

 **Spirato® GHN****Fungicide**

For control of certain foliar, stem, and root diseases in ornamentals grown in interiorscapes field nursery plantings, container nurseries, forest nurseries, residential and commercial landscapes, greenhouses, lath and shade houses, hoop houses or other enclosed structures.

\*For control of certain diseases on listed vegetables (Brassica (Cole), Cucurbits, Tomatoes and Fruiting, Herbs, and Leafy Vegetable groups) including seedlings and transplants grown in greenhouses, lath and shade houses, hoop houses or other enclosed structures only. Not for field vegetable production.

\*Not for Use in California

EPA Reg. No. 228-723

**Net Contents****1 Pint (437 mL)**

1 91662 01373 3

|             |       |    |           |
|-------------|-------|----|-----------|
| FLUDIOXONIL | GROUP | 12 | FUNGICIDE |
|-------------|-------|----|-----------|

**ACTIVE INGREDIENT:**

Fludioxonil ..... 40.3%

**OTHER INGREDIENTS:** ..... 59.7%**TOTAL:** ..... 100.0%

Contains 4 pounds active ingredient per gallon (480 grams per liter).

**KEEP OUT OF REACH OF CHILDREN****CAUTION****SEE NEXT PAGE FOR ADDITIONAL  
PRECAUTIONARY STATEMENTS**

For Medical Emergencies, Call (877) 325-1840  
For Chemical Spill, Leak, Fire, or Exposure,  
Call CHEMTREC (800) 424-9300

Manufactured for  
Nufarm Americas Inc.  
11901 S. Austin Avenue  
Alsip, IL 60803



**Nufarm**  
Grow a better tomorrow

## FIRST AID

|                               |  |
|-------------------------------|--|
| <b>IF SWALLOWED</b>           | <ul style="list-style-type: none"><li>• Call a poison control center or doctor immediately for treatment advice.</li><li>• Have person sip a glass of water if able to swallow.</li><li>• Do not induce vomiting unless told to by a poison control center or doctor.</li><li>• Do not give anything to an unconscious person.</li></ul> |
| <b>IF ON SKIN OR CLOTHING</b> | <ul style="list-style-type: none"><li>• Take off contaminated clothing.</li><li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li><li>• Call poison control center or doctor for treatment advice.</li></ul>  |
| <b>IF IN EYES</b>             | <ul style="list-style-type: none"><li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li><li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>  |

*(continued)*

## **HOT LINE 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 1-877-325-1840 for emergency medical treatment information.

## **PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

**CAUTION:** Harmful if swallowed. Harmful if absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

## **PERSONAL PROTECTIVE EQUIPMENT (PPE)**

**Applicators and other handlers must wear:**

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material such as barrier laminate, butyl rubber  $\geq 14$  mils, nitrile rubber  $\geq 14$  mils, neoprene rubber  $\geq 14$  mils, polyethylene, polyvinyl chloride (PVC)  $\geq 14$  mils, viton  $\geq 14$  mils
- Shoes plus socks

## **USER SAFETY REQUIREMENTS**

Follow manufacturer's instructions for cleaning/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**

When handlers use closed systems 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 is toxic to fish, aquatic invertebrates, and oysters and shrimp. 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 washwater or rinsate. **Groundwater Advisory:** This chemical has properties and characteristics associated with chemicals detected in ground water. This chemical may leach into groundwater if used in areas where soils are permeable, particularly where the water table is shallow. **Surface Water Advisory:** This chemical may contaminate water through drift or spray in wind. This chemical has a high potential for runoff for several months or more after application. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this chemical. A level, well maintained vegetative buffer strip between areas to which this chemical 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 such as when soils are saturated and/or significant rainfall is forecast in the next 48 hours. Sound erosion control practices will reduce this chemical's contribution to surface water contamination.

## **Physical or Chemical Hazards**

Do not use or store near heat or open flame. Do not use with or store near any oxidizing agents, hazardous chemical reaction may occur.

## **DIRECTIONS FOR USE**

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

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 State or Tribal 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), restricted-entry interval, and notification to workers. 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.**

**Exception:** If the product is applied by drenching, the Worker Protection Standard, under certain circumstances allows workers to enter the treated area if there will be no contact with anything that has been treated.

