



Material Safety Data Sheet
ALLECTUS SC INSECTICIDE

MSDS Number: 102000011740
 MSDS Version 1.0
 Revision Date: 03/16/2005

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name ALLECTUS SC INSECTICIDE
MSDS Number 102000011740
EPA Registration No. 432-1415
Product Use Insecticide for general insect control in turfgrass and landscape ornamentals of residential lawns, commercial, industrial, institutional and recreational areas including athletic field and parks. Not for use on golf course or sod farms.

Bayer Environmental Science
 2 T.W. Alexander Drive
 Research Triangle PK, NC 27709
 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>Average % by Weight</u> |
|---------------------------------|----------------|----------------------------|
| Imidacloprid | 138261-41-3 | 5.00 |
| Bifenthrin | 82657-04-3 | 4.00 |

SECTION 3. HAZARDS IDENTIFICATION

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

Emergency Overview Caution! Harmful if swallowed. Avoid contact with skin, eyes and clothing.

Physical State suspension

Appearance off-white

Routes of Exposure Ingestion, Eye contact, Skin contact

Immediate Effects

Eye May cause mild irritation to eyes. Avoid contact with eyes.

Skin May cause slight irritation. Avoid contact with skin and clothing.



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Ingestion Harmful if swallowed. Do not take internally.
Inhalation Inhalation not likely.

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 specific antidote. Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended.
 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 > 110 °C / > 230 °F
 Method: Setaflash

Suitable Extinguishing Media carbon dioxide (CO2), dry chemical, foam



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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.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions

Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.

Methods for Cleaning Up

Take up with absorbent material (e.g. sand, earth or a proprietary absorbent material). Keep in suitable, closed containers for disposal. Clean contaminated floors and objects thoroughly with water and detergents, observing environmental regulations.

Additional Advice

Use personal protective equipment. Avoid breathing vapors and avoid skin contact. 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.

Do not freeze.

Work/Hygienic Procedures

Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

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.



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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 | Safety glasses with side-shields |
| Hand Protection | chemical resistant gloves |
| 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 | Educate and train employees in safe use of the product. Follow all label instructions. |

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.

Do not allow children and pets to enter the treated area until it has dried.

Exposure Limits

| | | | | | |
|-----------|---------|------------------|---------|----------------------|----------|
| Glycerine | 56-81-5 | ACGIH | TWA | | 10 mg/m3 |
| | | Form of Exposure | | Mist. | |
| | | OSHA Z1 | PEL | | 5 mg/m3 |
| | | Form of Exposure | | Respirable fraction. | |
| | | OSHA Z1 | PEL | | 15 mg/m3 |
| | | Form of Exposure | | Total dust. | |
| | | OSHA Z1A | TWA | | 5 mg/m3 |
| | | Form of Exposure | | Respirable fraction. | |
| | | OSHA Z1A | TWA | | 10 mg/m3 |
| | | Form of Exposure | | Total dust. | |
| | | US CA OEL | TWA PEL | | 5 mg/m3 |
| | | Form of Exposure | | Respirable fraction. | |
| | | US CA OEL | TWA PEL | | 10 mg/m3 |
| | | Form of Exposure | | Total dust. | |

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|-----------------------|------------|
| Appearance | off-white |
| Physical State | suspension |



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| | |
|---------------------|------------------------------------|
| pH | 7.8 at 25 °C Aqueous suspension |
| Density | 1.07 g/cm ³ at 20 °C |
| Bulk Density | 8.91 lbs/gal |
| Viscosity | 350 - 500 mPa.s |

SECTION 10. STABILITY AND REACTIVITY

Chemical Stability Stable under normal conditions.

SECTION 11. TOXICOLOGICAL INFORMATION

Only acute toxicity studies have been performed on this product as formulated. The non-acute information pertains to the active ingredients, imidacloprid technical and bifenthrin technical.

Acute Oral Toxicity female rat: LD50: 1,030 mg/kg

Acute Dermal Toxicity female rat: LD50: > 5,000 mg/kg

Acute Inhalation Toxicity female rat: LC50: > 2.03 mg/l
Exposure time: 4 h
Determined in the form of liquid aerosol.
(actual)

female rat: LC50: > 8.12 mg/l
Exposure time: 1 h
Determined in the form of liquid aerosol.
Extrapolated from the 4 hr LC50.
(actual)

Skin Irritation rabbit: slight irritation

Eye Irritation rabbit: Minimally irritating.

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.



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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, 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 aquatic invertebrates. 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.



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CERCLA

None.

Clean Water Section 307 Priority Pollutants

None.

Safe Drinking Water Act Maximum Contaminant Levels

None.

SECTION 16. OTHER INFORMATION

NFPA

Health - 2 Flammability - 1 Reactivity - 1 Others - none

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

Reason to Revise: New Material Safety Data Sheet

Revision Date: 03/16/2005

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