



Material Safety Data Sheet

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

MSDS Number: 102000017711

MSDS Version 1.0

Revision Date: 06/04/2010

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product name BAYER ADVANCED 12-MONTH TREE & SHRUB PROTECT AND FEED
CONCENTRATE II
MSDS Number 102000017711
EPA Registration No. 72155-82

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. HAZARDS IDENTIFICATION

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

Emergency Overview Caution! May cause eye irritation. May cause skin irritation. Avoid contact with skin, eyes and clothing. Avoid breathing spray mist. Wash thoroughly with soap and water after handling.

Physical State liquid

Appearance green

Exposure routes Eye contact, Skin contact, Inhalation, Ingestion

Immediate Effects

Eye May cause eye irritation. Avoid contact with eyes.

Skin May cause skin irritation. May be harmful if absorbed through skin. Avoid contact with skin and clothing.

Ingestion Do not take internally.

Inhalation Avoid breathing spray mist.

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



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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 | 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 | |

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 | > 93.4 °C / 200.1 °F |
| Suitable extinguishing media | Water spray, Foam, Carbon dioxide (CO2), Dry chemical |



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Fire Fighting Instructions 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.

Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions Isolate hazard area. Keep unauthorized people away. 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 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.

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.

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.

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.

Exposure Limits



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| | | | | |
|--------------------|-------------|----------|--------|-----------|
| Imidacloprid | 138261-41-3 | OES BCS* | TWA | 0.7 mg/m3 |
| Clothianidin | 210880-92-5 | OES BCS* | TWA | 2.8 mg/m3 |
| Potassium chloride | 7447-40-7 | OES BCS* | TWA | 1 mg/m3 |
| Glycerine | 56-81-5 | 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 | green |
| Physical State | liquid |
| pH | 6.0 - 7.5 |
| Density | ca. 1.07 g/cm ³ at 20 °C |
| Viscosity | 200 - 600 cps |

SECTION 10. STABILITY AND REACTIVITY

Chemical Stability Stable under normal conditions.

SECTION 11. TOXICOLOGICAL INFORMATION

Only an eye irritation study has been performed on the formulated product. The remaining acute toxicity data have been bridged from a similar formulation containing a higher percentage of the active ingredients, imidacloprid and clothianidin. The non-acute information pertains to the technical-grade active ingredients.

Acute oral toxicity female rat: LD50: 500 - 2,000 mg/kg

Acute dermal toxicity rat: LD50: > 4,000 mg/kg



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Acute inhalation toxicity rat: LC50: > 2.7 mg/l
Exposure time: 4 h
Determined in the form of liquid aerosol.
Highest attainable concentration.
No deaths

rat: LC50: > 10.8 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

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.

Clothianidin caused effects in the liver, kidney and/or ovaries following chronic exposure to high doses in mice, rats and dogs.

Assessment Carcinogenicity

Imidacloprid was not carcinogenic in 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.

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

Clothianidin is not considered a reproductive toxicant at non-maternally toxic dose levels.

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

Clothianidin was not a primary developmental toxicant in rats and rabbits.



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Developmental effects were observed in rabbits but were considered 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.

Clothianidin was not a neurotoxicant in acute, subchronic and developmental neurotoxicity screening studies in rats.

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 genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.

SECTION 12. ECOLOGICAL INFORMATION

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. 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.

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 goods / hazardous material.



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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

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 IL, MN, RI

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)

Glycerine 56-81-5



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SECTION 16. OTHER INFORMATION

NFPA 704 (National Fire Protection Association):

Health - 1 Flammability - 0 Reactivity - 0 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.

Revision Date: 06/04/2010

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