*(continued)*

## AGRICULTURAL USE REQUIREMENTS

*(continued)*

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 barrier laminate, butyl rubber  $\geq 14$  mils, nitrile rubber  $\geq 14$  mils, neoprene rubber  $\geq 14$  mils, polyethylene, polyvinyl chloride (PVC)  $\geq 14$  mils, viton  $\geq 14$  mils
- Shoes plus socks

## NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses. **Do not enter treated areas without protective clothing until sprays have dried.**



**FAILURE TO FOLLOW THE DIRECTIONS FOR USE AND PRECAUTIONS ON THIS LABEL MAY RESULT IN POOR DISEASE CONTROL OR PLANT INJURY**

## **USE RESTRICTIONS**

- **Hawaii Use** is limited to ornamentals grown in interiorscapes, greenhouses, lath and shade houses, containers, or other enclosed structures.
- **Nassau and Suffolk Counties, New York Use** is limited to ornamentals grown in interiorscapes, greenhouses, lath and shade houses, hoop houses, containers, or other enclosed structures.
- **Do not apply SPIRATO GHN Fungicide** with any type of aircraft.

**OBSERVE THE FOLLOWING RESTRICTIONS WHEN SPRAYING IN THE VICINITY OF AQUATIC AREAS SUCH AS LAKES, RESERVOIRS, RIVERS, PERMANENT STREAMS, MARSHES OR NATURAL PONDS, ESTUARIES, AND COMMERCIAL FISH FARM PONDS.**

- Do not apply within 75 ft of bodies of water such as lakes reservoirs rivers, permanent streams natural ponds, marshes or estuaries.
- For all plantings within 150 ft of bodies of water as described above, spray crops from outside the planting away from the bodies of water.

- Shut off the sprayer when at row ends.
- Spray the last three rows windward of aquatic areas using nozzles on one side only, with spray directed away from aquatic areas.
- Do not cultivate within 10 ft of aquatic areas as to allow a vegetative filter strip.
- Do not apply when weather conditions favor drift to aquatic areas. Do not apply when gusts or sustained winds exceed 10 mph.
- Do not apply during a temperature inversion. Mist or fog may indicate the presence of an inversion in humid areas.

## **RESISTANCE MANAGEMENT**

- For resistance management, this product contains a Group 12 fungicide. Any fungal population may contain individuals naturally resistant to this product and other Group 12 fungicides. A gradual or total loss of pest control may occur over time if these fungicides are used repeatedly. Appropriate resistance-management strategies should be followed. To delay fungicide resistance, take on or more of the following steps:
- Rotate the use of this product or other Group 12 fungicides within a growing season sequence with different groups that control the same pathogens.

- Use tank mixtures with fungicides from a different group that are equally effective on the target pest when such use is permitted. Use at least the minimum application rate as labeled by the manufacturer.
- Adopt an integrated disease management program for fungicide use that includes scouting, uses historical information related to pesticide use, and which considers host plant resistance, impact of environmental conditions on disease development, disease thresholds, as well as, cultural, biological and other chemical control practices.
- Where possible, make use of predictive disease models to effectively time fungicide applications. Note that using predictive models alone is not sufficient to manage resistance.
- Monitor treated fungal populations for resistance development.
- Contact your pesticide distributor to report suspected resistance.
- Contact your local extension specialist or certified pest control advisor for any additional pesticide resistance management and/or IPM recommendations for specific sites and pathogens.

## **MIXING PROCEDURES**

1. Prepare no more spray mixture than is needed for the immediate operation.
2. Thoroughly clean spray equipment before using this product.

3. Vigorous agitation is necessary to maintain uniformity of the spray mixture.
  4. Maintain maximum agitation throughout the spraying operation.
  5. Do not let the spray mixture stand overnight in the spray tank.
  6. Flush the spray equipment thoroughly following each use and apply the rinsate to a previously treated area.
- To determine the physical compatibility of SPIRATO GHN Fungicide with other products, use a jar test as described below.

## **Jar Compatibility Test**

1. Using a quart Jar, add the proportionate amounts of the products to 1 qt of water.
2. Add wettable powders and water-dispersible granular products first, then liquid flowables, and emulsifiable concentrates last.
3. After thoroughly mixing, let stand for at least 5 minutes. If the combination remains mixed or can be remixed readily it is physically compatible.
4. Once compatibility has been proven, use the same procedure for adding required ingredients to the spray tank.

5. If using SPIRATO GHN Fungicide in a tank mixture, observe all directions for use, crops/sites, use rates, dilution ratios, precautions, and limitations which appear on the tank-mix product label.
6. Do not exceed the dosage rates on any label.
7. Follow the most restrictive label restrictions.
8. Do not mix this product with any other product whose label prohibits such mixing.
9. Tank mixtures are permitted only in those states where the tank mix partner is registered.

**Note: Use with oils or adjuvants may cause plant damage**

Plant tolerance has been found acceptable for ornamentals listed in the **ORNAMENTALS** section of this label. However, not all possible tank-mix combinations have been tested under all conditions. When possible, it is recommended to test the combinations on a small portion of target plants to ensure a phytotoxic response will not occur as a result of application.

