

7969-184

4/14/2011

1/25



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF
CHEMICAL SAFETY AND
POLLUTION PREVENTION

NOTIFICATION

Charlotte A Sanson
Product Registration Manager
BASF Corporation
26 Davis Drive
Research Triangle Park, NC 27709

APR 14 2011

Subject Insignia Fungicide
 EPA Reg No 7969-184
 Your notification dated December 10, 2010
 EPA Decision No 443856

Dear Ms Sanson

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action(s) requested fall within the scope of PRN 98-10.

The Agency acknowledges the column heading correction in Table 6 of the label. The label submitted with the application has been stamped "Notification" and will be placed in our records.

Sincerely,

A handwritten signature in black ink that reads "Tony Kish".

Tony Kish
Product Manager (22)
Fungicide Branch
Registration Division (7504P)

Enclosure



United States
Environmental Protection Agency
Washington DC 20460

 Registration
 Amendment
 Other

OPP Identifier Number

Application for Pesticide - Section I

1 Company/Product Number EPA Reg No 7969 184	2 EPA Product Manager Tony Kish	3 Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4 Company/Product (Name) Insignia Fungicide	PM# 22	
5 Name and Address of Applicant (Include ZIP Code) BASF Corporation, Agricultural Products P O Box 13528 Research Triangle Park NC 27709 <input type="checkbox"/> Check if this is a new address	6 Expedited Review In accordance with FIFRA Section 3(c)(3)(b)(i) my product is similar or identical in composition and labeling to EPA Reg No _____ Product Name _____	

Section - II

<input type="checkbox"/> Amendment Explain below	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application
<input checked="" type="checkbox"/> Notification Explain below	<input type="checkbox"/> Other Explain below

Explanation Use additional page(s) if necessary (For section I and Section II)

Notification to correct table column header
No PRIA category proposed no associated fee
E mail charlotte sanson@basf.com

Section - III

1 Material This Product Will Be Packaged In				2 Type of Container	
Child Resistant Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Metal Plastic Glass Paper Other (Specify) _____		
* Certification must be submitted		If "Yes" Unit Packaging wgt	No per container	If Yes Package wgt	No per container
3 Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4 Size(s) Retail Container 1 pint 1 gallon 2 1/2 gallon		5 Location of Label Directions <input type="checkbox"/> on label	
6 Manner in Which Label is Affixed to Product <input checked="" type="checkbox"/> Lithograph Paper glued Stenciled			<input type="checkbox"/> Other _____		

Section - IV

1 Contact Point (Complete items directly below for identification of individual to be contacted if necessary to process this application)		
Name Charlotte A Sanson	Title Product Registration Manager	Telephone No (Include Area Code) (919) 547 2983
Certification I certify that the statements I have made on this form and all attachments thereto are true accurate and complete I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law		6 Date Application Received (Stamped)
2 Signature 	3 Title Product Registration Manager	
4 Typed Name Charlotte A Sanson	5 Date December 10, 2010	



The Chemical Company

S 8 8 7 5 0 4 3 / 2 5
Agricultural Solutions

December 10, 2010

Document Processing Desk (NOTIF)
Office of Pesticide Programs (7504P)
U S Environmental Protection Agency
Room S-4900 One Potomac Yard
2777 South Crystal Drive
Arlington, VA 22202-4501

**Subject Insignia® Fungicide
EPA Registration No 7969-184**

Dear Sir/Madam

On April 26 2010, EPA approved amended labeling for Insignia® Fungicide EPA Registration No 7969-184 (copy attached) The purpose of this notification is to correct an error in the column headers in Table 6 Insignia Dilution Spray Solutions on Ornamentals and in Landscape Maintenance The column headers previously read "xx gallons/grams product, rather than grams product/xx gallons " This correction was discussed in a meeting with Mr Tony Kish (PM 22) on December 7 2010 who agreed that BASF may correct this error via notification Also, as instructed in EPA's cover letter dated April 26 2010 BASF has made the following changes to the label 1) changed the second sentence in the first paragraph in the Tank Mix Partners/Components section on page 7 from "adhere to rate restrictions label recommendations and precautions to adhere to rate restrictions label recommendations and requirements and precautions", and 2) corrected three of the calculated values in Table 6

One copy of the amended label, with the corrected (highlighted) column headers in Table 6 (page 16) is enclosed A completed EPA 8570-1 Registration Application form is also enclosed

This notification is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling of this product I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under section 12 and 14 of FIFRA

BASF Corporation
26 Davis Drive
Research Triangle Park, NC 27709
Tel (800) 669 1770
www.basf.com/usa

Helping Make Products Better™

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The Chemical Company

Thank you for your attention to this matter. If you have any questions or need further information, please contact me directly at (919) 547-2983, or by e-mail at charlotte.sanson@basf.com

Regards,
BASF Corporation
Agricultural Products Division

A handwritten signature in cursive script that reads "Charlotte A. Sanson".

Charlotte A. Sanson
Product Registration Manager

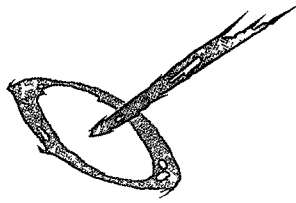
enc

cc Tony Kish EPA PM 22

NVA 2009 04 090 0172

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Group 11 Fungicide



Insignia®

F U N G I C I D E

NOTIFICATION

APR 14 2011

For disease control and plant health in turfgrass and ornamentals

Active Ingredient

pyraclostrobin (carbamic acid [2 [[[1 (4 chlorophenyl) 1H pyrazol 3 y]]oxy)methyl]phenyl]methoxy methyl ester)

20.0%

Other Ingredients

80.0%

Total

100.0%

EPA Reg No 7969-184

EPA Est No

KEEP OUT OF REACH OF CHILDREN CAUTION/PRECAUCION

Si usted no entiende la etiqueta busque a alguien para que se la explique a usted en detalle (If you do not understand this label find someone to explain it to you in detail)

See inside for complete **First Aid Precautionary Statements**
Directions For Use and **Conditions of Sale and Warranty**

In case of an emergency endangering life or property involving this product,
call 1-800-832-HELP (4357)

Net Contents

BASF Corporation
26 Davis Drive
Research Triangle Park NC 27709

 **BASF**
The Chemical Company

FIRST AID	
If swallowed	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice • Have person sip a glass of water if able to swallow • DO NOT induce vomiting unless told to do so by a poison control center or doctor • DO NOT give anything by mouth to an unconscious person
If on skin or clothing	<ul style="list-style-type: none"> • Take off contaminated clothing • Rinse skin immediately with plenty of water for 15 to 20 minutes • Call a poison control center or doctor for treatment advice
If in eyes	<ul style="list-style-type: none"> • Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes • Remove contact lenses if present after the first 5 minutes then continue rinsing eyes • Call a poison control center or doctor for advice
If inhaled	<ul style="list-style-type: none"> • Move person to fresh air • If person is not breathing call 911 or an ambulance then give artificial respiration preferably by mouth to mouth if possible • Call a poison control center or doctor for further treatment advice
HOTLINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor or going for treatment You may also contact BASF Corporation for emergency medical treatment information 1 800 832 HELP (4357)	

Precautionary Statements

Hazards to Humans and Domestic Animals

CAUTION Harmful if swallowed or absorbed through skin Causes moderate eye irritation Avoid contact with skin eyes or clothing

Personal Protective Equipment (PPE)

Some materials that are chemically resistant to this product are listed below For more options refer to **Category A** on an EPA chemical resistance category selection chart

