



**BAYER ADVANCED 12 MONTH TREE & SHRUB PROTECT
& FEED CONCENTRATE II**

Version 2.0 / USA
102000017711

1/12
Revision Date: 04/14/2014
Print Date: 03/23/2016

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

Product identifier

Trade name BAYER ADVANCED 12 MONTH TREE & SHRUB PROTECT & FEED
CONCENTRATE II

Product code (UVP) 79465688

SDS Number 102000017711

EPA Registration No. 72155-82

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

**Product Information
Telephone Number**

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

SECTION 2: HAZARDS IDENTIFICATION

Classification in accordance with regulation HCS 29CFR §1910.1200

Acute toxicity (Oral): Category 4



Signal word: Warning

Hazard statements

Harmful if swallowed.

Precautionary statements

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

Rinse mouth.



BAYER ADVANCED 12 MONTH TREE & SHRUB PROTECT & FEED CONCENTRATE II

Version 2.0 / USA
102000017711

2/12
Revision Date: 04/14/2014
Print Date: 03/23/2016

Dispose of contents/container in accordance with local regulation.

Other hazards

No other hazards known.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Component Name	CAS-No.	Average % by Weight
Imidacloprid	138261-41-3	0.74
Clothianidin	210880-92-5	0.37
Potassium chloride	7447-40-7	1.69
Diammonium hydrogenorthophosphate	7783-28-0	2.28
Glycerine	56-81-5	8.40

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 To date no symptoms are known.

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.



BAYER ADVANCED 12 MONTH TREE & SHRUB PROTECT & FEED CONCENTRATE II

Version 2.0 / USA
102000017711

3/12
Revision Date: 04/14/2014
Print Date: 03/23/2016

SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

Suitable Water spray, Foam, Carbon dioxide (CO₂), Dry chemical

Unsuitable None known.

Special hazards arising from the substance or mixture Dangerous gases are evolved in the event of a fire.

Advice for firefighters

Special protective equipment for fire-fighters Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.

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 from fire fighting to enter drains or water courses.

Flash point > 93.4 °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 Isolate hazard area. Keep unauthorized people away. 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.

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.



BAYER ADVANCED 12 MONTH TREE & SHRUB PROTECT & FEED CONCENTRATE II

Version 2.0 / USA
102000017711

4/12
Revision Date: 04/14/2014
Print Date: 03/23/2016

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Maintain exposure levels below the exposure limit through the use of general and local exhaust ventilation. Handle and open container in a manner as to prevent spillage.

Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers 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.

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	5ug/m3 (AN ESL)	07 2011	TX ESL
Imidacloprid	138261-41-3	50ug/m3 (ST ESL)	07 2011	TX ESL
Clothianidin	210880-92-5	2.8 mg/m3 (TWA)		OES BCS*
Potassium chloride	7447-40-7	1 mg/m3 (TWA)		OES BCS*
Potassium chloride (Particulate.)	7447-40-7	5ug/m3 (AN ESL)	02 2013	TX ESL
Potassium chloride (Particulate.)	7447-40-7	50ug/m3 (ST ESL)	02 2013	TX ESL
Diammonium hydrogenorthophosphate (Particulate.)	7783-28-0	5ug/m3 (AN ESL)	02 2013	TX ESL
Diammonium hydrogenorthophosphate (Particulate.)	7783-28-0	50ug/m3 (ST ESL)	02 2013	TX ESL
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 (Respirable fraction.)	56-81-5	5 mg/m3 (TWA)	1989	OSHA Z1A
Glycerine (Total dust.)	56-81-5	10 mg/m3 (TWA)	1989	OSHA Z1A
Glycerine	56-81-5	10 mg/m3	06 2008	TN OEL



**BAYER ADVANCED 12 MONTH TREE & SHRUB PROTECT
& FEED CONCENTRATE II**

Version 2.0 / USA
102000017711

5/12
Revision Date: 04/14/2014
Print Date: 03/23/2016

(Total dust and mist.)		(TWA)		
Glycerine (Respirable fraction and dust or fume.)	56-81-5	5 mg/m3 (TWA)	06 2008	TN OEL
Glycerine (Particulate.)	56-81-5	50ug/m3 (ST ESL)	02 2013	TX ESL
Glycerine (Particulate.)	56-81-5	5ug/m3 (AN ESL)	02 2013	TX ESL
Glycerine (Vapor.)	56-81-5	100ug/m3 (AN ESL)	02 2013	TX ESL
Glycerine (Vapor.)	56-81-5	1000ug/m3 (ST ESL)	02 2013	TX ESL

*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

Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics.
Do not allow children or pets to enter the treated area until it has dried.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	green
Physical State	Liquid
Odor	slight latex-like
Odour Threshold	no data available
pH	6.0 - 7.5



BAYER ADVANCED 12 MONTH TREE & SHRUB PROTECT & FEED CONCENTRATE II

Version 2.0 / USA
102000017711

6/12
Revision Date: 04/14/2014
Print Date: 03/23/2016

Vapor Pressure	no data available
Vapor Density (Air = 1)	no data available
Density	ca. 1.07 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
Partition coefficient: n-octanol/water	no data available
Viscosity	200 - 600 cps
Flash point	> 93.4 °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 recommended storage conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Extremes of temperature and direct sunlight.
Incompatible materials	no data available
Hazardous decomposition products	No decomposition products expected under normal conditions of use.