**SPIRATO GHN Fungicide Alone:**

1. Add 2/3 of the required amount of water to the spray or mixing tank.
2. With the agitator running, add the labeled amount of SPIRATO GHN Fungicide into the spray tank all at once.
3. Continue agitation while adding the remainder of the water.

4. Begin application of the spray solution after the material has completely dispersed into the mix water.
5. Maintain agitation until all of the mixture has been applied.

### **SPIRATO GHN Fungicide+ Tank Mixtures:**

SPIRATO GHN Fungicide is usually compatible with Strider<sup>®</sup>, Torque<sup>®</sup>, Tourney, Adorn, Stellar, Spectro 90<sup>™</sup>, 3336<sup>®</sup>, Alude<sup>™</sup>, and other commonly used fungicides, insecticides and foliar nutrient products. However, the physical and biological compatibility of SPIRATO GHN Fungicide with tank-mix partners should be tested before use. If in doubt, run a jar compatibility test or consult with Nufarm company representatives, other users, university or extension personnel before proceeding.

1. Add 2/3 of the required amount of water to the spray or mixing tank.
2. With the agitator running add the labeled amount of SPIRATO GHN Fungicide into the tank all at once.
3. Continue agitation while adding the remainder of the water.
4. Allow SPIRATO GHN Fungicide to dissolve and the product to completely disperse into the mix water. Then add the desired amount of other products recommended for tank mixture and allow them to become completely dispersed.
5. Continue agitation to maintain a uniform suspension until all of the spray solution has been applied.

6. Other wettable powders or water dispersible granules should be added to the water in the tank next, followed by flowable products, and emulsifiable concentrates added last.
7. Provide sufficient mechanical or bypass agitation during mixing and application.

#### **SPRAY DRIFT ADVISORY:**

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT. BE AWARE OF NEARBY NONTARGET SITES AND ENVIRONMENTAL CONDITIONS.

#### **IMPORTANCE OF DROPLET SIZE:**

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for spray drift will be greater if applications are made improperly or under unfavorable environmental conditions.

#### **SHIELDED SPRAYERS:**

Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

#### **TEMPERATURE AND HUMIDITY:**

When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

## **TEMPERATURE INVERSIONS:**

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or 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. Avoid applications during temperature inversions.

## **WIND:**

Drift potential generally increases with wind speed. **AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS.** Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

## **Handheld Technology Applications:**

- Take precautions to minimize spray drift.

## **APPLICATION:**

**Directions for Use Through Microjet or Drip Chemigation Systems**



1. For applications of SPIRATO GHN Fungicide as soil drench applications only.
2. Do not use in overhead irrigation systems.
3. 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.
4. SPIRATO GHN Fungicide alone or in tank mixture with other pesticides which are registered for microjet or drip application may be applied in irrigation water at rates specified in this label.
5. Applications to the soil may be made through microjets or drip irrigation. With microjet systems, apply additional water after application is complete to remove residues from the foliage. Apply enough supplemental water to wet the root zones of the plants.
6. Do not apply this product through any other type of irrigation system.
7. Plant injury or lack of effectiveness can result from non-uniform distribution of treated water. If you have questions about calibration, you should contact State Extension specialists, equipment manufacturers, or other experts.

8. Thorough coverage is necessary to provide good disease control. Where distribution patterns do not overlap sufficiently, unacceptable control may result. Where distribution patterns overlap excessively, injury to desirable plants may result.

### **Spray Preparation**

1. Chemical tank and injector system should be thoroughly cleaned.
2. Flush system with clean water.
3. Fill the mix (supply) tank with the required amount of water.
4. Start agitation in the tank.
5. Agitate the solution until the SPIRATO® GHN has completely dispersed into the solution. Then add desired amount of tank-mix partners.
6. Maintain agitation in the tank and inject this mixture into the irrigation system.
7. Injecting a larger volume of a more dilute mixture per hour will usually provide more accurate calibration of metering equipment.
8. Maintain sufficient agitation to keep the fungicide in suspension.
9. Meter into irrigation water during the beginning of the irrigation cycle.

## **Operation Instructions**

1. 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.
2. The pesticide injection pipeline must contain a functional automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
3. 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.
4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
5. 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.
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. Allow sufficient time for pesticide to be flushed through all lines and all nozzles before turning off irrigation water.
8. 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.

### **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.
3. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction.

4. There shall be a complete physical break (air gap) between the flow 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.
5. The pesticide injection pipeline must contain a functional automatic quick-closing check valve to prevent the flow of fluid back toward the injection pump.
6. 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.
7. 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.
8. 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.

