirable". Certain exposures to crystalline silica can cause serious harm to human health. Prolonged exposure to respirable crystalline silica can cause silicosis.

NOHSC have classified crystalline silica as a hazardous substance, but have not given a classification and have not allocated Risk phrases for this substance

12. ECOLOGICAL 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

Bifenthrin is highly toxic to fish and aquatic arthropods with LC₅₀ 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. Do not contaminate sewers, drains, dams, creeks or any other waterways with product or the used container.

Bifenthrin had no effect on molluscs at its limit of water solubility. Bifenthrin is only slightly toxic to both waterfowl and upland game birds (LC₅₀ values range from 1800 mg/kg to > 2,150 mg/kg).

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13. DISPOSAL CONSIDERATION

Ensure container is empty. Containers should not be burnt. Puncture, shred or bury empty containers in a disposal pit specifically marked and set up for this purpose. Do not re-use empty containers.

Dispose of this product only by using in accordance with label directions. Dispose of solid contaminated material/or contaminated soil in an approved landfill. Disposal must be in accordance with applicable local regulations.

14. TRANSPORT INFORMATION

Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S (Contains 0.2% bifenthrin)
D.G. Class	9
UN Number	3077
Hazchem	2X
Pack Group	III
Trade names	BRIGADE GRANULAR INSECTICIDE Transport according to the requirements of the Land Transport Rule 45001: Dangerous Goods 1999, the Maritime Rule 24A Carriage of Cargoes – Dangerous Goods and Civil Aviation Rule 92 meets the requirements of the HSNO Act.

15. REGULATORY INFORMATION

HSNO Approval Code	HSR000047
Approved handler	This product must be under the control of an approved handler at all

16. OTHER INFORMATION

Glossary

ACGIH	American Conference of Governmental Industrial Hygienists.
DT ₅₀	Time(days) for 50% loss.
EC ₅₀	Median effective concentration.
EEL	Environmental Exposure Limit.
ERMA	Environmental Risk Management Authority
HSNO	Hazardous Substances and New Organisms.
IARC	International Agency for Research on Cancer.
K _{oc}	Organic carbon partition coefficient (ml soil water/g organic carbon)
LC ₅₀	Lethal concentration that will kill 50% of the test organisms inhaling or ingesting it.
LD ₅₀	Lethal dose to kill 50% of test animals/organisms.
LEL	Lower explosive level.
NOEL	No observable effect level.
OSHA	American Occupational Safety and Health Administration.
P _{ow}	The octanol-water partition coefficient is the ratio of the concentration

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	of a chemical in octanol and in water at equilibrium at a specified temperature.
TEL	Tolerable Exposure Limit.
TLV	Threshold Limit Value-an exposure limit set by responsible authority.
UEL	Upper Explosive Level
WES	Workplace Exposure Limit

Miscellaneous

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process