



Material Safety Data Sheet

Allectus(TM) GC Granular Insecticide

MSDS Version: 1.0

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

| | |
|-----------------------------|--|
| Product Name | Allectus(TM) GC Granular Insecticide |
| Chemical Name | |
| Common Name | |
| MSDS Number | 2198 |
| Chemical Family | |
| Chemical Formulation | |
| EPA Registration No. | 432-1416 |
| Product Use | Insecticide for the general insect control in turfgrass areas of golf courses and sod farms. |

Bayer Environmental Science
 95 Chestnut Ridge Road
 Montvale, NJ 07645
 USA

For MEDICAL, TRANSPORTATION or Other EMERGENCY call 1-800-334-7577 24 hours/day
 For Product Information call 1-800-331-2867

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

| <u>Hazardous Component Name</u> | <u>CAS No.</u> | <u>Concentration % by Weight</u> | |
|----------------------------------|----------------|----------------------------------|----------------|
| | | <u>Minimum</u> | <u>Maximum</u> |
| Bifenthrin Technical | 82657-04-3 | 0.1300 | 0.1900 |
| Imidacloprid Technical | 138261-41-3 | 0.1600 | 0.2400 |
| Other ingredients (Trade Secret) | | | |

SECTION 3. HAZARDS IDENTIFICATION

NOTE: Please refer to Section 11 for detailed toxicological information.

Emergency Overview Caution! Harmful if swallowed or absorbed through skin. Moderate eye irritation. Avoid contact with skin, eyes and clothing.

| | |
|---------------------------|--|
| Physical State | Granular |
| Appearance | Dark brown |
| Routes of Exposure | Ingestion, Eye contact, Skin Absorption |
| Immediate Effects | |
| Eye | Do not get in eyes. Moderate eye irritation. |

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Skin Avoid contact with skin. Harmful if absorbed through skin.

Ingestion Do not take internally. Harmful if swallowed.

SECTION 4. FIRST AID MEASURES

General Have the product container or label with you when calling a poison control center or doctor or going for treatment.

Eye Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

Skin Take off all contaminated clothing immediately. Rinse immediately with plenty of water for at least 15 minutes. Call a poison control center or doctor for 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 directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person.

Inhalation 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.

Notes to Physician

Hazards This product/preparation contains a pyrethroid.

Treatment There is no antidote. Treat symptomatically.

Do not administer milk, cream or other substances containing vegetable or animal fats, which enhance the absorption of lipophilic substances.

SECTION 5. FIRE FIGHTING MEASURES

Flash Point Not applicable

Suitable Extinguishing Media Water, Dry chemical, Foam, Carbon dioxide (CO₂)

Fire Fighting Instructions Keep out of smoke. Fight fire from upwind position. Cool closed containers exposed to fire with water spray. Contain contaminated water/fire fighting water. Dike area to prevent runoff and contamination of water sources. Equipment or materials involved in pesticide fires may become contaminated. Prevent use of contaminated buildings, area, and equipment until decontaminated.

Wear self-contained breathing apparatus and protective suit.

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SECTION 6. ACCIDENTAL RELEASE MEASURES

| | |
|-----------------------------|---|
| General and Disposal | Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces. |
| Land Spill or Leaks | Avoid dust formation. Avoid breathing dust. Avoid contact with skin. Use recommended protective equipment while carefully sweeping up spilled material. Place in covered container for reuse or disposal. Scrub contaminated area with soap and water. Rinse with water. Use dry absorbent material such as clay granules to absorb and collect wash solution for proper disposal. Contaminated soil may have to be removed and disposed. Do not allow material to enter streams, sewers, or other waterways. |

SECTION 7. HANDLING AND STORAGE

| | |
|---------------------------------|---|
| Handling Procedures | Handle and open container in a manner as to prevent spillage. |
| Storing Procedures | Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area. |
| Work/Hygienic Procedures | <p>Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.</p> <p>Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.</p> <p>Remove Personal Protective Equipment (PPE) immediately after handling this product. Before removing gloves clean them with soap and water. As soon as practical, wash thoroughly and change into clean clothing.</p> |