Applicators and other handlers must wear

- Long sleeved shirt and long pants
- Chemical resistant gloves made of any waterproof material (such as nitrile butyl neoprene and/or barrier laminate)
- Shoes plus socks

Follow the manufacturer's instructions for cleaning and maintaining PPE If no such instructions for washables exist use detergent and hot water Keep and wash PPE separately from other laundry

Engineering Controls Statement

When handlers use closed systems enclosed cabs or air craft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170 240(d)(4 6)] the handler PPE requirements may be reduced or modified as specified in the WPS

Environmental Hazards

This product may contaminate water through drift of spray in wind This product has a potential for runoff for several months or more after applications Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product A level well maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds streams and springs will reduce the potential for contamination of water from rainfall runoff Runoff of this product will be reduced by avoiding applications when rainfall is forecast to occur within 48 hours Sound erosion control practices will reduce this product's contribution to surface water contamination

This pesticide is toxic to fish and aquatic invertebrates Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas **DO NOT** apply directly to water to areas where surface water is present or to inter tidal areas below the mean high water mark **DO NOT** contaminate water when disposing of equipment washwaters or rinsate

USER SAFETY RECOMMENDATIONS

Users should

- Wash hands before eating drinking chewing gum using tobacco or using the toilet
- Remove clothing/PPE immediately if pesticide gets inside Then wash thoroughly and put on clean clothing
- Remove PPE immediately after handling this product Wash the outside of gloves before removing As soon as possible wash thoroughly and change into clean clothing

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Directions For Use

It is a violation of federal law to use this product in a manner inconsistent with its labeling

For use only by commercial applicators or persons under their direct supervision

DO NOT apply this product in a way that will contact workers or other persons either directly or through drift

Only protected handlers may be in the area during application For any requirements specific to your state or tribe consult the agency responsible for pesticide regulation

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard 40 CFR part 170 This standard contains requirements for the protection of agricultural workers on farms forests nurseries and greenhouses and handlers of agricultural pesticides It contains requirements for training decontamination notification and emergency assistance It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) notification of workers and restricted entry interval The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard

DO NOT enter or allow worker entry into treated areas during the restricted entry interval (REI) of **12 hours**

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated such as plants soil or water is

- Coveralls
- Chemical resistant gloves made of any waterproof material (such as nitrile butyl neoprene and/or barrier laminate)
- Shoes plus socks

NONAGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are **NOT** within the scope of the Worker Protection Standard of agricultural pesticides (40 CFR Part 170) The WPS applies when this product is used to produce agricultural plants on farms nurseries or greenhouses

DO NOT enter or allow others to enter treated areas until sprays have dried

STORAGE AND DISPOSAL

DO NOT contaminate water food or feed by storage or disposal

Pesticide Storage

Store in original containers only Keep container closed when not in use **DO NOT** store near food or feed

Pesticide Disposal

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility If these wastes cannot be disposed of according to label instructions contact your State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance

Container Disposal

Nonrefillable Container (for paper or plastic bags)

DO NOT reuse or refill this container After completely emptying container into application equipment dispose of empty bag in a sanitary landfill or by incineration or by other procedures approved by state and local authorities

Nonrefillable Container (for rigid containers)

DO NOT reuse or refill this container Triple rinse or pressure rinse container (or equivalent) promptly after emptying then offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill or by incineration or by other procedures approved by state and local authorities

Triple rinse containers small enough to shake

(capacity ≤ 50 pounds) as follows Empty the remaining contents into application equipment or a mix tank Fill the container 1/4 full with water and recap Shake for 10 seconds Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal Drain for 10 seconds after the flow begins to drip Repeat this procedure two more times

Pressure rinse as follows Empty the remaining contents into application equipment or mix tank Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal Insert pressure rinsing nozzle in the side of the container and rinse at about 40 PSI for at least 30 seconds Drain for 10 seconds after the flow begins to drip

In Case of Emergency

In case of large scale spillage regarding this product call

- CHEMTREC 1 800 424 9300
- BASF Corporation 1 800 832 HELP (4357)

In case of medical emergency regarding this product call

- Your local doctor for immediate treatment
- Your local poison control center (hospital)
- BASF Corporation 1 800 832 HELP (4357)

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Steps to be taken in case this material is released or spilled

- In case of spill on floor or paved surfaces mop and remove to chemical waste storage area until proper disposal can be made if product cannot be used according to label
- Dike and contain spill with inert material (sand earth etc) and transfer liquid and solid diking material to separate containers for disposal
- Remove contaminated clothing and wash affected skin areas with soap and water
- Wash clothing before reuse
- Keep spill out of all sewers and open bodies of water

General Information

Insignia® fungicide is a broad spectrum fungicide for the control of many important diseases of turfgrass and ornamentals. For maximum efficacy apply **Insignia** preventively. Preventive applications optimize disease control resulting in improved plant health. **Insignia** may be applied as a solo treatment or in tank mixes with other registered fungicides. **DO NOT** exceed the specified application rate or fail to comply with use restrictions listed in the **Resistance Management** and **Restrictions and Limitations** sections. All applications must be made according to the use directions that follow. Failure to follow directions and precautions on this label may result in injury and/or inferior disease control.

This package contains **Insignia** a water dispersible granule (WG). The active ingredient in **Insignia** pyraclostrobin is a member of the strobilurin class of chemistry and is derived from a natural antifungal substance. Optimum disease control is achieved when **Insignia** is applied in a regularly scheduled protective spray program and used in a rotation program with other fungicides. Because of its high specific activity **Insignia** has good residual activity against target fungi.

Mode of Action Pyraclostrobin the active ingredient in **Insignia** belongs to the group of respiration inhibitors classified by the U.S. EPA and Canada PMRA as **Quinone Outside Inhibitors (QoI)** or target site of action **Group 11** fungicides.

Application Information

Use Sites

Turfgrass

Insignia may be used for disease control in the following turf use sites

- Golf courses
- Residential institutional commercial and municipal lawns
- Parks
- Recreational areas including sports and athletic fields
- Cemeteries

- Sod farms

Ornamental Plants

Insignia may be used for disease control on ornamentals including flower bulbs and forest and conifer nurseries and plantations. Use sites include

- Outdoor nurseries
- Retail nurseries
- Greenhouses
- Lathhouses and shadehouses
- Containers
- Residential and commercial landscapes
- Interiorscapes
- Recreational areas including golf courses

Application Instructions

- Apply the specified rate of **Insignia** as instructed in the **Use Directions** sections with ground or aerial spray equipment. Use the shorter specified application interval and/or the higher specified rate when prolonged favorable disease conditions exist.
- Apply **Insignia** using sufficient water volume and pressure for adequate coverage of the foliage.
- Calibrate spray equipment prior to use.
- For maximum efficacy apply **Insignia** prior to or in the early stages of disease development. Use of **Insignia** as a late curative or eradicant treatment may not result in satisfactory disease control.
- After application allow foliage to dry prior to mowing or irrigating (exceptions see brown ring patch fairy ring and Pythium root dysfunction).
- Actual length of disease control will vary depending on environmental conditions disease pressure and management practices.

Ground Application

Apply **Insignia** at the rates indicated in the **Use Directions** sections in 2 to 4 gallons of water per 1000 square feet (87 to 174 gallons per acre). Repeat applications at the specified interval as necessary.

Aerial Application

Aerial application is permitted only on sod farms and the following production ornamentals

- Container and field nurseries
- Flower bulb production
- Forest and conifer nurseries

Apply **Insignia** at the rates indicated in the **Use Directions** sections in no less than 10 gallons of spray solution per acre. Repeat applications at the specified interval as necessary. **DO NOT** apply when conditions favor drift from target area.

