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# EnviroMax Bifenthrin 2G Granule.

## 1. IDENTIFICATION OF THE SUBSTANCE AND THE COMPANY

**Product Name:** EnviroMax Bifenthrin 2G Granular Insecticide.

**Supplier:** EnviroMax Technologies Pty Ltd.

**Street Address:** Level 3, 549 Queen St., Brisbane, Queensland 4000, Australia.

**Telephone:** +61- (0) 4099 26561

**Substance:** Bifenthrin 2% granule

**Recommended Use:** For the control of certain pests in turf, ants, fleas and ticks in external surrounds of buildings and structures as specified.

## 2. HAZARD IDENTIFICATION

### Statement of Hazardous Nature

This product is classified as:

Not classified as hazardous according to the criteria of NOHSC Australia.

Not a Dangerous Good according to the Australian Dangerous Goods (ADG) Code.

**Risk Phrases:** Not Hazardous - No criteria found.

**Safety Phrases:** S22, S25. Do not breathe dust. Avoid contact with eyes.

**SUSDP Classification:** Not scheduled.

**ADG Classification:** None allocated. Not a Dangerous Good under the ADG Code

**UN Number:** None allocated

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

| Ingredients                     | CAS No     | Conc % | TWA (mg/m <sup>3</sup> ) | STEL (  |
|---------------------------------|------------|--------|--------------------------|---------|
| Bifenthrin                      | 82657-04-3 | 0.2    | not set                  | not set |
| Other non-hazardous ingredients | secret     | to 100 | not set                  | not set |

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non-hazardous ingredients are also possible.

The TWA exposure value is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. The STEL (Short Term Exposure Limit) is an exposure value that should not be exceeded for more than 15 minutes and should not be repeated for more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term 'peak' is used when the TWA limit, because of the rapid action of the substance, should never be exceeded, even briefly.

## 4. FIRST AID MEASURES

### General Information:

You should call The Poisons Information Centre if you feel that you may have been poisoned, burned or irritated by this product. The number is 13 1126 from anywhere in Australia (0800 764 766 in New Zealand) and is available at all times. Have this MSDS with you when you call.

**Inhalation:** First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

**Skin Contact:** Gently brush away excess solids. Irritation is unlikely. However, if irritation does occur, flush with lukewarm, gently flowing water for 5 minutes or until chemical is removed.

**Eye Contact:** Quickly and gently brush particles from eyes. Immediately flush the contaminated eye(s) with lukewarm, gently flowing water until the particles are removed, while holding the eyelid(s) open. Obtain medical attention if irritation persists, or if particles are lodged in surface of the eye(s).

Take special care if exposed person is wearing contact lenses.

**Ingestion:** If product is swallowed or gets in mouth, do NOT induce vomiting; wash mouth with water and give some water to drink. If symptoms develop, or if in doubt contact a Poisons Information Centre or a doctor.

## 5. FIRE FIGHTING MEASURES

**Fire and Explosion Hazards:** There is no risk of an explosion from this product under normal circumstances if it is involved in a fire.

Only small quantities of decomposition products are expected from this products at temperatures normally achieved in a fire.

Fire decomposition products from this product may be harmful if inhaled. Take appropriate protective measures.

**Extinguishing Media:** Not Combustible. Use extinguishing media suited to burning materials.

**Fire Fighting:** If a significant quantity of this product is involved in a fire, call the fire brigade.

**Flash point:** Does not burn

**Upper Flammability Limit:** Does not burn

**Lower Flammability Limit:** Does not burn

**Autoignition temperature:** Not applicable – does not burn

**Flammability Class:** Does not burn

## 6. ACCIDENTAL RELEASE MEASURES

**Accidental release:** This product is sold in small packages, and the accidental release from one of these is not usually a cause for concern. For minor spills, clean up, rinsing to sewer and put empty container in garbage. Although no special protective clothing is normally necessary because of occasional minor contact with this product, it is good practice to wear impermeable gloves when handling chemical products. In the event of a major spill, prevent spillage from entering drains or water courses and call emergency services.

