



**BAYER ADVANCED 2-IN-1 INSECT CONTROL PLUS
FERTILIZER PLANT SPIKES**

Version 3.0 / USA
102000007185

1/12
Revision Date: 08/10/2015
Print Date: 08/19/2015

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

Product identifier

Trade name BAYER ADVANCED 2-IN-1 INSECT CONTROL PLUS FERTILIZER
PLANT SPIKES

Product code (UVP) 04455053

SDS Number 102000007185

EPA Registration No. 432-1399-72155

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

Use Insecticide, Fertilizer

Restrictions on use See product label for restrictions.

Information on supplier

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

Responsible Department Email: SDSINFO.BCS-NA@bayer.com

Emergency telephone no.

**Emergency Telephone
Number (24hr/ 7 days)** 1-800-334-7577

**Product Information
Telephone Number** 1-800-331-2867

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.	Concentration % by weight
Imidacloprid	138261-41-3	2.5
Copper(II)-sulphate pentahydrate	7758-99-8	0.5



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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	If large amounts are ingested, the following symptoms may occur: Nausea, Vomiting, Dizziness, Abdominal pain, Nausea Symptoms and hazards refer to effects observed after intake of significant amounts of the active ingredient(s).
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Indication of any immediate medical attention and special treatment needed

Treatment	Treat symptomatically. Monitor: respiratory and cardiac functions. In case of ingestion gastric lavage should be considered in cases of significant ingestions only within the first 2 hours. However, the application of activated charcoal and sodium sulphate is always advisable. There is no specific antidote.
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SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

Suitable	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable	High volume water jet



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Special hazards arising from the substance or mixture	In the event of fire the following may be released: Hydrogen chloride (HCl), Hydrogen cyanide (hydrocyanic acid), Carbon monoxide (CO), Nitrogen oxides (NOx)
Advice for firefighters	
Special protective equipment for fire-fighters	Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.
Further information	Whenever possible, contain fire-fighting water by diking area with sand or earth. Do not allow run-off from fire fighting to enter drains or water courses.
Flash point	not applicable
Autoignition temperature	no data available
Lower explosion limit	not applicable
Upper explosion limit	not applicable
Explosivity	Not explosive 92/69/EEC, A.14 / OECD 113

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Precautions Avoid contact with spilled product or contaminated surfaces. Use personal protective equipment.

Methods and materials for containment and cleaning up

Methods for cleaning up Sweep up or vacuum up spillage and collect in suitable container for disposal. Collect and transfer the product into a properly labelled and tightly closed container. Clean contaminated floors and objects thoroughly, observing environmental regulations.

Additional advice Do not allow to enter soil, waterways or waste water canal.

Reference to other sections Information regarding safe handling, see section 7.
Information regarding personal protective equipment, see section 8.
Information regarding waste disposal, see section 13.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling No specific precautions required when handling unopened packs/containers; follow relevant manual handling advice.

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



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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. Remove and wash contaminated gloves, including the inside, before re-use. Remove Personal Protective Equipment (PPE) immediately after handling this product. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.

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. Store in a place accessible by authorized persons only. Keep away from direct sunlight.

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

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Components	CAS-No.	Control parameters	Update	Basis
Imidacloprid	138261-41-3	50ug/m3 (ST ESL)	07 2011	TX ESL
Imidacloprid	138261-41-3	5ug/m3 (AN ESL)	07 2011	TX ESL
Imidacloprid	138261-41-3	0.7 mg/m3 (TWA)		OES BCS*
Starch	9005-25-8	10 mg/m3 (TWA)	02 2012	ACGIH
Starch (Total)	9005-25-8	10 mg/m3 (REL)	2010	NIOSH
Starch (Respirable.)	9005-25-8	5 mg/m3 (REL)	2010	NIOSH
Starch (Respirable fraction.)	9005-25-8	5 mg/m3 (PEL)	02 2006	OSHA Z1
Starch (Total dust.)	9005-25-8	15 mg/m3 (PEL)	02 2006	OSHA Z1
Starch (Respirable fraction.)	9005-25-8	5 mg/m3 (TWA)	1989	OSHA Z1A
Starch (Total dust.)	9005-25-8	15 mg/m3 (TWA)	1989	OSHA Z1A
Starch (Respirable fraction.)	9005-25-8	5 mg/m3 (TWA)	06 2008	TN OEL
Starch (Total dust.)	9005-25-8	15 mg/m3 (TWA)	06 2008	TN OEL
Starch	9005-25-8	50ug/m3 (ST ESL)	03 2014	TX ESL
Starch	9005-25-8	5ug/m3	03 2014	TX ESL