DO NOT apply by air in New York State except as permitted under FIFRA Section 24(c), Special Local Need Registration

Spray Drift Management

DO NOT spray when conditions favor drift beyond area intended for application. Conditions that contribute to drift include thermal inversion, wind speed and direction, spray nozzle/pressure combinations, spray droplet size, temperature/humidity, etc. Contact your state extension agent for spray drift prevention guidelines in your area. All application equipment must be properly maintained and calibrated using appropriate carriers. Avoiding spray drift at the application site is the responsibility of the applicator.

Aerial Application Methods and Equipment

The interaction of many equipment-related and weather-related factors determines the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

DO NOT apply under circumstances where possible drift to unprotected persons, to food, forage, or other plantings that might be damaged, or crops thereof rendered unfit for sale, use, or consumption can occur.

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops:

1. The distance of the outermost nozzles on the boom must not exceed 3/4 the length of the fixed wingspan or rotor blade diameter.
2. Nozzles must always point backward parallel with the airstream and never be pointed downward more than 45 degrees.

Where states have more stringent regulations, they must be observed.

Information on Droplet Size

The most effective way to reduce drift potential is to apply large droplets. Use the largest droplet size consistent with acceptable efficacy. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly or under unfavorable environmental conditions (see **Wind, Temperature and Humidity** and **Temperature Inversions**).

Controlling Droplet Size

- **Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure** - **DO NOT** exceed the nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of Nozzles** - Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle Orientation** - Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is recommended practice. Significant deflection from the horizontal will reduce droplet size and increase drift potential.

- **Nozzle Type** - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

Wind

Drift potential is lowest when wind speed does not exceed 10 mph. However, many factors, including droplet size and equipment type, determine drift potential at any given speed. Application must be avoided below 2 mph due to variable wind direction and high inversion potential. Local terrain can influence wind patterns. Every applicator must be familiar with local wind patterns and how they affect spray drift.

Temperature and Humidity

Low humidity and high temperatures increase the evaporation of spray droplets and, therefore, the likelihood of increased spray drift.

Avoid spraying during conditions of low humidity and/or high temperatures. When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation.

Droplet evaporation is most severe when conditions are both hot and dry.

Temperature Inversions

Applications must not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

Sensitive Areas

The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g., bodies of water or nontarget crops) is minimal and when wind is blowing away from the sensitive areas.

Use Precautions for Sprinkler and Drip Irrigation Applications

Drip Irrigation

Insignia® fungicide may be applied through drip irrigation systems to potted ornamentals or to bedded field-grown ornamentals for soilborne disease control. Apply 8 to

16 ozs **Insignia® fungicide** per acre as a preventive disease application. The soil or potting media should have adequate moisture capacity prior to drip application.

Terminate drip irrigation at fungicide depletion from the main feed supply tank or after 6 hours from start whichever is shorter. For maximum efficacy subsequent irrigation (water only) should be delayed for at least 24 hours following drip application.

Sprinkler Irrigation

Insignia may be applied through sprinkler irrigation to turf to potted ornamentals or to bedded field grown ornamentals. Apply this product through sprinkler irrigation systems including center pivot lateral move end tow side [wheel] roll traveler big gun solid set or hand move irrigation systems. **DO NOT** apply this product through any other type of irrigation system except as specified on this label.

Apply with center pivot or continuous move equipment distributing 1/2 acre inch or less during treatment. In general use the least amount of water required for proper distribution and coverage. If stationary systems (solid set handlines or wheel lines other than continuous move) are used inject this product into no more than the last 20 to 30 minutes of the set. **DO NOT** apply when wind speed favors drift beyond the area intended for treatment. Plant injury lack of effectiveness or illegal pesticide residues in the crop can result from nonuniform treated water. Thorough coverage of foliage is required for good control. Maintain good agitation during the entire application period. If you have questions about calibration contact a State Extension Service specialist equipment manufacturers or other experts. The system must contain a functional check valve vacuum relief valve and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.

The pesticide injection pipeline must contain a functional automatic quick closing check valve to prevent the flow of fluid back toward the injection pump. The pesticide injection pipeline must also contain a functional normally closed solenoid operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected. Systems must use a metering pump such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock. Allow sufficient time for pesticide to be flushed through all lines and all nozzles before turning off irrigation water. A person knowledgeable of the chemigation system and responsible for its operation or under the supervision of

the responsible person shall shut the system down and make necessary adjustments should the need arise. **DO NOT** connect an irrigation system (including green house systems) used for pesticide application to a public water system unless the pesticide label prescribed safety devices for public water systems are in place.

Specific Instructions for Public Water Systems

- 1 Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
- 2 Chemigation systems connected to public water systems must contain a functional reduced pressure zone back flow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
- 3 The pesticide injection pipeline must contain a functional automatic quick closing check valve to prevent the flow of fluid back toward the injection pump.
- 4 The pesticide injection pipeline must contain a functional normally closed solenoid operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 5 The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops or in cases where there is no water pump when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 6 Systems must use a metering pump such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- 7 **DO NOT** apply when wind speed favors drift beyond the area intended for treatment.

Resistance Management

Insignia contains pyraclostrobin a **Group 11** fungicide and is effective against pathogens resistant to fungicides with modes of action different from those of **QoI** fungicides (target site of action **Group 11**) such as the dicarboximides sterol inhibitors benzimidazoles or phenylamides. Fungal isolates resistant to **Group 11** fungicides such as pyraclostrobin azoxystrobin and trifloxystrobin may eventually dominate the fungal

population of **Group 11** fungicides are used predominantly and repeatedly in the same area in successive years as the primary method of control for the targeted pathogen species. This may result in reduction of disease control by **Insignia® fungicide** or other **Group 11** fungicides.

To maintain the performance of **Insignia** **DO NOT** exceed the total number of sequential applications of **Insignia**. Adhere to the label instructions regarding the consecutive use of **Insignia** or other target site of action **Group 11** fungicides that have a similar site of action on the same pathogens.

The following recommendations may be considered to delay the development of fungicide resistance

- 1 **Tank mixtures** Use tank mixtures with fungicides from different target site of action groups that are registered/permited for the same use and that are effective against the pathogens of concern. Use at least the minimum labeled rates of each fungicide in the tank mix.
- 2 **IPM** **Insignia** should be integrated into an overall disease and pest management program. Follow cultural practices known to reduce disease development. **Insignia** may be used in advisory (disease forecasting) programs which recommend application timing based on environmental factors favorable for disease development.
- 3 **Monitoring** Monitor efficacy of all fungicides used in the disease management program against the targeted pathogen and record other factors that may influence fungicide performance and/or disease development. If a **Group 11** target site fungicide such as **Insignia** appears to be less effective against a pathogen that it previously controlled or suppressed, contact a BASF representative or local expert for further investigation.

In turfgrass **DO NOT** make more than two (2) sequential applications of **Insignia** for Pythium blight, gray leaf spot, dollar spot, or anthracnose. Then alternate to an effective nonstrobilurin fungicide before reapplying **Insignia**.

DO NOT make more than three (3) consecutive applications of **Insignia** for all other turfgrass diseases. Then alternate to an effective nonstrobilurin fungicide before reapplying **Insignia**.

In ornamental plants, **DO NOT** make more than two (2) sequential applications of **Insignia**. Then alternate with a fungicide of a different mode of action before reapplying **Insignia**. **DO NOT** alternate **Insignia** with other **Group 11** fungicides.

Addition of Additives

DO NOT use with organosilicate based adjuvants or injury may occur. Because of the large number of additives or adjuvants that may be used, neither the manufacturer nor the seller has determined whether **Insignia** can be used safely with all additives.