9. Do not apply when wind speed favors drift beyond the area intended for treatment.

## **ORNAMENTALS**

SPIRATO GHN Fungicide is a protectant fungicide for control of certain foliar, stem, and root diseases in ornamentals grown in interiorscapes, field nursery plantings, container nurseries, forest nurseries, residential and commercial landscapes greenhouses, lath, shade houses, and hoop houses, or other enclosed structures. SPIRATO GHN Fungicide may also be used on indicated vegetables grown in greenhouses, lath, shade houses, and hoop houses, or other enclosed structures.

### **Restrictions:**

**HAWAII ONLY:** For use only on ornamentals grown in containers, greenhouses or other enclosed structures.

**NEW YORK ONLY:** Use in Nassau and Suffolk Counties is limited to ornamentals grown in interiorscapes, greenhouses, lath and shade houses, hoop houses, containers, or other enclosed structures.

SPIRATO GHN Fungicide controls foliar diseases of ornamentals caused by *Rhizoctonia* spp., *Botrytis* spp., *Cercospora* spp., *Cylindrocladium* spp., *Alternaria* spp., *Septoria* spp., and *Myrothecium* spp. when applied on a regular schedule as a full coverage spray.

SPIRATO GHN Fungicide also will provide control of stem and root diseases caused by *Rhizoctonia* spp., *Fusarium* spp. (e.g., *F. oxysporum*), *Cylindrocladium* spp., *Sclerotium* spp., and *Thielaviopsis* spp., when mixed with the potting media or as a drench to the root zone of plants.

For control of stem and root diseases caused by *Pythium* spp. and *Phytophthora* spp., tank mix SPIRATO GHN Fungicide with labeled rates of Adorn and/or Alude. See mixing instructions for these tank mixes.

### **Plant Species**

SPIRATO GHN Fungicide has been tested and found to be safe on the ornamentals listed in Table 1 at specified rates. For plants not listed in the table, see the **NOTICE TO USER** box at the bottom of the Table Numbers in parentheses refer to diseases controlled See Table 2.

TABLE 1 – LIST OF ORNAMENTALS

|                            |                           |                               |
|----------------------------|---------------------------|-------------------------------|
| African Violets (1-13)     | Coleus (1-13)             | Pittosporium (9-13)           |
| Ageratum (1-11)            | Coreopsis* (1-13)         | Poinsettia (1,4,10-13)        |
| Alyssum (1-13)             | Cyclamen (1-13)           | Portulaca* (1-13)             |
| Aster (1-13)               | Daffodil (4 10 11)        | Pothos (1-13)                 |
| Azalea (4, 12, 13)         | Dahlia* (1-13)            | Rose (1, 4, 10)               |
| Begonia (1-13)             | Daisy* (1-13)             | Salvia (1-13)                 |
| Bleeding Heart*<br>(1-13)  | Fern** (1-13)             | Snapdragon (1-13)             |
| Boxwood (1-13)             | Fuchsia* (1-4)            | Spathiphyllum (1-13)          |
| Bridal Veil* (1-13)        | Gerbera Daisy (1-13)      | Sunflower* (1-13)             |
| Caladium (1-13)            | Gomphrena (1-13)          | Tobacco, Flowering*<br>(1-13) |
| Calendula (1-13)           | Iris (4 10 11)            | Tulip (4 10 11)               |
| Carnation (1-13)           | Lantana* (1-13)           | Verbena (1-13)                |
| Celosia (1-13)             | Lily (4 10 11)            | Vinca (1-13)                  |
| Centrosa* (1-13)           | Lysianthus (9-13)         | Wandering Jew*<br>(1-13)      |
| Chenille* (1-13)           | Marigold (1-13)           | Zinnia (1-13)                 |
| Christmas Cactus<br>(1-13) | Mexican Heather*<br>(1-8) |                               |
| Chrysanthemums<br>(1-13)   | Nephtytis* (1-13)         |                               |
|                            | Pansy (1-13)              |                               |
|                            | Petunia (1-13)            |                               |



## Note

\*Indicates that only foliar applications have been tested for plant safety

\*\*Do not apply SPIRATO GHN Fungicide to leather leaf fern

1. Drench or at seedling applications to Impatiens or New Guinea Impatiens may cause stunting and/or chlorosis.
2. Foliar or drench applications to Geranium can cause stunting or chlorosis. Responses may vary depending on environmental conditions. SPIRATO GHN Fungicide should be tested on a limited area to evaluate for any possible damage before proceeding with treatment of the entire crop.

