



**Material Safety Data Sheet**

**BAYER ADVANCED 12-MONTH TREE & SHRUB  
PROTECT AND FEED READY-TO-USE GRANULES II**

MSDS Number: 102000021169

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  
READY-TO-USE GRANULES II  
**MSDS Number** 102000021169  
**EPA Registration No.** 72155-96

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! Harmful if swallowed or absorbed through skin. Causes eye irritation. Avoid contact with skin, eyes and clothing. Wash thoroughly with soap and water after handling.

**Physical State** granular

**Appearance** yellow to brown

**Exposure routes** Skin contact, Eye contact, Ingestion

**Immediate Effects**

**Eye** Causes eye irritation. Avoid contact with eyes.

**Skin** May cause irritation. Avoid contact with skin and clothing.

**Ingestion** Harmful if swallowed. Do not take internally.

**Inhalation** Inhalation not likely. Avoid breathing dust.

**Medical Conditions Aggravated by Exposure** No specific medical conditions are known which may be aggravated by exposure to this product.

**Potential Environmental Effect** Highly toxic to aquatic invertebrates.



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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    | 0.55                       |
| Clothianidin                    | 210880-92-5    | 0.275                      |

**SECTION 4. FIRST AID MEASURES**

|                                     |   |
|-------------------------------------|---|
| <b>General</b>                      | When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.  |
| <b>Eye</b>                          | 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.   |
| <b>Skin</b>                         | 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.   |
| <b>Ingestion</b>                    | 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. |
| <b>Inhalation</b>                   | 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.  |
| <b>Notes to physician Treatment</b> | Treat symptomatically. There is no specific antidote.   |

**SECTION 5. FIRE FIGHTING MEASURES**

|                                     |  |
|-------------------------------------|--|
| <b>Flash point</b>                  | not applicable   |
| <b>Fire and Explosion Hazards</b>   | Dangerous gases are evolved in the event of a fire.<br><br>Accumulation of fine dust may entail the risk of a dust explosion in the presence of air. |
| <b>Suitable extinguishing media</b> | Water, Carbon dioxide (CO2), Dry chemical, Foam  |



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**Fire Fighting Instructions**                      Keep out of smoke. Fight fire from upwind position. 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**                      Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.

**Methods for cleaning up**                      Avoid dust formation. Sweep up or vacuum up spillage and collect in suitable container for disposal. Clean contaminated floors and objects thoroughly, observing environmental regulations.

**Additional advice**                              Use personal protective equipment.

#### SECTION 7. HANDLING AND STORAGE

**Handling procedures**                      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.

**Work/Hygienic Procedures**                      Remove Personal Protective Equipment (PPE) immediately after handling this product. Before removing gloves clean them with soap and water. Wash thoroughly and put on clean clothing.

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

#### 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 breathing dust. Avoid contact with skin and eyes.

Do not allow children or pets to enter the treated area until granules have been watered into the soil and the grass or soil is dry.



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**Eye/Face Protection** Safety glasses with side-shields  
**Hand protection** Chemical resistant nitrile rubber gloves  
**Body Protection** Wear long-sleeved shirt and long pants and shoes plus socks.

**Exposure Limits**

|              |             |          |     |           |
|--------------|-------------|----------|-----|-----------|
| Imidacloprid | 138261-41-3 | OES BCS* | TWA | 0.7 mg/m3 |
| Clothianidin | 210880-92-5 | OES BCS* | TWA | 2.8 mg/m3 |

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

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

**Appearance** yellow to brown  
**Physical State** granular  
**Bulk density** 55 - 65 lb/ft<sup>3</sup>

**SECTION 10. STABILITY AND REACTIVITY**

**Conditions to avoid** Heat, flames and sparks.

**Hazardous Decomposition Products** Thermal decomposition  
Hydrogen chloride (HCl)  
Hydrogen cyanide (hydrocyanic acid)  
Carbon monoxide  
nitrogen oxides (NOx)  
ammonia  
biuret  
cyanuric acid  
oxides of iron  
oxides of magnesium  
oxides of manganese  
Oxides of phosphorus  
oxides of potassium  
formaldehyde  
Sulphur oxides

**Chemical Stability** Stable under recommended storage conditions.



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**SECTION 11. TOXICOLOGICAL INFORMATION**

Acute toxicity studies have not been conducted on this product as formulated. The acute toxicity data provided has been bridged from a similar product, Merit 0.5% on 32-5-7 Granular Fertilizer. The non-acute information pertains to the active ingredients.

|                                  |   |
|----------------------------------|---|
| <b>Acute oral toxicity</b>       | male/female combined rat: LD50: > 5,136 mg/kg   |
| <b>Acute dermal toxicity</b>     | male/female combined rat: LD50: > 2,000 mg/kg   |
| <b>Acute inhalation toxicity</b> | male/female combined rat: LC50: > 5.016 mg/l<br>Exposure time: 4 h<br>Determined in the form of dust.<br>(actual)   |
|                                  | male/female combined rat: LC50: > 20 mg/l<br>Exposure time: 1 h<br>Determined in the form of dust.<br>Extrapolated from the 4 hr LC50.<br>(actual)  |
| <b>Skin irritation</b>           | rabbit: Mild skin irritation.   |
| <b>Eye irritation</b>            | rabbit: Mild eye irritation.  |
| <b>Sensitisation</b>             | guinea pig: Non-sensitizing.  |
| <b>Chronic toxicity</b>          | Imidacloprid caused thyroid and/or liver effects in chronic dietary studies in rats and dogs.<br><br>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-



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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. 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 apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. 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. Do not allow to get into surface water, drains and ground water.

**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.

**Container Disposal**

Rinsed packaging may be acceptable for landfill, otherwise incineration will be required in accordance with local regulations. 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.



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**SECTION 14. TRANSPORT INFORMATION**

According to national and international transport regulations this material is not classified as dangerous goods / hazardous material.

**SECTION 15. REGULATORY INFORMATION**

**EPA Registration No.** 72155-96

**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**

None.

**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**

None.

**Canadian Regulations**

**Canadian Domestic Substance List**

None.

**Environmental**

**CERCLA**

None.

**Clean Water Section 307 Priority Pollutants**

None.

**Safe Drinking Water Act Maximum Contaminant Levels**

None.



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**SECTION 16. OTHER INFORMATION**

NFPA 704 (National Fire Protection Association):

Health - 1      Flammability - 1      Reactivity - 1      Others -

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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