General Tank Mixing Information

Tank Mix Partners/Components

Insignia is compatible with most fungicide, insecticide, and fertilizer products. If tank mixtures are used, adhere to rate restrictions, label recommendations, and requirements and precautions on all labels.

Physical incompatibility, reduced disease control, or plant injury may result from mixing **Insignia** with fungicides, herbicides, insecticides, additives, or fertilizers. To improve control of certain diseases, **Insignia** may be tank mixed with other effective (nonstrobilurin) fungicides.

Compatibility Test for Tank Mix Components

Add components in the following sequence using 2 tea spoons for each pound or 1 teaspoon for each pint of label rate per acre.

- 1 **Water** For 87 gallons per acre spray volume, use 14.4 cups (3.5 liters) of water. For other spray volumes, adjust rates accordingly. Use only water from the intended source at the source temperature.
- 2 **Water-dispersible products** (dry flowables, wettable powders, suspension concentrates, or suspo emulsions) Cap the jar and invert 10 cycles.
- 3 **Water-soluble products** Cap the jar and invert 10 cycles.
- 4 **Emulsifiable concentrates** (oil concentrate or methylated seed oil when applicable) Cap the jar and invert 10 cycles.
- 5 **Water-soluble additives** Cap the jar and invert 10 cycles.
- 6 Let the solution stand for 15 minutes.
- 7 **Evaluate** the solution for uniformity and stability. The spray solution should not have free oil on the surface, nor fine particles that precipitate to the bottom, nor thick (clabbered) texture. **DO NOT** use any spray solution that could clog spray nozzles.

Mixing Order

Limit amount of spray mixture prepared to that needed for immediate use.

- 1 **Water** Begin by agitating a thoroughly clean sprayer tank half full of clean water.
- 2 **Products in PVA bags** Place the water soluble PVA bag into the mixing tank. The water soluble PVA bag will dissolve in water to allow the contents to disperse. Wait until all water soluble PVA bags have fully dissolved and the product is evenly mixed in the spray tank before continuing.
- 3 **Water-dispersible products** (dry flowables such as **Insignia**, wettable powders, suspension concentrates, or suspo emulsions)
- 4 **Water-soluble products**
- 5 **Emulsifiable concentrates** (oil concentrate or methylated seed oil when applicable)

6 **Water-soluble additives** (AMS or UAN when applicable)

7 Remaining quantity of **water**

Maintain maximum constant agitation during application

DO NOT allow mixture to stand for extended periods prior to application

Cleaning Spray Equipment

Spraying equipment must be cleaned thoroughly before and after applying this product particularly if a product with the potential to injure turfgrass was used prior to **Insignia® fungicide**

- **DO NOT** use on crops intended for food or feed use
- **DO NOT** apply through any type of **irrigation** equipment to **turfgrass**
- **DO NOT** apply by air in turf uses other than sod farms
- **DO NOT** use this product to **formulate** or reformulate any other pesticide product

Turfgrass Use Directions

Insignia controls anthracnose bentgrass dead spot Bermudagrass decline brown patch brown ring patch dollar spot (suppression only) fairy ring Fusarium patch gray leaf spot gray snow mold large patch leaf spot melting out necrotic ringspot pink patch pink snow mold powdery mildew Pythium blight Pythium root dysfunction rapid blight red thread Rhizoctonia leaf or sheath spot rust summer patch take all patch and yellow tuft (downy mildew)

Insignia provides significant suppression but not complete control of dollar spot When used to control other diseases and dollar spot pressure is moderate to severe tank mix **Insignia** with another effective (nonstrobilurin) fungicide For optimum control of gray snow mold and pink snow mold tank mix **Insignia** with another effective (nonstrobilurin) fungicide

Turfgrass Uses and Tolerance

Due to variability within turfgrass species application techniques and possible tank mixes neither the manufacturer nor the seller has determined if **Insignia** can safely be used on all turfgrasses under all conditions

Therefore it is recommended that the user determine if **Insignia** can be used safely before broad use Apply the specified labeled use rate of **Insignia** on a small test area under conditions expected to be encountered Monitor for any adverse effects during a 14 day period after application

Rate

Use the application rates specified for each disease as listed in **Table 1** Apply **Insignia** in 2 to 4 gallons of water per 1000 square feet (87 to 174 gallons per acre)

Restrictions and Limitations

- **Maximum seasonal use rate - DO NOT** apply more than a total of 5.5 ounces of **Insignia** per 1000 sq ft per year (15.0 pounds **Insignia** per acre per year)
- Refer to **Table 1** for sequential application intervals for **Insignia**

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Table 1 Insignia® fungicide Application Rates and Intervals on Turfgrass

Disease Pathogen	Use Rate (oz Product/ 1000 sq ft)	Use Rate (ozs Product/A)	Application Interval (days)	Comments
Anthracnose¹ <i>Colletotrichum graminicola</i>	0.5 to 0.9	22 to 40	14 to 28	Use preventively. Begin application when conditions are favorable for fungal infection prior to disease symptom development.
Bentgrass dead spot <i>Ophiosphaerella agrostis</i>	0.5 to 0.9	22 to 40	14 to 28	Use preventively. Begin application when conditions are favorable for fungal infection prior to disease symptom development.
Bermudagrass decline <i>Gaeumannomyces graminis var graminis</i>	0.9	40	Not Applicable (see Comments)	Aids in control of Bermudagrass decline when integrated with appropriate cultural practices such as raised mowing height, proper fertilization and core aeration. Make one application in the spring following greenup and a second application in the fall when air temperatures remain above 80° F and humidity is 75% or higher. Apply in 4 gallons of water per 1000 sq ft.
Brown patch <i>Rhizoctonia solani</i>	0.5 to 0.9	22 to 40	14 to 28	Apply when conditions are favorable for disease development.
Brown ring patch <i>Rhizoctonia circinata</i> var <i>circinata</i> aka <i>Waitea</i> patch	0.9	40	14 to 28	Apply when early yellow ring development is symptomatic. Late curative applications will not be effective. Brown ring patch symptoms may take 2 to 3 weeks to disappear following application. Use 2 to 4 gallons of spray volume per 1000 sq ft and appropriate soil wetting agent at time of application. Reapplication after 28 days may be required. Provide short irrigation cycle directly following treatment to move fungicide through thatch.
Dollar spot¹ <i>Sclerotinia homoeocarpa</i> Suppression Only	0.9	40	14	Insignia provides significant suppression but not complete control of dollar spot. When used to control other diseases and dollar spot pressure is moderate to severe, tank mix Insignia with another effective dollar spot fungicide such as Curalan® EG fungicide , Emerald® fungicide , Iprodione Pro 2SE fungicide or Trinity™ fungicide . Begin applications when conditions are favorable for fungal infection prior to disease symptom development.
Fairy ring various <i>Basidiomycete</i> fungi	0.9	40	28	Apply as soon as possible after fairy ring symptom development. Fairy ring symptoms may take 2 to 3 weeks to disappear following application. Use 2 to 4 gallons of spray volume per 1000 sq ft and appropriate soil wetting agent at time of application. Reapplication after 28 days may be required. Provide short irrigation cycle directly following treatment to move fungicide through thatch.
Fusarium patch <i>Microdochium nivale</i>	0.5 to 0.9	22 to 40	14 to 28	In the absence of snow cover, use preventively. Begin applications when conditions are favorable for fungal infection prior to disease symptom development.

