



Material Safety Data Sheet

BAYER ADVANCED COMPLETE BRAND INSECT KILLER FOR SOIL & TURF CONCENTRATE

MSDS Number: 102000015132

MSDS Version 1.0

Revision Date: 10/05/2006

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name BAYER ADVANCED COMPLETE BRAND INSECT KILLER FOR SOIL & TURF CONCENTRATE
MSDS Number 102000015132
EPA Registration No. 72155-29

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	0.72
beta-Cyfluthrin	68359-37-5	0.36

SECTION 3. HAZARDS IDENTIFICATION

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

Emergency Overview Caution! Harmful by inhalation and if swallowed. Moderate eye irritation. Avoid contact with skin, eyes and clothing. Avoid breathing spray mist. Wash thoroughly with soap and water after handling.

Highly toxic to aquatic invertebrates. Highly toxic to fish. Highly toxic to bees.

Physical State liquid

Appearance white to off-white

Routes of Exposure Ingestion, Inhalation, Skin contact

Immediate Effects

Eye Moderate eye irritation. Avoid contact with eyes.

Skin No skin irritation.

Ingestion Harmful if swallowed. Do not take internally.

Inhalation Harmful if inhaled. Avoid breathing spray mist.



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Chronic or Delayed Long-Term This product or its components may have target organ effects.

SECTION 4. FIRST AID MEASURES

General	When possible, 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 physician or poison control center immediately.
Skin	Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water for at least 15 minutes. Call a physician or poison control center immediately.
Ingestion	Call a physician or poison control center immediately. Rinse out mouth and give water in small sips to drink. 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. Do not leave victim unattended.
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 physician or poison control center immediately.
Notes to Physician Treatment	There is no specific antidote. Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended.

SECTION 5. FIRE FIGHTING MEASURES

Flash point	93.3 °C / 199.9 °F
Suitable Extinguishing Media	water, foam, dry chemical
Fire Fighting Instructions	Keep out of smoke. Fight fire from upwind position. Cool closed containers exposed to fire with water spray. Dike area to prevent runoff and contamination of water sources. Equipment or materials involved in pesticide fires may become contaminated. Wear self-contained breathing apparatus and protective suit.

SECTION 6. ACCIDENTAL RELEASE MEASURES



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- 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, diatomaceous earth or a proprietary absorbent material). Pick up and transfer to properly labelled containers. Keep in suitable, closed containers for disposal. Clean contaminated floors and objects thoroughly, observing environmental regulations.
- Additional Advice** Use personal protective equipment. Do not allow product to enter streams, sewers or other waterways.

SECTION 7. HANDLING AND STORAGE

- Handling Procedures** When using in animal quarters, do not apply directly to food, water or food supplements.
- Storing Procedures** Keep tightly closed in a dry, cool and well-ventilated place. 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 thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

- General Protection** There are no known hazards associated with this product when used according to the label directions. The following guidelines should be followed.

Avoid inhalation of vapour or mist.

Avoid contact with skin and eyes.

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

Exposure Limits

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



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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	white to off-white
Physical State	liquid
pH	4.5 - 5.5 (undiluted)
Density	ca. 1.03 g/cm ³ at 20 °C
Viscosity	300 - 800 mPa.s

SECTION 10. STABILITY AND REACTIVITY

Chemical Stability	Stable under normal conditions.
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SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity studies for this product have been bridged from another product containing a higher percentage of the active ingredients beta-cyfluthrin, an enriched isomer mixture of cyfluthrin, and imidacloprid. The non-acute information pertains to the technical-grade active ingredients, beta-cyfluthrin and imidacloprid. Toxicology information on technical-grade cyfluthrin can be obtained by calling the Product Information Number on Page 1.

Acute Oral Toxicity	male/female rat: LD50: > 2,000 mg/kg
Acute Dermal Toxicity	male/female rat: LD50: > 4,000 mg/kg
Acute Inhalation Toxicity	male/female rat: LC50: > 1.2 mg/l Exposure time: 4 h Determined in the form of liquid aerosol. Highest attainable concentration. No deaths
	male/female rat: LC50: > 4.8 mg/l Exposure time: 1 h Determined in the form of liquid aerosol. Extrapolated from the 4 hr LC50.
Skin Irritation	rabbit: No skin irritation.



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Eye Irritation rabbit: No eye irritation.

Sensitization guinea pig: Non-sensitizing.

Subchronic Toxicity BETA-CYFLUTHRIN TECHNICAL
Beta-cyfluthrin produced general signs of toxicity (e.g., decreased body weights) and/or neurobehavioral effects (e.g., uncoordinated gait) in subchronic dietary studies (rats, dogs) and in a 4-week inhalation study (rats).

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

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

- ACGIH**
None.
- NTP**
None.
- IARC**
None.
- OSHA**
None.

Reproductive & Developmental Toxicity BETA-CYFLUTHRIN TECHNICAL
DEVELOPMENTAL TOXICITY: Beta-cyfluthrin was not a primary developmental toxicant in a developmental toxicity study in rats. Developmental effects (e.g., delayed ossifications) were observed at the high-dose but were considered secondary to maternal 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.

Neurotoxicity BETA-CYFLUTHRIN TECHNICAL
Beta-cyfluthrin produced slight transient neurobehavioral effects at the highest dose tested in acute and subchronic neurotoxicity screening studies in rats. There were no correlating compound-related morphological changes in the neural tissues in either study.

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



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offspring exposed to beta-cyfluthrin exhibited a reduction in startle response amplitude at the highest dose tested in conjunction with maternal toxicity. There were no compound-related morphological changes observed in the neural tissues.

IMIDACLOPRID TECHNICAL

Neurotoxicity studies in rats showed slight behavioral and activity changes only at the highest dose tested. There were no correlating morphological changes observed in the neural tissues.

Mutagenicity

BETA-CYFLUTHRIN TECHNICAL

Beta-cyfluthrin was not mutagenic or genotoxic in a battery of in vitro and in vivo mutagenicity studies.

IMIDACLOPRID TECHNICAL

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

SECTION 12. ECOLOGICAL INFORMATION

**Environmental
Precautions**

Do not apply directly to water. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area. Apply this product as specified on the label.

SECTION 13. DISPOSAL CONSIDERATIONS

**General Disposal
Guidance**

It is best to use all of the product in accordance with label directions. If it is necessary to dispose of unused product, please follow container label instructions and applicable local guidelines. Never place unused product down any indoor or outdoor drain.

Container Disposal

Do not re-use empty containers. Place empty container in trash.

SECTION 14. TRANSPORT INFORMATION

DOT CLASSIFICATION:

Not regulated for transportation

FREIGHT CLASSIFICATION:

Insecticide or Fungicides, N.O.I., other than poison

SECTION 15. REGULATORY INFORMATION



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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

beta-Cyfluthrin 68359-37-5 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

beta-Cyfluthrin 68359-37-5 NJ

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

European Inventory of Existing Commercial Substances (EINECS)

beta-Cyfluthrin 68359-37-5

SECTION 16. OTHER INFORMATION

NFPA 704 (National Fire Protection Association):

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.



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