**NOTICE TO USER:** Plant tolerance to SPIRATO GHN Fungicide has been found to be acceptable for the specific genera and species listed on this label. Due to the large number of species and varieties of ornamentals and nursery plants, it is impossible to test every one for tolerance to SPIRATO GHN Fungicide. Neither the Manufacturer nor the Seller has determined whether or not SPIRATO GHN Fungicide can be used safely on ornamental plants not specified on this label. The user should determine if SPIRATO GHN Fungicide can be used safely prior to use. In a small area, test the required rates on a small number of plants for phytotoxicity prior to widespread use.

**Table 2: Diseases Controlled by SPIRATO GHN Fungicide**

| <b>Foliar Diseases</b>            |  |
|-----------------------------------|--|
| 1                                 | Aerial Blight ( <i>Rhizoctonia</i> spp.)                                 |
| 2                                 | Alternaria Leaf Blight ( <i>Alternaria</i> spp.)                         |
| 3                                 | Alternaria Leaf Spot ( <i>Alternaria</i> spp.)                           |
| 4                                 | Botrytis Blight ( <i>Botrytis</i> spp.)                                  |
| 5                                 | Cercospora Leaf Spot ( <i>Cercospora</i> spp.)                           |
| 6                                 | Cylindrocladium leaf spots and blights<br>( <i>Cylindrocladium</i> spp.) |
| 7                                 | Myrothecium Leaf Spot and Blight ( <i>Myrothecium</i> spp.)              |
| 8                                 | Septoria Leaf Spot ( <i>Septoria</i> spp.)                               |
| <b>Stem, Crown, and Root Rots</b> |  |
| 9                                 | Cylindrocladium Stem and Root Rot<br>( <i>Cylindrocladium</i> spp.)      |
| 10                                | Fusarium Stem and Root Rot ( <i>Fusarium</i> spp.)                       |
| 11                                | Rhizoctonia Stem and Root Rot ( <i>Rhizoctonia</i> spp.)                 |
| 12                                | Southern Blight ( <i>Sclerotium rolfsii</i> )                            |
| 13                                | Black Root Rot ( <i>Thielaviopsis</i> spp.)                              |

## **Foliar Spray**

For control of *Rhizoctonia* spp., *Alternaria* spp., *Septoria* spp., *Myrothecium* spp. and *Cercospora* spp., use 1-2 fluid ounces /100 gal of water and spray to runoff at 7 to 14 day intervals while conditions are favorable for disease development.

For control of *Botrytis* spp. and *Cylindrocladium* spp. use 2-4 fluid ounces/100 gal of water and spray to runoff at 7 to 14 day intervals while conditions are favorable for disease development. For management of the potential development of resistance in the *Botrytis* population, use no more than two consecutive applications of SPIRATO GHN Fungicide before rotating to another effective product registered for *Botrytis* control on ornamentals with a different mode of action.

## **Notes**

- (1) Under severe conditions, use the highest specified rate and/or the shortest application interval.
- (2) Use sufficient spray volume to wet the plants to the point of drip.

## **Restriction**

For a single foliar application, apply up to a maximum of 4 fluid ounces /100 gal (1fl oz /25 gal) (0.188 lbs ai/A).

### **Pre-Potting Growing Media Mix**

SPIRATO GHN Fungicide can be mixed with the potting media before seeding or transplanting by uniformly mixing 1-2 fluid ounces per cu yd of potting media. Mix the specified amount of SPIRATO GHN Fungicide with 5 - 10 gallons of water and applied to 1 (one) cu yd of potting media. Adjust water volume depending upon characteristic of media and equipment. Uniform mixing can be accomplished by placing the potting mix in a rotating drum or other mixing device, and spraying the SPIRATO GHN Fungicide solution onto the mix while the equipment is mixing the media. Media should be uniformly damp to insure proper application. SPIRATO GHN Fungicide treatment should be made just before the plants are seeded or potted up.

### **Growing Medium Drench At Seeding**

For the control of damping-off, root, and stem diseases, mix 1 fluid ounce per 100 gallons of water. When using SPIRATO GHN Fungicide for control of *Rhizoctonia* spp., apply sufficient mix to wet the upper one-half of the growing medium. For control of other root and stem diseases, completely drench the growing medium.

## **Restriction**

Make only one application to the seeding crop prior to transplanting or transfer to larger containers.

## **Growing Medium Drench for Transplants and Cuttings**

For the control of root and stem diseases, mix 1-2 fluid ounces per 100 gallons of water. When using SPIRATO GHN Fungicide for control of *Rhizoctonia* spp., apply sufficient mix to wet the upper one-half of the growing medium. For control of other root and stem diseases, completely drench the growing medium. If needed, retreat transplants and cuttings with SPIRATO GHN Fungicide as described above at 21 to 28 day intervals. Two applications per year during conditions favorable for disease development are usually adequate to control diseases of ornamentals.

