



Material Safety Data Sheet

LEVERAGE® 360 INSECTICIDE

MSDS Number: 102000019505

MSDS Version 1.1

Revision Date: 06/08/2010

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product name LEVERAGE® 360 INSECTICIDE
MSDS Number 102000019505
EPA Registration No. 264-1104

Bayer CropScience
 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: 1-866-99BAYER (1-866-992-2937)

SECTION 2. HAZARDS IDENTIFICATION

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

Emergency Overview Caution! Harmful if absorbed through skin. Harmful if swallowed. Moderate eye irritation. Avoid contact with skin, eyes and clothing. Wash thoroughly with soap and water after handling.

Physical State suspension

Appearance white to beige

Exposure routes Skin Absorption, Eye contact, Ingestion

Immediate Effects

Eye May cause mild irritation to eyes. Do not get in eyes.

Skin Harmful if absorbed through skin. Avoid contact with skin and clothing. May cause slight irritation.

Ingestion Harmful if swallowed. Do not take internally.

Inhalation Avoid contact or inhalation of spray mist.

Chronic or Delayed Long-Term

This product does not contain any ingredients designated by IARC, NTP, ACGIH or OSHA as probable or suspected human carcinogens.

Potential Environmental Effect

Extremely toxic to fish and aquatic invertebrates. Toxic to bees.



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SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Hazardous Component Name</u>	<u>CAS-No.</u>	<u>Average % by Weight</u>
Imidacloprid	138261-41-3	21.00
beta-Cyfluthrin	68359-37-5	10.50
Glycerine	56-81-5	

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	Treat symptomatically. There is no specific antidote.

SECTION 5. FIRE FIGHTING MEASURES

Flash point	> 93.3 °C / 199.9 °F
Suitable extinguishing media	Water spray, Foam, Carbon dioxide (CO ₂), Dry chemical
Fire Fighting Instructions	<p>Avoid contact with spilled product or contaminated surfaces. Evacuate personnel to safe areas. Keep out of smoke. Fight fire from upwind position. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses.</p> <p>Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.</p>



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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** Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Collect and transfer the product into a properly labelled and tightly closed container. Clean contaminated floors and objects thoroughly, observing environmental regulations.

- Additional advice** Use personal protective equipment. Do not allow to enter soil, waterways or waste water canal.

SECTION 7. HANDLING AND STORAGE

- Handling procedures** Handle and open container in a manner as to prevent spillage. Maintain exposure levels below the exposure limit through the use of general and local exhaust ventilation. For personal protection see section 8.

- Storing Procedures** Store in a cool, dry place and in such a manner as to prevent cross contamination with other crop protection products, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.

- 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.

 Remove Personal Protective Equipment (PPE) immediately after handling this product. Before removing gloves clean them with soap and water. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

- General Protection** Follow all label instructions. Train employees in safe use of the product.

 Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and warm/tepid water. Keep and wash PPE separately from other laundry.

- Eye/Face Protection** Tightly fitting safety goggles

- Hand protection** Chemical resistant nitrile rubber gloves

- Body Protection** Wear long-sleeved shirt and long pants and shoes plus socks.



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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.

Exposure Limits

Imidacloprid beta-Cyfluthrin	138261-41-3 68359-37-5	OES BCS*	TWA	0.7 mg/m3
		TX ESL	ST ESL	50 ug/m3
		TX ESL	ST ESL	50 ug/m3
		TX ESL	AN ESL	5 ug/m3
		TX ESL	AN ESL	5 ug/m3
Glycerine	56-81-5	OES BCS*	TWA	0.01 mg/m3
		ACGIH	TWA	10 mg/m3
		OSHA Z1	PEL	5 mg/m3
		OSHA Z1	PEL	15 mg/m3
		OSHA Z1A	TWA	5 mg/m3
		OSHA Z1A	TWA	10 mg/m3
		TX ESL	ST ESL	50 ug/m3
		TX ESL	AN ESL	5 ug/m3
		TWA	10 mg/m3	
		TWA	5 mg/m3	

*OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	white to beige
Physical State	suspension
pH	ca. 6.9 (10 %)
Density	1.16 g/cm ³

SECTION 10. STABILITY AND REACTIVITY

Conditions to avoid	Extremes of temperature and direct sunlight.
Chemical Stability	Stable under recommended storage conditions.