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Table 1 Insignia® fungicide Application Rates and Intervals on Turfgrass (continued)

Disease Pathogen	Use Rate (oz Product/ 1000 sq ft)	Use Rate (ozs Product/A)	Application Interval (days)	Comments
Gray leaf spot¹ <i>Pyricularia grisea</i>	0.5 to 0.9	22 to 40	14 to 28	Use preventively. Begin applications when conditions are favorable for fungal infection prior to disease symptom development.
Gray snow mold <i>Typhula incarnata</i>	0.9	40	14 to 28	Make 2 applications 14 to 28 days apart in late fall just prior to snow cover. For optimum control before extended periods of snow cover, make 1 or 2 applications of Insignia at 0.7 to 0.9 oz per 1000 sq ft tank mixed with another effective (nonstrobilurin) fungicide such as Curalan® EG fungicide , Iprodione Pro 2SE fungicide or Trinity™ fungicide .
Large patch (Brown patch of warm season turfgrasses) <i>Rhizoctonia solani</i>	0.5 to 0.9	22 to 40	14 to 28	Apply prior to or directly at initial signs of infection in fall. Make one sequential application prior to turf dormancy with Honor™ fungicide or other effective fungicide such as Trinity . Reapplication in spring at time of greenup can be made if necessary. For control of brown patch of St. Augustinegrass, centipede grass, kikuyu grass, seashore paspalum and zoysiagrass (aka zoysia patch).
Leaf spot <i>Bipolaris</i> spp <i>Drechslera</i> spp and <i>Exserohilum</i> spp	0.5 to 0.9	22 to 40	14 to 28	Apply when conditions are favorable for disease development. Rotate with other effective fungicides such as Curalan EG or Iprodione Pro .
Melting out <i>Drechslera poae</i>	0.5 to 0.9	22 to 40	14 to 28	Apply when conditions are favorable for disease development. Rotate with other effective fungicides such as Curalan EG or Iprodione Pro .
Necrotic ring spot <i>Leptosphaeria korrae</i>	0.9	40	14 to 28	Aids in control of necrotic ring spot when combined with a nonstrobilurin fungicide such as Trinity , thiophanate methyl or chlorothalonil. Make applications in spring, fall or winter when conditions are present for outbreaks.
Pink patch <i>Limonomyces roseipellis</i>	0.5 to 0.9	22 to 40	14 to 28	Apply when conditions are favorable for disease development.
Pink snow mold <i>Microdochium nivale</i>	0.9	40	14 to 28	Make 2 applications 14 to 28 days apart in late fall just prior to snow cover. For optimum control before extended periods of snow cover, make 1 or 2 applications of Insignia at 0.7 to 0.9 oz per 1000 sq ft tank mixed with another effective (nonstrobilurin) fungicide such as Curalan EG , Iprodione Pro or Trinity .
Powdery mildew <i>Blumeria graminis</i>	0.5 to 0.9	22 to 40	14 to 28	Use preventively. Begin applications when conditions are favorable for fungal infection prior to disease symptom development.

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Table 1 Insignia® fungicide Application Rates and Intervals on Turfgrass (continued)

Disease Pathogen	Use Rate (oz Product/1000 sq ft)	Use Rate (ozs Product/A)	Application Interval (days)	Comments
Pythium blight¹ <i>Pythium aphanidermatum</i> <i>Pythium</i> spp	0.9	40	10 to 14	Use preventively. Begin applications when conditions are favorable for fungal infection prior to disease symptom development. Tank mix Insignia with another (nonstrobilurin) fungicide labeled for Pythium blight control during severe disease pressure or when symptoms are already present.
Pythium root dysfunction¹ <i>Pythium volutum</i> <i>Pythium</i> spp	0.9	40	14 to 28	Apply preventively or early curative for control. Following sequential application, rotate to other effective fungicides for this disease prior to additional Insignia application. Irrigate immediately following application.
Rapid blight <i>Labyrinthula terrestris</i>	0.5 to 0.9	22 to 40	14 to 28	Use preventively. Begin applications when conditions are favorable for fungal infection prior to disease symptom development. Follow the shorter spray interval when using the lower application rate.
Red thread <i>Laetisaria fuciformis</i>	0.5 to 0.9	22 to 40	14 to 28	Apply when conditions are favorable for disease development.
Rhizoctonia leaf or sheath spot <i>R. oryzae</i> , <i>R. zea</i>	0.5 to 0.9	22 to 40	14 to 28	Rhizoctonia infection can occur under warm humid conditions on both cool season turf grass and warm season turfgrass. This disease has been associated with localized dry spots and necrotic (brown) ring symptoms can form. Apply when conditions are favorable for disease development. Use of soil wetting agent may be appropriate.
Rust <i>Puccinia</i> spp <i>Uromyces</i> spp	0.5 to 0.9	22 to 40	14 to 28	Apply when conditions are favorable for disease development.
Summer patch <i>Magnaporthe poae</i>	0.5 to 0.9	22 to 40	14 to 28	Initiate applications in the spring when soil temperatures reach 60° to 65° F at a 2 inch soil depth or as dictated by local recommendations.
Take-all patch <i>Gaeumannomyces graminis</i> var <i>avenae</i>	0.9	40	28	Use preventively. Begin applications when conditions are favorable for fungal infection prior to disease symptom development. Make 2 applications 28 days apart in the fall and 2 applications 28 days apart in the spring.
Yellow tuft (Downy mildew) <i>Sclerophthora</i>	0.5 to 0.9	22 to 40	14 to 28	Use preventively. Begin applications when conditions are favorable for fungal infection prior to disease symptom development.

¹ **DO NOT** apply more than two (2) sequential applications of **Insignia** for anthracnose, dollar spot, gray leaf spot or Pythium. For all other diseases when anthracnose, dollar spot or Pythium are not present, **DO NOT** apply more than three (3) sequential applications of **Insignia**. Then alternate to an effective nonstrobilurin fungicide before reapplying **Insignia**.

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Table 2 Insignia® fungicide Dilution Spray Solutions on Turfgrass

Insignia (oz Product/100 gallons spray solution)			
Use Rate (oz Product/1000 sq ft)	Spray Volume (2 gallons/1000 sq ft)	Spray Volume (3 gallons/1000 sq ft)	Spray Volume (4 gallons/1000 sq ft)
0.5	25	16.7	12.5
0.7	35	23.3	17.5
0.9	45	30.0	22.5

Production Ornamentals and Landscape Maintenance Use Directions

Use **Insignia** for control of certain pathogens causing foliar aerial and crown rot diseases including scab blights leaf spots powdery and downy mildews anthracnose and rust of ornamental plants and flower bulbs

Begin applications of **Insignia** prior to disease development and continue throughout the season at specified intervals following resistance management guidelines **Insignia** works best when used as part of a preventive disease management program Use of **Insignia** as a late curative or eradicator treatment may not always result in satisfactory disease control

Integrate **Insignia** into an overall disease and pest management program that includes selection of varieties with disease tolerance optimum plant populations proper fertilization pruning plant residue management proper timing and placement of irrigation and manipulation of environmental conditions to prevent fungal development where possible

Plant Tolerance

The phytotoxic potential of **Insignia** has been assessed on a wide variety of common ornamental plants with no phytotoxicity observed Refer to **Table 7** for the list of plants shown to be tolerant to **Insignia** Not all plant species and their varieties and cultivars have been tested for tolerance to **Insignia** possible tank mix combinations of **Insignia** pesticide treatments preceding or following those of **Insignia** and combinations of **Insignia** with adjuvants or surfactants Local conditions can also influence plant tolerance and may not match those under which BASF has conducted testing Therefore before using **Insignia** test the product on a sample of the plant to be treated to ensure that a phytotoxic response will not occur prior to large scale use

