

7969-290

7/21/2010

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

OFFICE OF
CHEMICAL SAFETY AND
POLLUTION PREVENTION

Charlotte A. Sanson
BASF Corporation
26 Davis Drive
P.O. Box 13528
Research Triangle Park, North Carolina 27709

JUL 21 2010

Subject: Insignia® SC Intrinsic™ brand fungicide
EPA Registration Number 7969-290
Decision D432499; your amended master label submitted
on July 21, 2010, superseding master labels submitted
on July 20, 2010, July 16, 2010 and April 8, 2010.

Dear Ms. Sanson,

The labeling referred to above, submitted in connection with
registration under the Federal Insecticide, Fungicide, and
Rodenticide Act (FIFRA), as amended, is acceptable. A stamped
copy is enclosed for your records. Submit one copy of your final
printed labeling before you release the product for shipment.

If you have any questions about this letter, please contact
John Bazuin at (703)305-7381 or bazuin.john@epa.gov.

Sincerely yours,

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

Attachment: Master label stamped "ACCEPTED"

2/21

Group 11 Fungicide

Insignia[®] SC

Intrinsic™ brand fungicide

For disease control and plant health in turfgrass and ornamentals

Active Ingredient:

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

23.3%

Other Ingredients:

76.7%

Total:

100.0%

*Equivalent to 2.08 pounds of pyraclostrobin per gallon.

EPA Reg. No. 7969-290

EPA Est. No.

**KEEP OUT OF REACH OF CHILDREN
WARNING/AVISO**

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, Conditions of Sale and Warranty**, and state-specific crop and/or use site restrictions.

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

Net Contents:

ACCEPTED
with COMMENTS
In EPA Letter Dated

2-1-2010

BASF Corporation
26 Davis Drive
Research Triangle Park, NC 27709

Under the Federal Insecticide,
Fungicide, and Rodenticide Act
as amended, for the pesticide
registered under EPA Reg. No.

7969-290



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	
<p>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).</p>	

Precautionary Statements

Hazards to Humans and Domestic Animals

WARNING. May be fatal if swallowed. 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.

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.

Engineering Controls Statement

When handlers use closed systems, enclosed cabs, or aircraft 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 intertidal areas below the mean high water mark. **DO NOT** contaminate water when disposing of equipment washwaters or rinsate.

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. 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 ≤ 5 gallons) as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. 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.

Triple rinse containers too large to shake (capacity > 5 gallons) as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank, or store rinsate for later use or disposal. Repeat this procedure two more times.

Pressure rinse as follows: Empty the remaining contents into application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. 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)

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® SC Intrinsic™ brand fungicide is a broad-spectrum fungicide for the control of many important diseases of turfgrass and ornamentals. For maximum efficacy, apply **Insignia SC** preventively. Preventive applications optimize disease control, resulting in improved plant health. Apply **Insignia SC** solo 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 SC**, a suspension concentrate (SC). The active ingredient in **Insignia SC**, 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 SC** 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 SC** has good residual activity against target fungi.

Mode of Action. Pyraclostrobin, the active ingredient in **Insignia SC**, 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 SC 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 SC may be used for disease control on ornamentals, including flower bulbs and forest and conifer nurseries and plantations, in the following use sites:

- 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 SC** 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 SC** using sufficient water volume and pressure for adequate coverage of the foliage.
- Calibrate spray equipment prior to use.
- For maximum efficacy, apply **Insignia SC** prior to or in the early stages of disease development. Use of **Insignia SC** 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 duration of disease control will vary depending on environmental conditions, disease pressure, and management practices.

Ground Application

Apply **Insignia SC** 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® SC Intrinsic™ brand fungicide** 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 the 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 because of 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 Application

Drip Irrigation

Insignia® SC Intrinsic™ brand 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 fluid ounces **Insignia SC** 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, delay subsequent irrigation (water only) for at least 24 hours following drip application.

Sprinkler Irrigation

Apply **Insignia SC** 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 greenhouse 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 backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, discharge the water from the public water system 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® SC Intrinsic™ brand fungicide 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 if **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 SC** or other **Group 11** fungicides.