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		(AN ESL)		
Imidacloprid	138261-41-3	50ug/m3 (ST ESL)	07 2011	TX ESL
Imidacloprid	138261-41-3	5ug/m3 (AN ESL)	07 2011	TX ESL
Imidacloprid	138261-41-3	0.7 mg/m3 (TWA)		OES BCS*
Copper(II)-sulphate pentahydrate (Fume.)	7758-99-8	0.2 mg/m3 (TWA)	03 2014	ACGIH
Copper(II)-sulphate pentahydrate (Dust and mist.)	7758-99-8	1 mg/m3 (TWA)	03 2014	ACGIH
Copper(II)-sulphate pentahydrate (Dust and mist.)	7758-99-8	1 mg/m3 (REL)	2010	NIOSH
Copper(II)-sulphate pentahydrate	7758-99-8	1ug/m3 (AN ESL)	03 2014	TX ESL
Copper(II)-sulphate pentahydrate	7758-99-8	10ug/m3 (ST ESL)	03 2014	TX ESL
Copper(II)-sulphate pentahydrate (Dust and mist.)	7758-99-8	1 mg/m3 (TWA PEL)	08 2010	US CA OEL

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

Exposure controls

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.

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.

Hand protection

Chemical resistant nitrile rubber gloves

Eye protection

Safety glasses with side-shields

Skin and body protection

Wear long-sleeved shirt and long pants and shoes plus socks.

General protective measures

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.



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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	beige to light grey
Physical State	small rod
Odor	weak characteristic
Odour Threshold	no data available
pH	6.4 at 10 % (25 °C)
Vapor Pressure	no data available
Vapor Density (Air = 1) Density	no data available
Bulk density	1,590 - 1,630 kg/m ³
Evaporation rate	no data available
Boiling Point	not applicable
Melting / Freezing Point	not applicable
Water solubility	Not dispersible
Minimum Ignition Energy	no data available
Decomposition temperature	from 175 °C , Heating rate: 3 K/min
Partition coefficient: n- octanol/water	not applicable
Viscosity	not applicable
Flash point	not applicable
Autoignition temperature	no data available
Lower explosion limit	not applicable
Upper explosion limit	not applicable
Explosivity	Not explosive 92/69/EEC, A.14 / OECD 113
Other information	Further safety related physical-chemical data are not known.

SECTION 10: STABILITY AND REACTIVITY

Reactivity	
Thermal decomposition	from 175 °C, Heating rate: 3 K/min
Chemical stability	Stable under recommended storage conditions.



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Possibility of hazardous reactions	No hazardous reactions when stored and handled according to prescribed instructions.
Conditions to avoid	Extremes of temperature and direct sunlight.
Incompatible materials	Store only in the original container.
Hazardous decomposition products	No decomposition products expected under normal conditions of use.

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes Eye contact, Skin Absorption, Ingestion, Inhalation

Immediate Effects

Eye Causes eye irritation.

Skin Harmful if absorbed through skin.

Ingestion Harmful if swallowed.

Inhalation May cause irritation of the mucous membranes.

Information on toxicological effects

Acute oral toxicity LD50 (rat) > 4,820 mg/kg

Acute inhalation toxicity LC50 (rat) > 5.1 mg/l
Exposure time: 4 h
Determined in the form of dust.

LC50 (rat) > 20 mg/l
Exposure time: 1 h
Determined in the form of dust.
Extrapolated from the 4 hr LC50.

Acute dermal toxicity LD50 (rabbit) > 2,000 mg/kg

Skin irritation No skin irritation (rabbit)

Eye irritation Mild eye irritation. (rabbit)

Sensitisation Non-sensitizing. (guinea pig)

Assessment repeated dose toxicity

Imidacloprid did not cause specific target organ toxicity in experimental animal studies.