Use with Additives

Label directions are based on data without additives Additives or spray adjuvants are usually not necessary for use with **Insignia** If additives or spray adjuvants are included use only surfactants approved for ornamental plants in combination with **Insignia** Test the product on a sample of the plant to be treated to ensure that injury will not occur prior to large scale use **DO NOT** use

organosilicone based adjuvants with **Insignia** or injury may result on certain ornamental species Always test tank mixes on a small group of representative plants prior to broadscale use

Restrictions and Limitations

- For outdoor uses **DO NOT** apply more than a total of 15 pounds of **Insignia** per acre per year
- For greenhouse uses **DO NOT** make more than 8 applications of **Insignia** per year
- **DO NOT** apply to plants that show injury (leaf phytotoxicity or plant stunting) produced by prior pesticide applications
- **DO NOT** use on crops intended for food or feed use
- **DO NOT** apply by air in ornamental uses other than production ornamentals Use sites permitted include
Container and field nurseries
Flower bulb production
Forest and conifer nurseries
- **DO NOT** use in vegetables grown in greenhouses for crop production or in vegetable production of transplants for outdoor use
- **DO NOT** expose wintercreeper (*Euonymus vegetus*) and nine bark (*Physocarpus opulifolius*) to spray or drift containing **Insignia** or injury may result
- **DO NOT** expose Concord Worden Fredonia or Niagara grapes, or related varieties to spray or drift containing **Insignia** or injury may result
- Be cautious when applying **Insignia** to impatiens (*Impatiens* spp) and petunia (*Petunia* spp) during flowering as discoloration may occur
- **Resistance Management** To limit the potential for development of resistance **DO NOT** make more than two (2) sequential applications of **Insignia** Then alternate to a labeled fungicide with a different mode of action

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Application Information

Apply **Insignia® fungicide** according to the rate timing resistance management and adjuvant use recommendations in **Tables 3** and **4** in this label **Insignia** may be applied by ground sprayer aerial equipment or through sprinkler and drip irrigation systems

Foliar-directed and Crown-directed

Apply **Insignia** at use rates and intervals stated in **Tables 3** and **4** Under light to moderate disease pressure use the lower rates on a 7 day interval or the higher rates on a 14 day interval Under environmental conditions that promote severe disease development use the higher rates on a 7 day interval Apply **Insignia** as a broadcast or banded spray targeted at the foliage or crown of the plant Apply to runoff in sufficient water to ensure complete coverage of foliage crown and base of the plant and growth media surrounding the crown is necessary for best control Refer to **Table 3** for specific use directions for control of specific diseases Repeat applications at specified intervals (plus alternations for resistance management) for as long as required

Drench

Apply **Insignia** preventively as a drench treatment for control of certain soilborne seedling and crown diseases in production ornamentals For control of *Rhizoctonia solani* and *Phytophthora* spp drench the soil with a solution of 8 to 16 ounces of **Insignia** per 100 gallons Thorough coverage and wetting of root zone crown and base of the plant and surrounding growth media is necessary for best control Repeat applications as needed within 7 to 21 days See **Table 4** for more information regarding drench treatments BASF does not recommend using **Insignia** after symptoms of soilborne disease have become evident because control may not be satisfactory

Dip Application for Bulbs

Clean and treat bulbs within 24 to 48 hours of digging Prepare suspension in water with the amount of **Insignia** stated in **Table 5** Submerge the bulbs completely in the dipping suspension for 15 to 30 minutes Discard suspension (1) when it becomes dirty (2) after using five times or (3) after 24 hours whichever occurs first **DO NOT** discard the runoffs and wastes from the dipping operation in a drainage that could contaminate public water systems

Table 3 Insignia® fungicide Application Rates and Intervals on Ornamentals and in Landscape Maintenance for Foliar and Crown Diseases

Disease Pathogen	Use Rate/Application (ozs Product/100 gallons)	Application Interval (Days) ¹	Comments
Anthracnose <i>Colletotrichum</i> spp <i>Gloeosporium</i> spp	8 to 16	7 to 14	Use preventively Begin application when conditions are favorable for fungal infection prior to disease symptom development
Blossom blight Monilinia blossom blight <i>Monilinia</i> spp	8 to 16	7 to 14	Use preventively Begin application when conditions are favorable for fungal infection prior to disease symptom development
Crown and basal rot <i>Rhizoctonia solani</i> <i>Pythium</i> spp <i>Phytophthora</i> spp <i>Fusarium</i> spp	8 to 16	7 to 14	Use preventively Begin application when conditions are favorable for fungal infection prior to disease symptom development The crown and base of the plant and the soil or potting medium surrounding the crown must be thoroughly covered Use 8 to 12 ozs on herbaceous plants such as bedding plants Use 8 to 16 ozs on woody ornamentals
Downy mildew <i>Peronospora</i> spp	4 to 8	7 to 14	Use preventively Begin application when conditions are favorable for fungal infection prior to disease symptom development
Leaf spot <i>Alternaria</i> spp <i>Cercospora</i> spp <i>Mycosphaerella</i> spp <i>Myrothecium</i> spp <i>Phyllosticta</i> spp	2 to 8	7 to 14	Use preventively Begin application when conditions are favorable for fungal infection prior to or at the first disease symptom development For control of <i>D. rosae</i> tank mix with a triazole or mancozeb containing fungicide
<i>Didymellina</i> spp <i>Ramularia</i> spp <i>Septoria</i> spp	4 to 8		
<i>Diplocarpon rosae</i> <i>Entomosporium</i> sp	8 to 16		
Phytophthora and Pythium aerial blight <i>Phytophthora</i> spp <i>Pythium</i> spp	8 to 16	7 to 14	Use preventively Begin application when conditions are favorable for fungal infection prior to disease symptom development Use 8 to 12 ozs on herbaceous plants such as bedding plants Use 8 to 16 ozs on woody ornamentals
Sudden oak death (SOD) <i>Phytophthora ramorum</i>	16		For management of SOD, make a preventive application as a foliar spray providing good coverage of foliage and stems A wetting agent such as a spreader sticker is recommended on plants with hard to wet leaf surfaces and coverage of stems DO NOT apply this product in a curative manner or post infection situation Following two applications of Insignia rotate to Stature® SC fungicide or Subdue Maxx® fungicide

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Table 3 Insignia® fungicide Application Rates and Intervals on Ornamentals and in Landscape Maintenance for Foliar and Crown Diseases *(continued)*

Disease Pathogen	Use Rate/Application (ozs Product/100 gallons)	Application Interval (Days) ¹	Comments
Powdery mildew <i>Erysiphe</i> sp <i>Microsphaera</i> sp <i>Oidium</i> sp <i>Phyllactinia</i> sp <i>Podosphaera</i> sp <i>Sphaerotheca</i> sp <i>Uncinula</i> sp	4 to 8	7 to 14	Use preventively Begin application when conditions are favorable for fungal infection prior to or at the first disease symptom development
Rhizoctonia blight <i>Rhizoctonia solani</i>	8 to 16	7 to 14	Use preventively Begin application when conditions are favorable for fungal infection prior to disease symptom development Use 8 to 12 ozs on herbaceous plants such as bedding plants Use 8 to 16 ozs on woody ornamentals
Rot Botrytis rot <i>Botrytis cinerea</i> <i>B tulipae</i> Sclerotinia rot <i>Sclerotinia</i> spp	8 to 16	7 to 14	Use preventively Begin application when conditions are favorable for fungal infection prior to disease symptom development
Rust <i>Puccinia</i> spp	4 to 8	7 to 14	Use preventively Begin application when conditions are favorable for fungal infection prior to disease symptom development
<i>Gymnosporangium</i> spp <i>Melampsora</i> spp	8 to 16		Use higher rates on <i>Gymnosporangium</i> spp and <i>Melampsora</i> spp
Scab <i>Venturia</i> spp <i>Cladosporium</i> spp	4 to 8	7 to 14	Use preventively Begin application when conditions are favorable for fungal infection prior to disease symptom development
¹ The stated interval applies to conditions under which moderate to high disease pressure is expected If conditions are unfavorable for infection or if disease pressure is absent the interval may be extended up to 28 days			