## 7. HANDLING AND STORAGE

**Handling:** Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Check Section 8 of this MSDS for details of personal protective measures, and make sure that those measures are followed. The measures detailed below under 'Storage' should be followed during handling in order to minimise risks to persons using the product in the workplace. Also, avoid contact or contamination of product with incompatible materials listed in Section 10.

**Storage:** Store packages of this product in a cool place. Make sure that containers of this product are kept tightly closed. Keep containers dry and away from water. Make sure that the product does not come into contact with substances listed under 'Incompatibilities' in Section 10. Check packaging - there may be further storage instructions on the label.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

The following Australian Standards will provide general advice regarding safety clothing and equipment:

Respiratory equipment: **AS/NZS 1715**, Protective Gloves: **AS 2161**, Industrial Clothing: **AS2919**,

Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**.

The ADI for Bifenthrin is set at 0.01mg/kg/day. The corresponding NOEL is set at 1mg/kg/day. ADI means Acceptable Daily Intake and NOEL means No-observable-effect-level. Values taken from Australian ADI List, Dec 2002.

**Ventilation:** No special ventilation requirements are normally necessary for this product.

However make sure that the work environment remains clean and that dusts are minimised.

**Eye Protection:** Eye protection such as protective glasses or goggles is recommended when this product is being used.

**Skin Protection:** The information at hand indicates that this product is not harmful and that normally no special skin protection is necessary. However, we suggest that you routinely avoid contact with all chemical products and that you wear suitable gloves (preferably elbow-length) when handling this product.

**Protective Material Types:** There is no specific recommendation for any particular protective material type.

**Respirator:** If there is a significant chance that dusts are likely to build up in the area where this product is being used, we recommend that you use a suitable Dust Mask.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical Description** Free flowing granules

**Colour:** White to yellowish

**Odour:** Faint odour

**pH:** No data

**Boiling Point:** n/a

**Freezing/Melting Point:** Decomposes before melting

**Volatility:** Negligible at usual room temperatures

**Vapour Pressure:** Negligible at usual room temperatures

**Vapour Density:** No data

**Bulk Density:** 1.5

**Water Solubility:** Negligible

**Autoignition temp:** Not applicable - does not burn

## 10. STABILITY AND REACTIVITY

**Reactivity:** This product is unlikely to react or decompose under normal storage conditions. However, if you have any doubts, contact the supplier for advice on shelf life properties.

**Conditions to Avoid:**

None known. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight.

**Incompatibilities:** No particular incompatibilities.

**Fire Decomposition:** Only small quantities of decomposition products are expected from this product at temperatures normally achieved in a fire. Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Oxides of sulphur (sulphur dioxide is a respiratory hazard) and other sulphur compounds. Most will have a foul odour. Water.

**Polymerisation:** This product is unlikely to undergo polymerisation processes.

## 11. TOXICOLOGICAL INFORMATION

**Toxicity:** Bifenthrin is harmful to mammals when ingested. Large doses may cause incoordination, tremor, salivation, vomiting, diarrhoea, and irritability to sound and touch. LD<sub>50</sub> for Bifenthrin is about 54 mg/kg in female rats and 70 mg/kg in male rats. The LD<sub>50</sub> for rabbits whose skin is exposed to Bifenthrin is greater than 2,000 mg/kg. Bifenthrin does not sensitize the skin of guinea pigs. Although it does not cause inflammation or irritation on human skin, it can cause a tingling sensation which lasts about 12 hours. It is virtually non-irritating to rabbit eyes.

**Chronic Toxicity:** No information Available.

**Reproductive Effects:** The dose at which no toxic effect of Bifenthrin is observed on the mother (maternal toxicity NOEL) is 1 mg/kg/day for rats and 2.67 mg/kg/day for rabbits. At higher doses, test animals had tremors. The dose at which no toxic effect is observed on development (developmental toxicity NOEL) is 1 mg/kg/day for rats and is greater than 8 mg/kg/day for rabbits.