To maintain the performance of **Insignia SC**, **DO NOT** exceed the total number of sequential applications of **Insignia SC**. Adhere to the label instructions regarding the consecutive use of **Insignia SC** 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/permitted 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. **Integrated Pest Management (IPM) - Insignia SC** should be integrated into an overall disease and pest management program. Follow cultural practices known to reduce disease development. **Insignia SC** 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 SC** 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 SC** for Pythium blight, gray leaf spot, dollar spot, or anthracnose; then alternate to an effective nonstrobilurin fungicide before reapplying **Insignia SC**.

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

In ornamental plants, DO NOT make more than two (2) sequential applications of **Insignia SC**; then alternate with a fungicide of a different mode of action before reapplying **Insignia SC**. **DO NOT** alternate **Insignia SC** 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 SC** can be used safely with all additives.

Tank Mixing Information

Tank Mix Partners/Components

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

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

Compatibility Test for Tank Mix Components

Add components in the following sequence using 2 teaspoons 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 1/2 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, wettable powders, suspension concentrates, such as **Insignia® SC Intrinsic™ brand fungicide**, or suspo-emulsions)
4. **Water-soluble products**
5. **Emulsifiable concentrates** (oil concentrate or methylated seed oil when applicable)
6. **Water-soluble additives** [ammonium sulfate (AMS) or urea ammonium nitrate (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 SC**.

Turfgrass Use Directions

Insignia SC 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 ring spot, 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 SC 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 SC** with another effective (nonstrobilurin) fungicide. For optimum control of gray snow mold and pink snow mold, tank mix **Insignia SC** 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 SC** can safely be used on all turfgrasses under all conditions.

Therefore, it is recommended that the user determine if **Insignia SC** can be used safely before broad use. Apply the specified labeled use rate of **Insignia SC** 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 SC** in 2 to 4 gallons of water per 1000 square feet (87 to 174 gallons per acre). See **Table 2** for equivalent spray dilutions (fl ozs/100 gallons spray solution) to achieve rates specified in **Table 1**.

For aerial application (sod farms only), apply product in no less than 10 gallons of spray solution per acre.

Restrictions and Limitations

- **Maximum seasonal use rate - DO NOT** apply more than a total of 4.4 fluid ounces of **Insignia SC** per 1000 sq ft per year (13.37 pounds or 1.5 gallons of **Insignia SC** per acre per year).
- Refer to **Table 1** for sequential application intervals for **Insignia SC**.
- **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.

Table 1. Insignia® SC Intrinsic™ brand fungicide Application Rates and Intervals on Turfgrass

Disease <i>Pathogen</i>	Use Rate (fl oz product/1000 sq ft)	Use Rate (fl ozs product/A)	Application Interval (days)	Comments
Anthracnose¹ <i>Colletotrichum graminicola</i>	0.4 to 0.7	17.4 to 30.5	14 to 28	Use preventively. Begin applications when conditions are favorable for fungal infection, prior to disease symptom development.
Bentgrass dead spot <i>Ophiosphaerella agrostis</i>	0.4 to 0.7	17.4 to 30.5	14 to 28	Use preventively. Begin applications when conditions are favorable for fungal infection, prior to disease symptom development.
Bermudagrass decline <i>Gaeumannomyces graminis var. graminis</i>	0.7	30.5	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 1 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>	0.4 to 0.7	17.4 to 30.5	14 to 28	Apply when conditions are favorable for disease development.
Brown ring patch <i>Rhizoctonia circinata</i> var. <i>circinata</i> aka 'Waitea patch'	0.7	30.5	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	0.7	30.5	14	Insignia SC 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 SC 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.