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

| | |
|-------------------------------|--|
| Engineering Controls | Maintain exposure levels below the exposure limit through the use of general and local exhaust ventilation. |
| Eye/Face Protection | Protective eyewear. |
| Hand Protection | Chemical resistant gloves made of waterproof material such as polyethylene or polyvinyl chloride. |
| Body Protection | Wear long-sleeved shirt and long pants and shoes plus socks. |
| Respiratory Protection | When respirators are required, select NIOSH approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or Industry recommendations. |
| General Protection | <p>Educate and train employees in safe use of the product. Follow all label instructions.</p> <p>Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.</p> |

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Exposure Limits This product contains material which are Trade Secret and may have Occupational Exposure Limits. If more information is required, call the product information number listed in Section 1.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|-----------------------|---|
| Appearance | Dark brown |
| Physical State | Granular |
| pH | 5.5 - 7.0 at 25 °C (as aqueous solution) |
| Bulk Density | 42 - 46 lbs/cubic foot |

SECTION 10. STABILITY AND REACTIVITY

Chemical Stability Stable under normal conditions.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity studies have not been performed on this product as formulated. The acute toxicity data provided have been bridged from a similar granular formulation containing a higher percentage of the active ingredients, bifenthrin and imidacloprid. The non-acute information pertains to the technical-grade active ingredients.

Acute Oral Toxicity Female Rat: LD50: > 5,000 mg/kg

Acute Dermal Toxicity Male/Female Rat: LD50: > 5,000 mg/kg

Acute Inhalation Toxicity Due to the large particle size of the granular product, an appropriate aerodynamic particle size could not be achieved for testing as required in accordance to guideline procedures. Therefore, an LC50 study could not be conducted. The acute inhalation hazard of this product is not expected to be a toxicological concern based on the large particle size of the granular product.

Skin Irritation Rabbit: slight irritation

Eye Irritation Rabbit: Mild irritant.

Sensitization Guinea pig: non-sensitizing

Subchronic Toxicity IMIDACLOPRID TECHNICAL
In a 3-week dermal toxicity study, rabbits treated with imidacloprid showed no local or systemic effects at levels up to and including 1000 mg/kg, the limit dose.

In a 4-week inhalation study, rats exposed to high concentrations of imidacloprid exhibited decreased body weight gains and changes in clinical chemistries and organ weights.

BIFENTHRIN TECHNICAL

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In a 21-day dermal toxicity study in rabbits, bifenthrin caused a loss of muscle coordination. In subchronic toxicity studies, tremors were observed in rats and dogs following dietary exposure to bifenthrin.

Chronic Toxicity

IMIDACLOPRID TECHNICAL

In chronic dietary studies in rats and dogs exposed to imidacloprid, the target organs were the thyroids and/or liver.

BIFENTHRIN TECHNICAL

The principal effect observed in rats, mice and dogs from long-term exposure to bifenthrin was clinical signs of toxicity (e.g., tremors).

Assessment Carcinogenicity

IMIDACLOPRID TECHNICAL

In oncogenicity studies in rats and mice, imidacloprid was not considered carcinogenic in either species.

BIFENTHRIN TECHNICAL

Bifenthrin was not carcinogenic in a chronic feeding study in rats. In an oncogenicity study in mice, there was an increased incidence of tumors (urinary bladder, liver, lung). EPA classified bifenthrin as Group C (possible human carcinogen) chemical based on urinary bladder tumors in mice. The Agency used a non-linear methodology approach for determining the Margin of Exposure (MOE) for the estimation of cancer risk. Therefore, EPA has a reasonable certainty that no harm will result from exposure to residues of bifenthrin.

ACGIH

None

NTP

None

IARC

None

OSHA

None

Reproductive & Developmental Toxicity

IMIDACLOPRID TECHNICAL

REPRODUCTION: In a two-generation reproduction study in rats, imidacloprid was not a primary reproductive toxicant. Offspring exhibited reduced body weights at the high dose and in conjunction with maternal toxicity.