## **Notes**

- (1) Under severe conditions, use the highest specified rate and/or the shortest application interval.
- (2) For control of *Pythium* and *Phytophthora* diseases in addition to *Rhizoctonia* spp., *Cylindrocladium* spp., *Thielaviopsis* spp., *Fusarium* spp., and *Sclerotium* spp., tank mix SPIRATO GHN Fungicide with labeled rates of Adorn and/or Alude.

## **Restriction**

Drench applications can be made at up to a maximum of 2 pt /sq ft to wet the root zone of plants (1.6 lb ai/A).

## **Restrictions: Maximum Use Rates**

For indoor drench applications, use up to 30 fluid ounces of SPIRATO GHN Fungicide per 1000 sq ft/year (10 gallons [40 lbs AI] per acre). Applications to pre-potting mix can be made up to 4 fluid ounces of SPIRATO GHN Fungicide per cu yd.

The high use rates specified for container nurseries, greenhouses, or other enclosed structures are due to the high organic matter soil mixes used in these systems and the high binding affinity of SPIRATO GHN Fungicide for organic matter. For field grown and landscape ornamentals, apply up to a maximum of 1.5 fluid ounces/1000 sq ft /year (0.51 gallons [2.04 lbs AI] per acre) and the single maximum application rate is 0.68 lb Fludioxonil/A/application. For outdoor container grown ornamentals, apply up to a maximum of 3 fluid ounces/1000 sq ft /year (1 gallon [4 lbs AI]/A/year).

## **CROP USE DIRECTIONS**

### **Vegetables including Seedlings and Transplants (Not For Use in California or Hawaii)**

Not for field vegetable production use.

SPIRATO GHN Fungicide may be used for management of foliar, stem and root diseases on indicated vegetables grown in greenhouses, lath, shade houses, and hoop houses, or other enclosed structures only.

When a range of rates is provided, use the higher rates if weather conditions are conducive for higher disease pressure.

| Crop   | Disease  | Rate fl oz/Acre               |
|--|--|-------------------------------|
| <b>Brassica (Cole) Leafy Vegetables (Head and Stem Subgroup 5A and Leafy Greens 5B)</b><br>(Including all cultivars and/or hybrids of these)<br>Broccoli<br>Broccoli, Chinese<br>Broccoli raab<br>Brussels sprouts<br>Cabbage<br>Cabbage,<br>Chinese<br>Cauliflower<br>Cavalo broccolo<br>Collards<br>Kale | Alternaria leaf blight<br><i>(Alternaria spp.)</i><br><br>Suppression:<br>Cercospora leaf spot<br><i>(Cercospora brassicola)</i> | 5.5-7<br>(0.17-0.22 lbs ai/A) |

(continued)



| <b>Crop</b>  | <b>Disease</b>   | <b>Rate fl oz/Acre</b>        |
|--|--|-------------------------------|
| Kohlrabi<br>Mizuna<br>Mustard greens<br>Mustard spinach<br>Rape greens<br>Turnip greens  | Alternaria leaf blight<br><i>(Alternaria spp.)</i><br><br>Suppression:<br>Cercospora leaf spot<br><i>(Cercospora brassicola)</i> | 5.5-7<br>(0.17-0.22 lbs ai/A) |
| <p><b>Notes</b></p> <p>Begin applications prior to or at the onset of disease and repeat applications on a 7-10 day interval if conditions remain favorable for disease development.</p> <p>Resistance Management: After 2 applications of SPIRATO GHN, alternate with another fungicide with a different mode of action for 2 applications.</p> |  |                               |
| <p>Application Instructions: Application may be made by hand held, mechanical, or chemigation. Good coverage is essential for good disease control. For chemigation, apply in 0.1-0.25 inches/A of water. Chemigation with excessive water may lead to a decrease in efficacy.</p>   |  |                               |

(continued)

#### Specific Use Restrictions

- Apply by hand held, mechanical, or chemigation equipment only.
- Do not use roots of treated turnips for food or feed. Only turnip varieties harvested for their leaves may be treated.
- Do not apply more than 28 fl. oz./A of SPIRATO GHN (0.9 lb. of fludioxonil/A) per year.
- Do not apply within 7 days of harvest (7 day PHI).

