



**BAYER ADVANCED COMPLETE BRAND INSECT KILLER
FOR SOIL & TURF CONCENTRATE**

Version 2 / USA
102000015132

1/11
Revision Date: 09/12/2013
Print Date: 07/08/2015

**SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE
COMPANY/UNDERTAKING**

Product identifier

Trade name	BAYER ADVANCED COMPLETE BRAND INSECT KILLER FOR SOIL & TURF CONCENTRATE
Product code (UVP)	05964457
SDS Number	102000015132
EPA Registration No.	72155-29

Relevant identified uses of the substance or mixture and uses advised against

Use	Insecticide
Restrictions on use	See product label for restrictions.

Information on manufacturer

Bayer Environmental Science
2 T.W. Alexander Drive
Research Triangle PK, NC 27709
United States

Emergency telephone no.

All Emergencies, 24hr/ 7 days 1-800-334-7577 (24 hours/day)

**Product Information
Telephone No.**

SDS Information or Request SDSINFO.BCS-NA@bayer.com

SECTION 2: HAZARDS IDENTIFICATION

Classification in accordance with regulation HCS 29CFR §1910.1200

This material is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

Other hazards

No particular hazards known.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Component Name	CAS-No.	Average % by Weight
Imidacloprid	138261-41-3	0.72
Beta-Cyfluthrin	68359-37-5	0.36
Glycerine	56-81-5	8.00



**BAYER ADVANCED COMPLETE BRAND INSECT KILLER
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Version 2 / USA
102000015132

2/11
Revision Date: 09/12/2013
Print Date: 07/08/2015

SECTION 4: FIRST AID MEASURES

Description of first aid measures

General advice	When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.
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.
Skin contact	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.
Eye contact	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.
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.

Most important symptoms and effects, both acute and delayed

Symptoms	No symptoms known or expected.
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Indication of any immediate medical attention and special treatment needed

Treatment	Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended. There is no specific antidote.
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SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

Suitable	Water, Foam, Dry chemical
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Unsuitable	None known.
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Special hazards arising from the substance or mixture	Dangerous gases are evolved in the event of a fire.
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Advice for firefighters

Special protective equipment for fire-fighters	Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.
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Further information	Keep out of smoke. Fight fire from upwind position. Cool closed containers exposed to fire with water spray. Do not allow run-off
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Version 2 / USA
102000015132

3/11
Revision Date: 09/12/2013
Print Date: 07/08/2015

from fire fighting to enter drains or water courses.

Flash point	93.3 °C
Autoignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Explosivity	not applicable

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

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

Methods and materials for containment and cleaning up

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

Precautions for safe handling

Advice on protection against fire and explosion No special precautions required.

Hygiene measures Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics.

Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers Keep containers 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. Protect from freezing.

Advice on common storage Keep away from food, drink and animal feedingstuffs.



**BAYER ADVANCED COMPLETE BRAND INSECT KILLER
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Version 2 / USA
102000015132

4/11
Revision Date: 09/12/2013
Print Date: 07/08/2015

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Components	CAS-No.	Control parameters	Update	Basis
Imidacloprid	138261-41-3	0.7 mg/m3 (TWA)		OES BCS*
Imidacloprid	138261-41-3	5 ug/m3 (AN ESL)	07 2011	TX ESL
Imidacloprid	138261-41-3	50 ug/m3 (ST ESL)	07 2011	TX ESL
Beta-Cyfluthrin	68359-37-5	50 ug/m3 (ST ESL)	10 2003	TX ESL
Beta-Cyfluthrin (Particulate.)	68359-37-5	50 ug/m3 (ST ESL)	10 2003	TX ESL
Beta-Cyfluthrin (Particulate.)	68359-37-5	5 ug/m3 (AN ESL)	10 2003	TX ESL
Beta-Cyfluthrin	68359-37-5	5 ug/m3 (AN ESL)	10 2003	TX ESL
Beta-Cyfluthrin	68359-37-5	0.01 mg/m3 (TWA)		OES BCS*
Glycerine (Mist.)	56-81-5	10 mg/m3 (TWA)	02 2012	ACGIH
Glycerine (Total dust.)	56-81-5	15 mg/m3 (PEL)	02 2006	OSHA Z1
Glycerine (Respirable fraction.)	56-81-5	5 mg/m3 (PEL)	02 2006	OSHA Z1
Glycerine (Total dust.)	56-81-5	10 mg/m3 (TWA)	1989	OSHA Z1A
Glycerine (Respirable fraction.)	56-81-5	5 mg/m3 (TWA)	1989	OSHA Z1A
Glycerine (Total dust and mist.)	56-81-5	10 mg/m3 (TWA)	06 2008	TN OEL
Glycerine (Respirable fraction and dust or fume.)	56-81-5	5 mg/m3 (TWA)	06 2008	TN OEL
Glycerine	56-81-5	5 ug/m3 (AN ESL)	03 2012	TX ESL
Glycerine	56-81-5	100 ug/m3 (AN ESL)	03 2012	TX ESL
Glycerine	56-81-5	50 ug/m3 (ST ESL)	03 2012	TX ESL
Glycerine	56-81-5	1000 ug/m3 (ST ESL)	03 2012	TX ESL