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes	Ingestion, Skin Absorption, Eye contact, Inhalation
Immediate Effects	



**BAYER ADVANCED 12 MONTH TREE & SHRUB PROTECT
& FEED CONCENTRATE II**

Version 2.0 / USA
102000017711

7/12
Revision Date: 04/14/2014
Print Date: 03/23/2016

Eye	May cause eye irritation.
Skin	May cause skin irritation. Harmful if absorbed through skin.
Ingestion	Harmful if swallowed.
Inhalation	Avoid breathing spray mist.

Information on toxicological effects

Acute oral toxicity	LD50 (female rat) 500 - 2,000 mg/kg
Acute inhalation toxicity	LC50 (rat) > 2.7 mg/l Exposure time: 4 h Determined in the form of liquid aerosol. Highest attainable concentration. No deaths LC50 (rat) > 10.8 mg/l Exposure time: 1 h Determined in the form of liquid aerosol. Extrapolated from the 4 hr LC50.
Acute dermal toxicity	LD50 (rat) > 4,000 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.
Clothianidin 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.
Clothianidin 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.
Clothianidin was not carcinogenic in lifetime feeding studies in rats and mice.

ACGIH

None.

NTP

None.

IARC

None.

OSHA

None.



BAYER ADVANCED 12 MONTH TREE & SHRUB PROTECT & FEED CONCENTRATE II

Version 2.0 / USA
102000017711

8/12
Revision Date: 04/14/2014
Print Date: 03/23/2016

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. Clothianidin 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 Clothianidin 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. Clothianidin did not cause developmental toxicity in rats. Clothianidin caused developmental toxicity in rabbits only at dose levels toxic to the dams. The developmental effects seen with Clothianidin 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 (Rainbow trout (*Oncorhynchus mykiss*)) 211 mg/l
Exposure time: 96 h
The value mentioned relates to the active ingredient imidacloprid.
LC50 (Rainbow trout (*Oncorhynchus mykiss*)) > 104.2 mg/l
Exposure time: 96 h
The value mentioned relates to the active ingredient clothianidin.

Toxicity to aquatic invertebrates

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.
EC50 (Water flea (*Daphnia magna*)) > 40 mg/l
Exposure time: 48 h
The value mentioned relates to the active ingredient clothianidin.
EC15 (*Chironomus riparius* (non-biting midge)) 0.00072 mg/l
Exposure time: 28 d
The value mentioned relates to the active ingredient clothianidin.
EC50 (*Chironomus riparius* (non-biting midge)) 0.00106 mg/l
Exposure time: 28 d
The value mentioned relates to the active ingredient clothianidin.



BAYER ADVANCED 12 MONTH TREE & SHRUB PROTECT & FEED CONCENTRATE II

Version 2.0 / USA
102000017711

9/12
Revision Date: 04/14/2014
Print Date: 03/23/2016

Chronic toxicity to aquatic invertebrates	NOEC (Daphnia): 0.12 mg/l Exposure time: 21 d The value mentioned relates to the active ingredient clothianidin.
Toxicity to aquatic plants	EC50 (Desmodesmus subspicatus) > 10 mg/l Growth rate; Exposure time: 72 h The value mentioned relates to the active ingredient imidacloprid. IC50 (Pseudokirchneriella subcapitata) 70 mg/l Growth rate; Exposure time: 72 h The value mentioned relates to the active ingredient clothianidin. EC50 (Lemna gibba (duckweed)) 270 mg/l Exposure time: 14 d The value mentioned relates to the active ingredient clothianidin.
Biodegradability	Imidacloprid: ; not rapidly biodegradable Clothianidin: ; not rapidly biodegradable
Koc	Imidacloprid: Koc: 225 Clothianidin: Koc: 84 - 345
Bioaccumulation	Imidacloprid: ; Does not bioaccumulate. Clothianidin: ; Does not bioaccumulate.
Mobility in soil	Imidacloprid: Moderately mobile in soils Clothianidin: Moderately mobile in soils
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 when weather conditions favor runoff or drift. 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	Do not re-use empty containers. Place empty container in trash. Follow advice on product label and/or leaflet.



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& FEED CONCENTRATE II**

Version 2.0 / USA
102000017711

10/12
Revision Date: 04/14/2014
Print Date: 03/23/2016

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

IMDG

UN number **3082**
Class 9
Packaging group III
Marine pollutant YES
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S.
(CLOTHIANIDIN, 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.
(CLOTHIANIDIN, 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. 72155-82

US Federal Regulations

TSCA list

Potassium chloride 7447-40-7
Diammonium hydrogenorthophosphate 7783-28-0
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

Diammonium hydrogenorthophosphate 7783-28-0 1.0%

US States Regulatory Reporting

CA Prop65



**BAYER ADVANCED 12 MONTH TREE & SHRUB PROTECT
& FEED CONCENTRATE II**

Version 2.0 / USA
102000017711

11/12
Revision Date: 04/14/2014
Print Date: 03/23/2016

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

Glycerine	56-81-5	MN
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Canadian Regulations

Canadian Domestic Substance List

Potassium chloride	7447-40-7
Diammonium hydrogenorthophosphate	7783-28-0
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)

Potassium chloride	7447-40-7
Diammonium hydrogenorthophosphate	7783-28-0
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 if swallowed or absorbed through skin.
Avoid contact with skin, eyes and clothing.
Avoid breathing spray mist.
Wash thoroughly with soap and water after handling.

SECTION 16: OTHER INFORMATION



**BAYER ADVANCED 12 MONTH TREE & SHRUB PROTECT
& FEED CONCENTRATE II**

Version 2.0 / USA
102000017711

12/12
Revision Date: 04/14/2014
Print Date: 03/23/2016

NFPA 704 (National Fire Protection Association):

Health - 1 Flammability - 1 Instability - 0 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)

Revision Date: 04/14/2014

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