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.

Assessment carcinogenicity

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



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ACGIH

None.

NTP

None.

IARC

None.

OSHA

None.

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.

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.

Further information

Acute toxicity studies have been bridged from a similar formulation(s).
The non-acute information pertains to the active ingredient(s).

SECTION 12: ECOLOGICAL INFORMATION

Toxicity to fish

LC50 (Oncorhynchus mykiss (rainbow trout)) 211 mg/l
Exposure time: 96 h
The value mentioned relates to the active ingredient imidacloprid.

LC50 (Oncorhynchus mykiss (rainbow trout)) 0.03 mg/l
Exposure time: 96 h
The value mentioned relates to copper(II)-sulphate pentahydrate.

Toxicity to aquatic invertebrates

EC50 (Daphnia magna (Water flea)) 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.

EC50 (Daphnia magna (Water flea)) 0.2 mg/l
Exposure time: 48 h
The value mentioned relates to copper(II)-sulphate pentahydrate.

Toxicity to aquatic plants

EC50 (Desmodesmus subspicatus (green algae)) > 10 mg/l



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	Growth rate; Exposure time: 72 h The value mentioned relates to the active ingredient imidacloprid.
Biodegradability	Imidacloprid: not rapidly biodegradable
Koc	Imidacloprid: Koc: 225
Bioaccumulation	Imidacloprid: Does not bioaccumulate.
Mobility in soil	Imidacloprid: Moderately mobile in soils
Additional ecological information	No other effects to be mentioned.
Environmental precautions	Do not allow to get into surface water, drains and ground water.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Product	Dispose in accordance with all local, state/provincial and federal regulations. Follow container label instructions for disposal of wastes generated during use in compliance with the product label.
Contaminated packaging	Dispose of empty container in a sanitary landfill or by incineration, or, if allowed by State/Provincial and local authorities, by burning. If burned, stay out of smoke. Follow advice on product label and/or leaflet.
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

UN number	3077
Class	9
Packaging group	III
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S. (COPPER (II) SULFATE PENTAHYDRATE)
RQ	Reportable Quantity is reached with 2,000 lb of product.

IMDG

UN number	3077
Class	9



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Packaging group III
Marine pollutant YES
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,
N.O.S.
(IMIDACLOPRID MIXTURE)

IATA

UN number **3077**
Class 9
Packaging group III
Environm. Hazardous Mark YES
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,
N.O.S.
(IMIDACLOPRID MIXTURE)

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. 432-1399-72155

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

Copper(II)-sulphate pentahydrate 7758-99-8

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

Copper(II)-sulphate pentahydrate 7758-99-8 CA, CT, IL, MI, NJ, RI

Canadian Regulations

Canadian Domestic Substance List

None.

Environmental

CERCLA

Copper(II)-sulphate pentahydrate 7758-99-8



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Clean Water Section 307 Priority Pollutants

Copper(II)-sulphate pentahydrate 7758-99-8

Safe Drinking Water Act Maximum Contaminant Levels

Copper(II)-sulphate pentahydrate 7758-99-8

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 if swallowed or absorbed through skin.
Causes eye irritation.
Avoid contact with skin, eyes and clothing.

SECTION 16: OTHER INFORMATION

Abbreviations and acronyms

49CFR	Code of Federal Regulations, Title 49
ACGIH	US. ACGIH Threshold Limit Values
CAS-Nr.	Chemical Abstracts Service number
EINECS	European inventory of existing commercial substances
ELINCS	European list of notified chemical substances
IARC	US. IARC Monographs on Occupational Exposures to Chemical Agents
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
N.O.S.	Not otherwise specified
NTP	US. National Toxicology Program (NTP) Report on Carcinogens
OECD	Organization for Economic Co-operation and Development
TDG	Transportation of Dangerous Goods
TWA	Time weighted average
UN	United Nations
WHO	World health organisation

NFPA 704 (National Fire Protection Association):

Health - 1 Flammability - 1 Instability - 1 Others - none

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

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

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

Reason for Revision: Revised according to the current OSHA Hazard Communication Standard (29CFR1910.1200)



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