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Table 4 Insignia® fungicide Drench Treatment Rates to Control Specified Soilborne Disease

Disease Pathogen	Use Rate/Application (ozs Product/100 gallons)	Comments
Soilborne disease <i>Fusarium</i> spp <i>Phytophthora</i> spp <i>Pythium</i> spp <i>Rhizoctonia solani</i>	8 to 16	Use as a preventive treatment Drench the soil with a solution of 8 to 16 ounces of Insignia per 100 gallons Thorough cover age and wetting of root zone crown and base of the plant and surrounding growth media is necessary for best control Suggested drench volume 200 to 250 ml per 6 inch pot Repeat applications as needed within 7 to 21 days

Table 5 Insignia Dip Treatment Rates on Ornamental Bulbs

Disease Pathogen	Use Rate/Application (ozs Product/100 gallons)	Comments
Bulb rot and mold <i>Fusarium</i> spp <i>Penicillium</i> spp	5 to 10	Clean and treat bulbs within 24 to 48 hours of digging Prepare suspension in water of specified labeled amount of Insignia Submerge the bulbs completely in the dipping suspension for 15 to 30 minutes Discard suspension (1) when it becomes dirty (2) after using five times or (3) after 24 hours whichever occurs first DO NOT discard the runoff and waste from the dipping operation in a drainage area which could contaminate public water systems

Table 6 Insignia Dilution Spray Solutions on Ornamentals and in Landscape Maintenance

Insignia (ozs Product/100 gallons of spray solution)			
Use Rate (ozs Product/100 gallons)	Spray Volume (grams product/2 gallons)	Spray Volume (grams product/3 gallons)	Spray Volume (grams product/4 gallons)
2	1 13	1 70	2 26
4	2 26	3 4	4 52
8	4 52	6 8	9 04
12	6 80	10 2	13 61
16	9 04	13 6	18 14

Table 7 Insignia® fungicide Tolerant Plant Species

Plants in this table have been found to be tolerant to **Insignia** when it is applied according to the use instructions stated in this label

The phytotoxic potential of **Insignia** has been assessed on a wide variety of common ornamental plants with no phytotoxicity observed. Not all plant species and their varieties and cultivars have been tested for tolerance to **Insignia**. Possible tank mix combinations of **Insignia** pesticide treatments preceding or following those of **Insignia** and combinations of **Insignia** with adjuvants or surfactants. Local conditions can also influence plant tolerance and may not match those under which BASF has conducted testing. Therefore, before using **Insignia** test the product on a sample of the plant to be treated to ensure that a phytotoxic response will not occur prior to large scale use.

Additives or spray adjuvants are usually not necessary for use with **Insignia**. If they are needed, use only surfactants approved for ornamental plants in combination with **Insignia**. Test the product combination on a sample of the plant to be treated to ensure that a phytotoxic response will not occur prior to large scale use. **DO NOT** use organosilicone based adjuvants with **Insignia** or plant phytotoxicity may result on certain ornamental species.

Host Common Name	Scientific Name
African violet	<i>Saintpaulia ionantha</i>
Ajuga	<i>Ajuga reptans</i>
Almond (nonbearing)	<i>Prunus dulcis</i>
Aloe vera	<i>Aloe vera</i>
Apple (nonbearing)	<i>Malus sp</i>
Apricot (nonbearing)	<i>Prunus armeniaca</i>
Arborvitae	<i>Thuja sp</i>
Ardisia	<i>Ardisia sp</i>
Arrowwood	<i>Viburnum dentatum</i>
Ash red	<i>Fraxinus pennsylvanica</i>
Asian trache	<i>Lospermum sp</i>
Asparagus fern	<i>Asparagus densiflorus</i>
Astilbe	<i>Astilbe sp</i>
Aucuba	<i>Aucuba japonica</i>
Avens	<i>Geum chiloense</i>
Azalea	<i>Rhododendron sp</i>
Baby's breath	<i>Gypsophila repens</i>
Bachelor button	<i>Centaurea montana</i>
Balloon flower	<i>Platycodon grandiflorus</i>
Basket of gold	<i>Aurinia saxatilis</i>
Barbados lily	<i>Hippeastrum vittatum</i>
Barberry Japanese	<i>Berberis thunbergii</i>
Bayberry (wax myrtle)	<i>Myrica cerifera</i>
Bee balm	<i>Monarda didyma</i>
Begonia	<i>Begonia x superflorescultorum</i>
Bellflower	<i>Companula glomerata</i>
Blackberry	<i>Vaccinium myrtillus</i>
Black eyed Susan	<i>Rudbeckia sp</i>
Blanket flower	<i>Gaillardia grandiflora</i>
Blue lily turf	<i>Liriope sp</i>
Boxwood (Japanese common)	<i>Buxus B japonica B sempervirens</i>
Brachycome blue	<i>Brachycome sp</i>
Bridal wreath	<i>Spiraea vanhouttei</i>
Butterfly bush	<i>Buddleia sp</i>
Caladium	<i>Caladium sp</i>
Canna	<i>Canna x generalis</i>
Camellia Japanese	<i>Camellia japonica</i>
Carnation	<i>Dianthus caryophyllus</i>
Cedar Japanese	<i>Cryptomena japonica</i>
Chamaecyparis	<i>Chamaecyparis pisifer</i>
Chestnut American	<i>Castanea dentata</i>
China (rose)	<i>Hibiscus sp</i>

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Table 7 - Insignia® fungicide - Tolerant Plant Species (continued)