SECTION 11. TOXICOLOGICAL INFORMATION

Only acute toxicity studies have been performed on the formulated product. The non-acute information pertains to the technical-grade active ingredients, imidacloprid and beta-cyfluthrin, an enriched isomer mixture of cyfluthrin. Further toxicological information on technical-grade cyfluthrin can be obtained by calling the



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Product Information Number, which is listed in Section 1 of this MSDS.

- Acute oral toxicity** female rat: LD50: > 1,044 mg/kg
- Acute dermal toxicity** rat: LD50: > 2,000 mg/kg
- Acute inhalation toxicity** rat: LC50: > 2.03 mg/l
Exposure time: 4 h
Determined in the form of liquid aerosol.
highest concentration tested
No deaths
- Skin irritation** rabbit: slight irritation
- Eye irritation** rabbit: Mild eye irritation.
- Sensitisation** guinea pig: Non-sensitizing.
- Chronic toxicity** Imidacloprid caused thyroid and/or liver effects in chronic dietary studies in rats and dogs.

Cyfluthrin, a racemic mixture containing beta-cyfluthrin, caused no long term effects in rat, mice or dogs.

Assessment Carcinogenicity

Imidacloprid was not carcinogenic in studies in rats and mice.

Cyfluthrin was not carcinogenic in studies in rats and mice.

ACGIH

None.

NTP

None.

IARC

None.

OSHA

None.

- Reproductive toxicity** REPRODUCTION: Imidacloprid was not a reproductive toxicant in a multi-generation study in rats.

DEVELOPMENTAL TOXICITY: Imidacloprid is not considered a primary developmental toxicant in rats and rabbits. Developmental effects were observed at doses that caused maternal toxicity.

REPRODUCTION: Beta-Cyfluthrin was not a reproductive toxicant in a multi-generation study in rats.

DEVELOPMENTAL TOXICITY: Beta-cyfluthrin was not a primary developmental toxicant in rats. Developmental effects were observed but were considered



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secondary to maternal toxicity.

Neurotoxicity

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

Beta-cyfluthrin produced slight transient neurobehavioral effects in acute, subchronic and developmental neurotoxicity screening studies in rats. These effects occurred at the highest dose tested and without correlating morphological changes in the neural tissues.

Mutagenicity

Imidacloprid was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.

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

SECTION 12. ECOLOGICAL INFORMATION

Environmental precautions

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent sites. 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.

SECTION 13. DISPOSAL CONSIDERATIONS

General Disposal Guidance

Pesticide, spray mixture or rinse water that cannot be used according to label instructions may be disposed of on site or at an approved waste disposal facility. Never place unused product down any indoor or outdoor drain. Follow advice on product label and/or leaflet.

Container Disposal

Follow advice on product label and/or leaflet. Do not re-use empty containers. Triple rinse containers. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill or incineration, or if allowed by State and Local authorities, by burning. If burned, stay out of smoke.

RCRA Information

Characterization and proper disposal of this material as a special or hazardous waste is dependent upon Federal, State and local laws and are the user's responsibility. RCRA classification may apply.

SECTION 14. TRANSPORT INFORMATION

According to national and international transport regulations this material is not classified as dangerous



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goods / hazardous material.

SECTION 15. REGULATORY INFORMATION

EPA Registration No. 264-1104

US Federal Regulations

TSCA list

Glycerine 56-81-5

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
Glycerine	56-81-5	IL, MN, RI

Canadian Regulations

Canadian Domestic Substance List

Glycerine 56-81-5

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)

Glycerine 56-81-5



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SECTION 16. OTHER INFORMATION

NFPA 704 (National Fire Protection Association):

Health - 1 Flammability - 1 Reactivity - 0 Others - none

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

Reason to Revise: Updated for general editorial purposes. The following sections have been revised: Section 11: Toxicological Information.

Revision Date: 06/08/2010

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