DEVELOPMENTAL TOXICITY: In developmental toxicity studies in rats and rabbits, there was no evidence of an embryotoxic or teratogenic potential for imidacloprid. In both species, developmental effects were observed only at high doses and in conjunction with maternal toxicity.

BIFENTHRIN TECHNICAL

REPRODUCTION: Bifenthrin is not a reproductive toxicant based on a multigeneration reproduction study in rats.

DEVELOPMENTAL TOXICITY: Bifenthrin is not a developmental toxicant based on developmental toxicity studies in rats and rabbits.

Neurotoxicity

IMIDACLOPRID TECHNICAL

In acute and subchronic neurotoxicity screening studies in rats, imidacloprid produced slight neurobehavioral effects in each study at the highest dose tested. There were no correlating morphological changes observed in the neural tissues.

In a one-generation developmental neurotoxicity screening study in rats,

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offspring exposed to imidacloprid showed decreased motor activities. These effects occurred at the highest dose tested and in conjunction with maternal toxicity. There were no correlating morphological changes observed in the neural tissues.

BIFENTHRIN TECHNICAL

Bifenthrin did not cause delayed neurotoxicity in hens. In acute and subchronic neurotoxicity screening studies in rats, transient well-defined neurobehavioral effects were seen without correlating morphological changes in the neural tissues.

Mutagenicity

IMIDACLOPRID TECHNICAL

The imidacloprid mutagenicity studies, taken collectively, demonstrate that the active ingredient is not genotoxic or mutagenic.

BIFENTHRIN TECHNICAL

Bifenthrin is not considered genotoxic or mutagenic based on in vitro and in vivo mutagenicity studies.

SECTION 12. ECOLOGICAL INFORMATION

Environmental Precautions

This product is extremely toxic to fish and other aquatic organisms. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Runoff from treated areas may be hazardous to aquatic organisms in neighboring areas.

Ecological Information

This chemical demonstrates the properties and characteristics associated with chemicals detected in ground water. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination.

SECTION 13. DISPOSAL CONSIDERATIONS

General Disposal Guidance

Pesticide Disposal: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Container Disposal

Do not re-use empty containers. Completely empty container into application equipment, then dispose of empty container in a sanitary landfill, by incineration or by other procedures approved by state/provincial and local authorities. If burned, stay out of smoke.

RCRA Classification

Not Regulated under this Statute

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SECTION 14. TRANSPORT INFORMATION

DOT CLASSIFICATION:

Not regulated for Domestic Surface Transportation

FREIGHT CLASSIFICATION:

Insecticides or Fungicides, N.O.I.: other than poison

SECTION 15. REGULATORY INFORMATION

This product contains material(s) which are Trade Secret and are on various Regulatory Lists. These material(s) are not listed below. If more information is required, call the product information number listed in Section 1.

EPA Registration No. 432-1416

US Federal Regulations

TSCA list

None

US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)

None

SARA Title III - section 302 - notification and information

None

SARA Title III - section 313 - toxic chemical release reporting

Bifenthrin Technical

82657-04-3

1.0%

US States Regulatory Reporting

CA Prop65

This product does not contain any substances known to the State of California to cause cancer.

This product does not contain any substances known to the State of California to cause reproductive harm.

US State right-to-know ingredients

None

Canadian Regulations

Canadian Domestic Substance List

None

Environmental

CERCLA

None

Clean Water Section 307 Priority Pollutants

None

Safe Drinking Water Act Maximum Contaminant Levels

None

International Regulations

EU Classification

None

European Inventory of Existing Commercial Substances (EINECS)

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None

SECTION 16. OTHER INFORMATION

NFPA 704: (National Fire Protection Association)

Health - 1 Flammability - 1 Reactivity - 1 Others - None

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

MSDS REVISION INDICATOR: New Material Safety Data Sheet

Approval Date: 10/05/2004

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