Table 1. Insignia® SC Intrinsic™ brand fungicide Application Rates and Intervals on Turfgrass (continued)

Disease <i>Pathogen</i>	Use Rate (fl oz product/1000 sq ft)	Use Rate (fl ozs product/A)	Application Interval (days)	Comments
Fairy ring various <i>Basidiomycete fungi</i>	0.7	30.5	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>	0.4 to 0.7	17.4 to 30.5	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.
Gray leaf spot¹ <i>Pyricularia grisea</i>	0.4 to 0.7	17.4 to 30.5	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>	0.7	30.5	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 SC at 0.55 to 0.70 fl 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>	0.4 to 0.7	17.4 to 30.5	14 to 28	Apply prior to or directly at initial signs of infection in fall and make at least 2 sequential applications until turfgrass goes into dormancy. Reapplication in spring at time of greenup can be made if necessary. For control of brown patch of St. Augustinegrass, centipedegrass, kikuyugrass, seashore paspalum and zoysiagrass (aka zoysia patch).
Leaf spot <i>Bipolaris</i> spp., <i>Drechslera</i> spp., and <i>Exserohilum</i> spp.	0.4 to 0.7	17.4 to 30.5	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>	0.4 to 0.7	17.4 to 30.5	14 to 28	Apply when conditions are favorable for disease development. Rotate with other effective fungicides such as Curalan EG.

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Table 1. Insignia® SC Intrinsic™ brand fungicide Application Rates and Intervals on Turfgrass (continued)

Disease <i>Pathogen</i>	Use Rate (fl oz product/1000 sq ft)	Use Rate (fl ozs product/A)	Application Interval (days)	Comments
Necrotic ring spot <i>Leptosphaeria korrae</i>	0.7	30.5	14 to 28	Aids in control of necrotic ring spot when combined with a nonstrobilurin fungicide such as Trinity™ fungicide , thiophanate methyl or chlorothalonil. Make applications in spring, fall or winter when conditions are present for outbreaks.
Pink patch <i>Limonomyces roseipellis</i>	0.4 to 0.7	17.4 to 30.5	14 to 28	Apply when conditions are favorable for disease development.
Pink snow mold <i>Microdochium nivale</i>	0.7	30.5	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 SC at 0.55 to 0.70 fl oz per 1000 sq ft tank mixed with another effective (nonstrobilurin) fungicide such as Curalan® EG fungicide , Iprodione Pro 2SE fungicide , or Trinity .
Powdery mildew <i>Blumeria graminis</i>	0.4 to 0.7	17.4 to 30.5	14 to 28	Use preventively. Begin applications when conditions are favorable for fungal infection, prior to disease symptom development.
Pythium blight¹ <i>Pythium aphanidermatum</i> , <i>Pythium</i> spp.	0.7	30.5	10 to 14	Use preventively. Begin applications when conditions are favorable for fungal infection, prior to disease symptom development. Tank mix Insignia SC 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.	0.7	30.5	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 SC application. Irrigate immediately following application.
Rapid blight <i>Labyrinthula terrestris</i>	0.4 to 0.7	17.4 to 30.5	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>	0.4 to 0.7	17.4 to 30.5	14 to 28	Apply when conditions are favorable for disease development.
Rhizoctonia leaf or sheath spot <i>R. oryzae</i> , <i>R. zea</i>	0.4 to 0.7	17.4 to 30.5	14 to 28	Rhizoctonia infection can occur under warm, humid conditions on both cool-season turfgrass 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.

Table 1. Insignia® SC Intrinsic™ brand fungicide Application Rates and Intervals on Turfgrass (continued)

Disease <i>Pathogen</i>	Use Rate (fl oz product/1000 sq ft)	Use Rate (fl ozs product/A)	Application Interval (days)	Comments
Rust <i>Puccinia</i> spp. and <i>Uromyces</i> spp.	0.4 to 0.7	17.4 to 30.5	14 to 28	Apply when conditions are favorable for disease development.
Summer patch <i>Magnaporthe poae</i>	0.4 to 0.7	17.4 to 30.5	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>	0.7	30.5	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>	0.4 to 0.7	17.4 to 30.5	14 to 28	Use preventively. Begin applications when conditions are favorable for fungal infection, prior to disease symptom development.
<p>¹ DO NOT apply more than two (2) sequential applications of Insignia SC 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 SC; then alternate to an effective nonstrobilurin fungicide before reapplying Insignia SC.</p>				