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

Exposure controls



**BAYER ADVANCED COMPLETE BRAND INSECT KILLER
FOR SOIL & TURF CONCENTRATE**

Version 2 / USA
102000015132

5/11
Revision Date: 09/12/2013
Print Date: 07/08/2015

Personal protective equipment

In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the following recommendations would apply.

General protective measures

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.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	white to light beige
Physical State	Liquid
Odor	characteristic
Odour Threshold	no data available
pH	4.5 - 6.2 (100 %)
Vapor Pressure	no data available
Vapor Density (Air = 1)	no data available
Density	ca. 1.03 g/cm ³ at 20 °C
Evaporation rate	no data available
Boiling Point	no data available
Melting / Freezing Point	no data available
Water solubility	dispersible
Minimum Ignition Energy	not applicable
Decomposition temperature	not applicable



**BAYER ADVANCED COMPLETE BRAND INSECT KILLER
FOR SOIL & TURF CONCENTRATE**

Version 2 / USA
102000015132

6/11
Revision Date: 09/12/2013
Print Date: 07/08/2015

Partition coefficient: n-octanol/water	no data available
Viscosity	300 - 800 mPa.s
Flash point	93.3 °C
Autoignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Explosivity	not applicable

SECTION 10: STABILITY AND REACTIVITY

Reactivity

Thermal decomposition not applicable

Chemical stability Stable under normal conditions.

Possibility of hazardous reactions No dangerous reaction known under conditions of normal use.

Conditions to avoid freezing

Incompatible materials no data available

Hazardous decomposition products no data available

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes Eye contact, Ingestion, Inhalation, Skin contact

Immediate Effects

Eye Moderate eye irritation.

Ingestion Harmful if swallowed.



**BAYER ADVANCED COMPLETE BRAND INSECT KILLER
FOR SOIL & TURF CONCENTRATE**

Version 2 / USA
102000015132

7/11
Revision Date: 09/12/2013
Print Date: 07/08/2015

Inhalation Harmful if inhaled.

Information on toxicological effects

Acute oral toxicity LD50 (male/female combined rat) > 2,000 mg/kg

Acute inhalation toxicity LC50 (male/female combined rat) > 1.2 mg/l
Exposure time: 4 h
Determined in the form of liquid aerosol.
Highest attainable concentration.
No deaths

LC50 (male/female combined rat) > 4.8 mg/l
Exposure time: 1 h
Determined in the form of liquid aerosol.
Extrapolated from the 4 hr LC50.

Acute dermal toxicity LD50 (male/female combined rat) > 4,000 mg/kg

Skin irritation No skin irritation (rabbit)

Eye irritation No eye irritation (rabbit)

Sensitisation Non-sensitizing. (guinea pig)

Assessment repeated dose toxicity

Imidacloprid did not cause specific target organ toxicity in experimental animal studies.
The toxic effects of beta-Cyfluthrin are related to transient hyperactivity typical for pyrethroid neurotoxicity.

Assessment 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.

Assessment Carcinogenicity

Imidacloprid was not carcinogenic in lifetime feeding studies in rats and mice.
beta-Cyfluthrin was not carcinogenic in lifetime feeding studies in rats and mice.

ACGIH

None.

NTP

None.

IARC

None.

OSHA

None.



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Version 2 / USA
102000015132

8/11
Revision Date: 09/12/2013
Print Date: 07/08/2015

Assessment toxicity to reproduction

Imidacloprid caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals. The reproduction toxicity seen with Imidacloprid is related to parental toxicity.

beta-Cyfluthrin caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals. The reproduction toxicity seen with beta-Cyfluthrin is related to parental toxicity.