| Crop  | Disease   | Rate fl oz/Acre                  |
|---|---|----------------------------------|
| <b>Cucurbits<br/>(Crop Group 9)*</b><br>Cantaloupe<br>Cucumber<br>Honeydew<br><br>Muskmelon<br><br><br>Watermelon<br>Pumpkin<br>Squash<br>Zucchini<br><br>Including cultivars<br>and/or hybrids of<br>these | Alternaria leaf blight<br>( <i>Alternaria</i> spp.)<br><br>Alternaria Leaf Spot<br>( <i>A. alternate</i> )<br><br>Gummy Stem blight<br>( <i>Didymella bryoniae</i> )<br><br>Powdery Mildew<br>( <i>Sphaerotheca<br/>fuliginea, Erysiphe<br/>cichoracearum</i> ) | 5.5-7<br>(0.17-0.22 lbs<br>ai/A) |

(continued)

**Notes**

Begin applications prior to or at the onset of disease and repeat applications on a 7- 10 day interval if conditions remain favorable for disease development.

Resistance Management: After 2 applications of SPIRATO® GHN, alternate with another fungicide with a different mode of action for 2 applications.

\*Additional List of Cucurbits: Cantaloupe; Chayote; Chinese waxgourd; Cucumber; Gourds; Honeydew; Momordica spp. (Bitter melon, Balsam apple); Muskmelon; Pumpkin; Squash; Watermelon; Zucchini

Application Instructions: Application may be made by hand held, mechanical, or chemigation. Good coverage is essential for good disease control. For chemigation, apply in 0.1-0.25 inches/A of water. Chemigation with excessive water may lead to a decrease in efficacy.

*(continued)*

### Specific Use Restrictions

- Apply by hand held, mechanical, or chemigation equipment only.
- Do not apply more than 28 fl. oz./A of SPIRATO GHN (0.9 lb. of fludioxonil/A) per year.
- May be applied up to 1 day before harvest (1 day PHI).

| Crop  | Disease   | Rate fl oz/Acre               |
|---|---|-------------------------------|
| <b>Tomatoes and Fruiting Vegetable</b><br><b>Crop Group 8-10*</b><br>Eggplant<br>Groundcherry<br>Pepino<br>Pepper (bell, chili, cooking, pimento, sweet)<br>Tomatillo<br>Tomato | Early Blight<br>( <i>Alternaria solani</i> )<br><br>Gray mold<br>( <i>Botrytis cinerea</i> )<br><br>Powdery Mildew<br>( <i>Leveillula taurica</i> ) | 5.5-7<br>(0.17-0.22 lbs ai/A) |

(continued)

**Notes**

Begin applications prior to or at the onset of disease and repeat applications on a 7- 10 day interval if conditions remain favorable for disease development.

Resistance Management: After 2 applications of SPIRATO® GHN, alternate with another fungicide with a different mode of action for 2 applications.

\*Complete List of Fruiting Vegetable Crop Group 8-10: African eggplant; Bush tomato; Cocona; Currant tomato; Eggplant; Garden huckleberry; Goji berry; Groundcherry; Martynia; Naranjilla; Okra; Pea eggplant; Pepino; Pepper, bell; Pepper, nonbell; Roselle; Scarlet eggplant; Sunberry; Tomatillos; Tomato; Tree tomato and cultivars and/or hybrids of these.

Application Instructions: Application may be made by hand held, mechanical, or chemigation. Good coverage is essential for good disease control. For chemigation, apply in 0.1-0.25 inches/A of water. Chemigation with excessive water may lead to a decrease in efficacy.

*(continued)*

### Specific Use Restrictions

- Apply by hand held, mechanical, or chemigation equipment only.
- Do not apply more than 28 fl. oz./A of SPIRATO GHN (0.9 lb. of fludioxonil/A) per year.
- May be applied on the day of harvest (0 day PHI).
- Do not apply more than a maximum total of 4 applications [hand held, mechanical, plus chemigation] per year.

| <b>Crop</b>  | <b>Disease</b>   | <b>Rate fl oz/Acre</b>        |
|--|--|-------------------------------|
| <b>Herbs</b><br>(Dried and fresh)<br>Angelica<br>Balm<br>Basil<br>Borage<br>Burnet<br>Chamomile<br>Catnip<br>Chervil, dried<br>leaves<br>Chive<br>Clary<br>Coriander, leaves<br>(cilantro)<br>Costmary<br>Cilantro, leaves<br>Curry, leaves<br>Dillweed<br>Horehound<br>Hyssop | Alternaria leaf spot<br>( <i>Alternaria</i> spp.)<br><br>Botrytis leaf blight<br>( <i>Botrytis</i> spp.)<br><br>Fusarium blight<br>( <i>Fusarium</i> spp.) | 5.5-7<br>(0.17-0.22 lbs ai/A) |