Table 2. Insignia SC Dilution Spray Solutions on Turfgrass

Use Rate (fl oz product/1000 sq ft)	To obtain 2 gallons/1000 sq ft spray volume:	To obtain 3 gallons/1000 sq ft spray volume:	To obtain 4 gallons/1000 sq ft spray volume:
	(fl ozs product/100 gallons spray solution)		
0.40	20.0	13.33	10.00
0.55	27.5	18.33	13.75
0.70	35.0	23.33	17.50

Production Ornamentals and Landscape Maintenance Use Directions

Insignia SC is not registered for use on ornamental plants in California.

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

Integrate **Insignia SC** 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® SC Intrinsic™ brand fungicide** 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 SC**. Not all plant species and their varieties and cultivars have been tested for tolerance to **Insignia SC**, possible tank mix combinations of **Insignia SC**, pesticide treatments preceding or following those of **Insignia SC**, and combinations of **Insignia SC** 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 SC**, 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 SC**. If additives or spray adjuvants are included, use only surfactants approved for ornamental plants in combination with **Insignia SC**. 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 SC** because 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 13.37 pounds or 1.5 gallons of **Insignia SC** per acre per year.
- For greenhouse uses, **DO NOT** make more than 8 applications of **Insignia SC** 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 SC**, as injury may result.
- **DO NOT** expose Concord, Worden, Fredonia, or Niagara grapes, or related varieties, to spray or drift containing **Insignia SC**, as injury may result.

- **DO NOT** expose flowering Impatiens (*Impatiens* spp.) or flowering Petunia (*Petunia* spp.) to spray or drift containing **Insignia SC**, as injury may result.
- **Resistance Management** - To limit the potential for development of resistance, **DO NOT** make more than two (2) sequential applications of **Insignia SC**; then alternate to a labeled fungicide with a different mode of action.

Application Information

Apply **Insignia SC** according to the rate, timing, resistance management and adjuvant use instructions in **Table 3** and **Table 4** in this label. **Insignia SC** may be applied by ground sprayer, aerial equipment, or through sprinkler and drip irrigation systems.

Foliar-directed and Crown-directed

Apply **Insignia SC** at use rates and intervals stated in **Table 3** and **Table 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 SC** 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 the target plant. Thorough coverage and wetting 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 SC** 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 6.1 to 12.2 fluid ounces of **Insignia SC** 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. **DO NOT** use **Insignia SC** 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 SC** 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 dipping five batches of bulbs, or (3) after 24 hours, whichever comes first. **DO NOT** discard the runoffs and wastes from the dipping operation in a drainage that could contaminate public water systems.

Table 3. Insignia® SC Intrinsic™ brand fungicide Application Rates and Intervals on Ornamentals and in Landscape Maintenance for Foliar and Crown Diseases

Disease <i>Pathogen</i>	Use Rate/Application (fl ozs product/100 gallons)	Application Interval (days) ¹	Comments
Anthracnose <i>Colletotrichum</i> spp. <i>Gloeosporium</i> spp.	6.1 to 12.2	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.	6.1 to 12.2	7 to 14	Use preventively. Begin application when conditions are favorable for fungal infection, prior to disease symptom development.
Crown and basal rot <i>Fusarium</i> spp. <i>Phytophthora</i> spp. <i>Pythium</i> spp. <i>Rhizoctonia solani</i>	6.1 to 12.2	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 6.1 to 9.1 fl ozs on herbaceous plants, such as bedding plants. Use 6.1 to 12.2 fl ozs on woody ornamentals.
Downy mildew <i>Peronospora</i> spp.	3.0 to 6.1	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.	1.5 to 6.1	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.	3.0 to 6.1		
<i>Diplocarpon rosae</i> <i>Entomosporium</i> sp.	6.1 to 12.2		
Phytophthora aerial blight and Pythium <i>Phytophthora</i> spp. <i>Pythium</i> spp.	6.1 to 12.2	7 to 14	Use preventively. Begin application when conditions are favorable for fungal infection, prior to disease symptom development. Use 6.1 to 9.1 fl ozs on herbaceous plants, such as bedding plants. Use 6.1 to 12.2 fl ozs on woody ornamentals.
Sudden Oak Death (SOD) <i>Phytophthora ramorum</i>	12.2		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 SC , rotate to Stature® SC fungicide or Subdue® Maxx® fungicide .