Assessment developmental toxicity

Imidacloprid caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Imidacloprid are related to maternal toxicity.

beta-Cyfluthrin caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with beta-Cyfluthrin are related to maternal toxicity.

Further information

Acute toxicity studies have been bridged from a similar formulation(s).

SECTION 12: ECOLOGICAL INFORMATION

Toxicity to fish

LC50 (Rainbow trout (*Oncorhynchus mykiss*)) 0.000068 mg/l

Exposure time: 96 h

The value mentioned relates to the active ingredient beta-cyfluthrin.

LC50 (Rainbow trout (*Oncorhynchus mykiss*)) 211 mg/l

Exposure time: 96 h

The value mentioned relates to the active ingredient imidacloprid.

Toxicity to aquatic invertebrates

EC50 (Water flea (*Daphnia magna*)) 0.00029 mg/l

Exposure time: 48 h

The value mentioned relates to the active ingredient beta-cyfluthrin.

EC50 (Water flea (*Daphnia magna*)) 85 mg/l

Exposure time: 48 h

The value mentioned relates to the active ingredient imidacloprid.

LC50 (*Chironomus riparius* (non-biting midge)) 0.0552 mg/l

Exposure time: 24 h

The value mentioned relates to the active ingredient imidacloprid.

Toxicity to aquatic plants

IC50 (*Desmodemus subspicatus*) > 0.01 mg/l

Growth rate; Exposure time: 72 h

The value mentioned relates to the active ingredient beta-cyfluthrin.

No acute toxicity was observed at its limit of water solubility.

EC50 (*Desmodemus subspicatus*) > 10 mg/l

Growth rate; Exposure time: 72 h

The value mentioned relates to the active ingredient imidacloprid.



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Version 2 / USA
102000015132

9/11
Revision Date: 09/12/2013
Print Date: 07/08/2015

Biodegradability	Imidacloprid: not rapidly biodegradable beta-Cyfluthrin: not rapidly biodegradable
Koc	Imidacloprid: Koc:225 beta-Cyfluthrin: Koc:508 - 3179
Bioaccumulation	Imidacloprid: Does not bioaccumulate. beta-Cyfluthrin: Bioconcentration factor (BCF) 506 Does not bioaccumulate.
Mobility in soil	Imidacloprid: Moderately mobile in soils beta-Cyfluthrin: Immobile in soil
Environmental precautions	Do not allow to get into surface water, drains and ground 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

Waste treatment methods

Product	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.
Contaminated packaging	Triple rinse containers. Do not re-use empty containers. Place empty container in trash.
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

49CFR	Not dangerous goods / not hazardous material
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Version 2 / USA
102000015132

10/11
Revision Date: 09/12/2013
Print Date: 07/08/2015

IMDG

UN number	3082
Class	9
Packaging group	III
Marine pollutant	YES
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (BETA-CYFLUTHRIN, IMIDACLOPRID SOLUTION)

IATA

UN number	3082
Class	9
Packaging group	III
Environm. Hazardous Mark	YES
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (BETA-CYFLUTHRIN, IMIDACLOPRID SOLUTION)

This transportation information is not intended to convey all specific regulatory information relating to this product. It does not address regulatory variations due to package size or special transportation requirements.

SECTION 15: REGULATORY INFORMATION

EPA Registration No. 72155-29

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%
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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	MN, RI

Canadian Regulations

Canadian Domestic Substance List

Glycerine	56-81-5
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Version 2 / USA
102000015132

11/11
Revision Date: 09/12/2013
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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

EPA/FIFRA Information:

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information required on the pesticide label:

Signal word:

Caution!

Hazard statements:

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.

SECTION 16: OTHER INFORMATION

NFPA 704 (National Fire Protection Association):

Health - 2 Flammability - 1 Instability - 0 Others - none

HMIS (Hazardous Materials Identification System, based on the Third Edition Ratings Guide)

Health - 2 Flammability - 1 Physical Hazard - 0 PPE -

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

Reason for Revision: The following sections have been revised: Section 5: Fire Fighting Measures.
Section 9: Physical and Chemical Properties.

Revision Date: 09/12/2013

This information is provided in good faith but without express or implied warranty. The customer assumes all responsibility for safety and use not in accordance with label instructions. The product names are registered trademarks of Bayer.