**Teratogenic Effects:** Bifenthrin does not demonstrate any teratogenic effects at the highest levels tested (100 ppm, approximately 5.5 mg/kg/day) in a two-generational study in rats.

**Mutagenic Effects:** Evidence of mutagenic effects from exposure to Bifenthrin are inconclusive. Studies of mouse white blood cells were positive for gene mutation. However, other tests of bifenthrin's mutagenic effects, including the Ames test and studies in live rat bone marrow cells, were negative.

**Carcinogenic Effects:** There was no evidence of cancer in a 2-year study of rats who ate as much as 10 mg/kg/day of Bifenthrin. However, an 87 week feeding study of mice with doses of 7, 29, 71, and 86 mg/kg showed a significantly higher, dose related trend of increased tumour incidence in the male urinary bladder. The incidence was significantly increased at 86 mg/kg/day. Also, females had higher incidences of lung cancer than the controls at doses of 7 mg/kg and higher. The EPA has classified Bifenthrin as a class C carcinogen, a possible human carcinogen.

**Organ Toxicity:** Pyrethroids are poisons that affect the electrical impulses in nerves, over-stimulating nerve cells causing tremors and eventually causing paralysis.

**Fate in Humans and Animals:** Bifenthrin is absorbed through intact skin when applied topically. It undergoes similar modes of breakdown within animal systems as other pyrethroid insecticides. In mammals, Bifenthrin is rapidly broken down and promptly excreted. Rats treated with 4 to 5 mg/kg, excreted 70 % in the urine and 20% in the faeces within 7 days. After 7 days, the remaining Bifenthrin was found accumulated in tissues with high fat content such as the skin and fat in males and females and the ovaries of females. Bifenthrin is less toxic to warm-blooded animals, such as mammals, than to cold-blooded animals. There is no data to hand indicating any particular target organs.

## 12. ECOLOGICAL INFORMATION

### Effects on Birds:

Bifenthrin is moderately toxic to many species of birds. The dietary concentration (8 day) at which half of the test animals die, the LC50, is 1,280 ppm for mallard ducks and 4,450 ppm for bobwhite quail. The acute oral LD50 is 1,800 mg/kg for bobwhite quail and 2,150 mg/kg for mallard ducks. There is concern about possible bioaccumulation in birds.

### Effects on Aquatic Organisms:

**Bifenthrin** is very highly toxic to fish, crustaceans and aquatic animals. The LC50 after a 96-hour exposure is 0.00015 mg/l for rainbow trout, 0.00035 mg/l for bluegill, and 0.0016 mg/l for Daphnia. Because of its low water solubility and high affinity for soil, Bifenthrin is not likely to be found in aquatic systems.

### Effects on Other Animals (Non-target species):

Bifenthrin is toxic to bees.

## ENVIRONMENTAL FATE

### Breakdown of Chemical in Soil & Groundwater:

Bifenthrin does not move in soils with large amounts of organic matter, clay and silt. It also has a low mobility in sandy soils that are low in organic matter. Bifenthrin is relatively insoluble in water, so there are no concerns about groundwater contamination through leaching. It's half-life in soil, the amount of time it takes to degrade to half of its original concentration, is 7 days to 8 months depending on the soil type and the amount of air in the soil.

### Breakdown of Chemical in Vegetation:

Bifenthrin is not absorbed by plant foliage, nor does it translocate in the plant.

## 13. DISPOSAL CONSIDERATIONS

**Disposal:** Instructions concerning the disposal of this product and its containers are given on the product label. These should be carefully followed.

## 14. TRANSPORT INFORMATION

**ADG Code:** This product is not classified as a Dangerous Good. No special transport conditions are necessary unless required by other regulations.

## 15. REGULATORY INFORMATION

**AICS:** All of the significant ingredients in this formulation are compliant with NICNAS regulations. The following ingredient: Bifenthrin, is mentioned in the SUSDP.