Table 3. Insignia® SC Intrinsic™ brand fungicide Application Rates and Intervals on Ornamentals and in Landscape Maintenance for Foliar and Crown Diseases (continued)

Disease <i>Pathogen</i>	Use Rate/Application (fl 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.	3.0 to 6.1	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>	6.1 to 12.2	7 to 14	Use preventively. Begin application when conditions are favorable for fungal infection, prior to disease symptom development. Use 6.1 to 9.1 fl ozs on herbaceous plants, such as bedding plants. Use 6.1 to 12.2 fl ozs on woody ornamentals.
Rot Botrytis rot <i>Botrytis cinerea</i> <i>B. tulipae</i> Sclerotinia rot <i>Sclerotinia</i> spp.	6.1 to 12.2	7 to 14	Use preventively. Begin application when conditions are favorable for fungal infection, prior to disease symptom development.
Rust <i>Puccinia</i> spp.	3.0 to 6.1	7 to 14	Use preventively. Begin application when conditions are favorable for fungal infection, prior to disease symptom development. Use higher rates on <i>Gymnosporangium</i> spp. and <i>Melampsora</i> spp.
<i>Gymnosporangium</i> spp. <i>Melampsora</i> spp.	6.1 to 12.2		
Scab <i>Venturia</i> spp. <i>Cladosporium</i> spp.	3.0 to 6.1	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.

Table 4. Insignia SC Drench Treatment Rates to Control Specified Soilborne Disease

Disease <i>Pathogen</i>	Use Rate/Application (fl ozs product/100 gallons)	Comments
Soilborne disease <i>Fusarium</i> spp. <i>Phytophthora</i> spp. <i>Pythium</i> spp. <i>Rhizoctonia solani</i>	6.1 to 12.2	Use as a preventive treatment. Drench the soil with a solution of 6.1 to 12.2 fl ozs of Insignia SC 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. Suggested drench volume: 200 to 250 ml per 6-inch pot. Repeat applications as needed within 7 to 21 days.

Table 5. Insignia® SC Intrinsic™ brand fungicide Dip Treatment Rates on Ornamental Bulbs

Disease <i>Pathogen</i>	Use Rate/Application (lb product/100 gallons)	Comments
Bulb rot and mold <i>Fusarium</i> spp. <i>Penicillium</i> spp.	3.8 to 7.6	Clean and treat bulbs within 24 to 48 hours of digging. Prepare suspension in water with specified amount of Insignia SC . Submerge the bulbs completely in the dipping suspension for 15 to 30 minutes. (1) Discard suspension when it becomes dirty, (2) after dipping five batches of bulbs, or (3) after 24 hours, whichever comes first. DO NOT discard the runoffs and wastes from the dipping operation in a drainage area, which could contaminate public water systems.

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

Insignia SC			
Use Rate (fl ozs product/100 gallons)	Spray Volume (ml product/2 gallons)	Spray Volume (ml product/3 gallons)	Spray Volume (ml product/4 gallons)
3:0	1.77	2.66	3.58
6:1	3.61	5.41	7.22
9:1	5.38	8.07	10.77
12:2	7.22	10.82	14.43

Table 7. Insignia® SC Intrinsic™ brand fungicide Tolerant Plant Species

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

The phytotoxic potential of **Insignia SC** 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 SC**, possible tank mix combinations of **Insignia SC**, pesticide treatments preceding or following those of **Insignia SC**, and combinations of **Insignia SC** 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 SC**, 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 SC**. If they are needed, use only surfactants approved for ornamental plants in combination with **Insignia SC**. 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 SC** because plant phytotoxicity may result on certain ornamental species.