Host Common Name	Scientific Name
Chinquapin	<i>Castanea pumila</i>
Cherry (nonbearing)	<i>Prunus avium P cerasus</i>
Cherry flowering (Kwanzan)	<i>Prunus serrulata Kwanzan</i>
Cherry flowering (Mt Fuji [Shirotae])	<i>Prunus serrulata Mt Fuji (Shirotae)</i>
Chrysanthemum	<i>Chrysanthemum sp</i>
Citrus (nonbearing)	<i>Citrus spp</i>
Columbine	<i>Aquilegia sp</i>
Cone flower	<i>Rudbeckia hirta</i>
Coral bells	<i>Heuchera sp</i>
Cortaderia	<i>Cortaderia sp</i>
Cotoneaster cranberry	<i>Cotoneaster apiculatus</i>
Crabapple	<i>Malus sp</i>
Cranberry American	<i>Vaccinium macrocarpon</i>
Crape myrtle	<i>Lagerstroemia indica</i>
Cryptomeria	<i>Cryptomeria sp</i>
Cupid's dart	<i>Catananche cerulea</i>
Cyclamen	<i>Cyclamen sp</i>
Daffodil	<i>Narcissus pseudonarcissus</i>
Dahlia	<i>Dahlia sp</i>
Daylily	<i>Heemerocallis sp</i>
Deutzia	<i>Deutzia sp</i>
Dietes	<i>Dietes vegeta</i>
Dogwood	<i>Cornus sp</i>
Douglas fir	<i>Pseudotsuga sp</i>
Dusty Miller	<i>Centaurea cineraria</i>
Echinacea	<i>Echinacea purpurea</i>
Elaeagnus (Russian olive)	<i>Elaeagnus augustifolia</i>
Elder water	<i>Sambucus sp</i>
Euonymus	<i>Euonymus alata</i>
Fern Kimberly Queen	<i>Nephrolepis obliterated</i>
Fern wood	<i>Dryopteris sp</i>
Forsythia	<i>Forsythia sp</i>
Foxglove	<i>Digitalis sp</i>
Gardenia	<i>Gardenia jasminoides</i>
Gayfeather	<i>Liatris sp</i>
Gazania	<i>Gazania sp</i>
Geranium	<i>Pelargonium sp</i>
Gerbera	<i>Gerbera sp</i>
Gladiolus	<i>Gladiolus sp</i>
Globe thistle	<i>Echinops nitro</i>
Goldbell tree Chinese	<i>Forsythia vindissima</i>
Grape European (nonbearing)	<i>Vitis vinifera</i>
Hawthorn (Indian)	<i>Rhaphiolepis sp</i>
Hazel	<i>Corylopsis sp</i>
Heavenly bamboo	<i>Nandina domestica</i>
Hemlock Canada	<i>Tsuga Canadensis</i>
Holly (Chinese Japanese Yaupon)	<i>Ilex (I cornuta I crenata I vomitoria)</i>
Hosta	<i>Hosta sp</i>
Hydrangea	<i>Hydrangea sp</i>
Impatiens (New Guinea balsam [non flowering])	<i>Impatiens spp (non flowering)</i>
Iris	<i>Iris sp</i>
Ivy (common California English)	<i>Hedera sp</i>
Jasmine star	<i>Trachelospermum jasminoides</i>
Jessamine	<i>Gelsemium sempervirens</i>
Juniper (creeping Chinese)	<i>Juniperus - J horizontalis J chinensis</i>

Table 7 - Insignia® fungicide - Tolerant Plant Species (continued)

Host Common Name	Scientific Name
Lamb's ear	<i>Stachys byzantina</i>
Lantana	<i>Lantana montevidensis</i>
Larkspur	<i>Delphinium elatum</i>
Leopard's bane	<i>Doronicum cordatum</i>
Leucophyllum	<i>Leucophyllum</i> sp
Lilac common	<i>Syringa</i> sp
Lily	<i>Lilium</i> sp
Liriope (variegated)	<i>Liriope muscari variegata</i>
Lisianthus	<i>Eustoma grandiflora</i>
Lobelia	<i>Lobelia</i> sp
Loropetalum	<i>Loropetalum chinense</i>
Lupine	<i>Lupinus</i> spp
Magnolia (star saucer)	<i>Magnolia (M stellata M soulangiana)</i>
Maidenhair tree	<i>Ginkgo biloba</i>
Mandevilla	<i>Mandevilla</i> sp
Maple (Amur Japanese Norway sugar soft negundo)	<i>Acer (A ginnala A palmatum A platanoides A saccharum A saccharinum A negundo)</i>
Margold	<i>Tagetes</i> sp
Maudlin blue	<i>Ageratum houstonianum</i>
Meadow sage	<i>Salvia x superba</i>
Monkey grass	<i>Ophiopogon japonicus</i>
Morningglory	<i>Ipomoea</i> sp
Moss rose	<i>Portulaca grandiflora</i>
Mountain laurel	<i>Kalmia latifolia</i>
Myrica cerifera	<i>Myrica cerifera</i>
Myrtle	<i>Myrtus</i> sp
Narcissus	<i>Narcissus pseudonarcissus</i>
Nectarine (nonbearing)	<i>Prunus persica</i>
Oak (bur red)	<i>Quercus</i> sp (<i>Q macrocarpa Q Rubra</i>)
Oleander	<i>Nerium oleander</i>
Olive fragrant tea	<i>Osmanthus fragrans</i>
Pansy	<i>Viola</i> sp
Peach (nonbearing)	<i>Prunus persica</i>
Pear (nonbearing)	<i>Pyrus</i> sp
Pecan (nonbearing)	<i>Carya illinoensis</i>
Periwinkle Madagascar	<i>Catharanthus roseus</i>
Periwinkle perennial	<i>Vinca major V minor</i>
Petunia (non flowering)	<i>Petunia</i> spp (non flowering)
Phlox	<i>Phlox</i> sp
Pine (black white blue Mugo)	<i>Pinus (P thunbergiana P strobus P pinea P mugo)</i>
Pine European	<i>Abies alba</i>
Pistachio (nonbearing)	<i>Pistacia vera</i>
Pittosporum (Japanese)	<i>Pittosporum tobira</i>
Plum (nonbearing)	<i>Prunus domestica</i>
Plum purple leaf	<i>Prunus cerasifera</i>
Poinsettia	<i>Euphorbia pulcherrima</i>
Poplar	<i>Populus trichocarpa P deltoides</i>
Primrose	<i>Oenothera speciosa</i>
Privet	<i>Ligustrum</i> sp
Purple ornamental grass	<i>Pennisetum alopecuroides</i>
Purslane	<i>Portulaca</i> sp
Quince	<i>Chaenomeles</i> sp
Ranunculus	<i>Ranunculus</i> sp
Raphiolepis	<i>Raphiolepis</i> sp
Redbud	<i>Cercia</i> sp
Redtip photinia	<i>Photinia fraseri</i>
Redvein enkianthus	<i>Enkianthus campanulatus</i>

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Table 7 Insignia® fungicide - Tolerant Plant Species (continued)

Host common name	Scientific name
Rhododendron	<i>Rhododendron</i> sp
Rock cress	<i>Arabis cancasica</i>
Rose	<i>Rosa</i> sp
Rose mallow	<i>Hibiscus moscheutos</i>
Ruellia	<i>Ruellia</i> sp
Russian arborvitae	<i>Microbiota dueussata</i>
Sage silverado	<i>Leucophyllum</i> sp
Sago	<i>Cycas revoluta</i>
Salvia	<i>Salvia coccinea</i>
Scabious sweet	<i>Scabiosa atropurpurea</i>
Sedum	<i>Sedum</i> sp
Snapdragon	<i>Antirrhinum</i> sp
Speedwell	<i>Veronica spicata</i>
Spindle tree (Burning bush)	<i>Euonymus</i> sp
Spiraea	<i>Spiraea</i> sp
Spruce	<i>Picea</i> sp
Spurge Japanese	<i>Pachysandra terminalis</i>
St John s wort	<i>Hypericum calycinum</i>
Stonecrop	<i>Sedum</i> sp
Sweetspire	<i>Itea</i> sp
Sweet William	<i>Dianthus barbatus</i>
Thrift	<i>Armeria maritima</i>
Tick seed	<i>Coreopsis</i> sp
Tulip	<i>Tulipa</i> sp
Verbena	<i>Verbena</i> sp
Viburnum (Water elder)	<i>Viburnum</i> sp
Vinca Annual	<i>Catharanthus roseus</i>
Viola	<i>Viola</i> sp
Wall germander	<i>Tenchnum canadense</i>
Walnut tree (black common)	<i>Juglans (J nigra J regia)</i>
Wormwood	<i>Artemisia</i> sp
Yarrow	<i>Achillea</i> sp
Zinnia	<i>Zinnia</i> sp

Table 8 Plant Species NOT Tolerant to Insignia*

DO NOT expose these species or varieties to Insignia

Grape Concord Worden Fredonia Niagara or related varieties	<i>Vitis</i> sp
Nine bark	<i>Physocarpus opulifolius</i>
Wintercreeper	<i>Euonymus vegetus</i>
*See Restrictions and Limitations for precautions regarding use on impatiens and petunia during flowering	

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