Host Common Name	Scientific Name	Host Common Name	Scientific Name
African violet	<i>Saintpaulia ionantha</i>	Bridal wreath	<i>Spiraea vanhouttei</i>
Ajuga	<i>Ajuga reptans</i>	Butterfly bush	<i>Buddleia</i> sp.
Almond (nonbearing)	<i>Prunus dulcis</i>	Caladium	<i>Caladium</i> sp.
Aloe vera	<i>Aloe vera</i>	Camellia, Japanese	<i>Camellia japonica</i>
Apple (nonbearing)	<i>Malus</i> sp.	Canna	<i>Canna x generalis</i>
Apricot (nonbearing)	<i>Prunus armeniaca</i>	Carnation	<i>Dianthus caryophyllus</i>
Arborvitae	<i>Thuja</i> sp.	Cedar, Japanese	<i>Cryptomeria japonica</i>
Ardisia	<i>Ardisia</i> sp.	Chamaecyparis	<i>Chamaecyparis pisifer</i>
Arrowwood	<i>Viburnum dentatum</i>	Cherry (nonbearing)	<i>Prunus avium</i> , <i>P. cerasus</i>
Ash, red	<i>Fraxinus pennsylvanica</i>	Cherry, flowering (Kwanzan)	<i>Prunus serrulata</i> 'Kwanzan'
Asian trache	<i>Lospermum</i> sp.	Cherry, flowering (Mt. Fuji [Shirotae])	<i>Prunus serrulata</i> 'Mt. Fuji' (Shirotae)
Asparagus fern	<i>Asparagus densiflorus</i>	Chestnut, American	<i>Castanea dentata</i>
Astilbe	<i>Astilbe</i> sp.	China (rose)	<i>Hibiscus</i> sp.
Aucuba	<i>Aucuba japonica</i>	Chinquapin	<i>Castanea pumila</i>
Avens	<i>Geum chiloense</i>	Chrysanthemum	<i>Chrysanthemum</i> sp.
Azalea	<i>Rhododendron</i> sp.	Citrus (nonbearing)	<i>Citrus</i> spp.
Baby's breath	<i>Gypsophila repens</i>	Columbine	<i>Aquilegia</i> sp.
Bachelor button	<i>Centaurea montana</i>	Cone flower	<i>Rudbeckia hirta</i>
Balloon flower	<i>Platycodon grandiflorus</i>	Coral bells	<i>Heuchera</i> sp.
Barbados lily	<i>Hippeastrum vittatum</i>	Cortaderia	<i>Cortaderia</i> sp.
Barberry, Japanese	<i>Berberis thunbergii</i>	Cotoneaster, cranberry	<i>Cotoneaster apiculatus</i>
Basket-of-gold	<i>Aurinia saxatilis</i>	Crabapple	<i>Malus</i> sp.
Bayberry (wax myrtle)	<i>Myrica cerifera</i>	Cranberry, American	<i>Vaccinium macrocarpon</i>
Bee balm	<i>Monarda didyma</i>	Crape myrtle	<i>Lagerstroemia indica</i>
Begonia	<i>Begonia x superflorescul-torum</i>	Cryptomeria	<i>Cryptomeria</i> sp.
Bellflower	<i>Companula glomerata</i>	Cupid's dart	<i>Catananche cerulea</i>
Blackberry	<i>Vaccinium myrtillus</i>	Cyclamen	<i>Cyclamen</i> sp.
Black-eyed Susan	<i>Rudbeckia</i> sp.	Daffodil	<i>Narcissus pseudonarcissus</i>
Blanket flower	<i>Gaillardia grandiflora</i>	Dahlia	<i>Dahlia</i> sp.
Blue lily turf	<i>Liriope</i> sp.	Daylily	<i>Hemerocallis</i> sp.
Boxwood (Japanese, common)	<i>Buxus - B. japonica, B. sempervirens</i>	Deutzia	<i>Deutzia</i> sp.
Brachycome, blue	<i>Brachycome</i> sp.	Dietes	<i>Dietes vegeta</i>
		Dogwood	<i>Cornus</i> sp.

Table 7. Insignia® SC Intrinsic™ brand fungicide Tolerant Plant Species (continued)

Host Common Name	Scientific Name
Douglas Fir	<i>Pseudotsuga</i> sp.
Dusty Miller	<i>Centaurea cineraria</i>
Echinacea	<i>Echinacea purpurea</i>
Elaeagnus (Russian olive)	<i>Elaeagnus augustifolia</i>
Elder, water	<i>Sambucus</i> sp.
Euonymus	<i>Euonymus alata</i>
Fern, Kimberly Queen	<i>Nephrolepis obliterated</i>
Fern, wood	<i>Dryopteris</i> sp.
Forsythia	<i>Forsythia</i> sp.
Foxglove	<i>Digitalis</i> sp.
Gardenia	<i>Gardenia jasminoides</i>
Gayfeather	<i>Liatris</i> sp.
Gazania	<i>Gazania</i> sp.
Geranium	<i>Pelargonium</i> sp.
Gerbera	<i>Gerbera</i> sp.
Gladiolus	<i>Gladiolus</i> sp.
Globe thistle	<i>Echinops ritro</i>
Goldbell tree, Chinese	<i>Forsythia viridissima</i>
Grape, European (non-bearing)	<i>Vitis vinifera</i>
Hawthorn (Indian)	<i>Rhaphiolepis</i> sp.
Hazel	<i>Corylopsis</i> sp.
Heavenly bamboo	<i>Nandina domestica</i>
Hemlock, Canada	<i>Tsuga Canadensis</i>
Holly (Chinese, Japanese, Yaupon)	<i>Ilex</i> - <i>I. cornuta</i> , <i>I. crenata</i> , <i>I. vomitoria</i>
Hosta	<i>Hosta</i> sp.
Hydrangea	<i>Hydrangea</i> sp.
Impatiens (New Guinea, balsam [nonflowering])	<i>Impatiens</i> spp. (nonflowering)
Iris	<i>Iris</i> sp.
Ivy (common, California, English)	<i>Hedera</i> sp.
Jasmine, star	<i>Trachelospermum jasminoides</i>
Jessamine	<i>Gelsemium sempervirens</i>
Juniper (creeping, Chinese)	<i>Juniperus</i> - <i>J. horizontalis</i> , <i>J. chinensis</i>
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>

Host Common Name	Scientific Name
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</i> - <i>M. stellata</i> , <i>M. soulangiana</i>
Maidenhair tree	<i>Ginkgo biloba</i>
Mandevilla	<i>Mandevilla</i> sp.
Maple (Amur, Japanese, Norway, sugar, soft, negundo)	<i>Acer</i> - <i>A. ginnala</i> , <i>A. palmatum</i> , <i>A. platanoides</i> , <i>A. saccharum</i> , <i>A. saccharinum</i> , <i>A. negundo</i>
Marigold	<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 laifolia</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</i> , <i>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</i> , <i>V. minor</i>
Petunia (nonflowering)	<i>Petunia</i> spp. (nonflowering)
Phlox	<i>Phlox</i> sp.
Pine (black, white, blue, Mugo)	<i>Pinus</i> - <i>P. thunbergiana</i> , <i>P. strobus</i> , <i>P. pinea</i> , <i>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</i> , <i>P. deltoides</i>

Table 7. Insignia® SC Intrinsic™ brand fungicide Tolerant Plant Species (continued)

Host Common Name	Scientific Name
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>
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.
Spirea	<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>Tenchrism canadense</i>
Walnut tree (black, common)	<i>Juglans</i> - <i>J. nigra</i> , <i>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 SC

DO NOT expose these species or varieties to Insignia SC.

Host Common Name	Scientific Name
Grape Concord, Worden, Fredonia, Niagara	<i>Vitis</i> sp.
Impatiens - flowering	<i>Impatiens</i> spp.
Nine bark	<i>Physocarpus opulifolius</i>
Petunia - flowering	<i>Petunia</i> spp.
Wintercreeper	<i>Euonymus vegetus</i>

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007969-00290.20100330e. **NVA 2010-04-342-0055**
Supersedes: NVA 2009-04-342-0220

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