(continued)



| <b>Crop</b>   | <b>Disease</b>   | <b>Rate fl oz/Acre</b>        |
|---|--|-------------------------------|
| Lavender<br>Lemongrass<br>Lovage, leaves<br>Marigold<br>Marjoram<br>Nasturtium<br>Parsley,<br>dried leaves<br>Pennyroyal<br>Rosemary<br>Rue<br>Sage<br>Savory, summer<br>and winter<br>Sweet bay<br>Tansy<br>Tarragon<br>Thyme<br>Wintergreen<br>Woodruff<br>Wormwood | Alternaria leaf spot<br>( <i>Alternaria</i> spp.)<br><br>Botrytis leaf blight<br>( <i>Botrytis</i> spp.)<br><br>Fusarium blight<br>( <i>Fusarium</i> spp.) | 5.5-7<br>(0.17-0.22 lbs ai/A) |

(continued)

**Notes**

Begin applications prior to or at the onset of disease and repeat applications on a 7-10 day interval if conditions remain favorable for disease development. Apply in a minimum spray volume of 30 gals./A to obtain thorough coverage.

Resistance Management: After 2 applications of SPIRATO® GHN, alternate with another fungicide with a different mode of action for 2 applications.

Application Instructions: Application may be made by hand held, mechanical, or chemigation. Good coverage is essential for good disease control. For chemigation, apply in 0.1-0.25 inches/A of water. Chemigation with excessive water may lead to a decrease in efficacy.

**Specific Use Restrictions**

- Apply by hand held, mechanical, or chemigation equipment only.
- Do not apply more than 28 fl. oz./A of SPIRATO GHN (0.9 lb. of fludioxonil/A) per year.
- Do not apply within 7 days of harvest (7 day PHI).

| Crop  | Disease  | Rate fl oz/Acre               |
|---|--|-------------------------------|
| <b>Leafy Greens<br/>Subgroup 4A<br/>(except Brassica)<br/>and Leaf Petioles<br/>Subgroup 4B</b><br>(Including<br>cultivars and/or<br>hybrids of these)<br>Amaranth<br>Arugula<br>Cardoon<br>Celery<br>Celtuce<br>Chervil<br>Chrysanthemum,<br>edible<br>Corn salad<br>Cress | Alternaria leaf spot<br><i>(Alternaria spp.)</i><br><br>Septoria leaf spot<br><i>(Septoria lactucae)</i><br><br>Gray mold<br><i>(Botrytis cinerea)</i><br><br>Sclerotinia rot<br><i>(Sclerotinia spp.)</i><br><br>Basal rot<br><i>(Phoma exigua)</i><br><br>Suppression:<br>Powdery Mildew:<br><i>(Erysiphe<br/>cichoracearum)</i> | 5.5-7<br>(0.17-0.22 lbs ai/A) |

(continued)

| <b>Crop</b>     | <b>Disease</b>             | <b>Rate fl oz/Acre</b> |
|-----------------|----------------------------|------------------------|
| Dandelion       | Alternaria leaf spot       | 5.5-7                  |
| Dock            | <i>(Alternaria spp.)</i>   | (0.17-0.22 lbs ai/A)   |
| Endive          | Septoria leaf spot         |                        |
| (escarole)      | <i>(Septoria lactucae)</i> |                        |
| Fennel Lettuce, | Gray mold                  |                        |
| head and leaf   | <i>(Botrytis cinerea)</i>  |                        |
| Orach           | Sclerotinia rot            |                        |
| Parsley         | <i>(Sclerotinia spp.)</i>  |                        |
| Purslane        | Basal rot                  |                        |
| Radicchio       | <i>(Phoma exigua)</i>      |                        |
| Rhubarb         | Suppression:               |                        |
| Spinach         | Powdery Mildew:            |                        |
| Swiss Chard     | <i>(Erysiphe</i>           |                        |
|                 | <i>cichoracearum)</i>      |                        |

*(continued)*

**Notes**

Begin applications prior to or at the onset of disease and repeat applications on a 7- 10 day interval if conditions remain favorable for disease development.

For control of Sclerotinia, make the first application at thinning and again two weeks later.

Resistance Management: After 2 applications of SPIRATO® GHN, alternate with another fungicide with a different mode of action for 2 applications.

**Specific Use Restrictions**

- Apply by hand held, mechanical, or chemigation equipment only.
- Do not apply more than 28 fl. oz./A of SPIRATO GHN (0.9 lb. of fludioxonil/A) per year.
- May be applied on the day of harvest (0 day PHI).

## **STORAGE AND DISPOSAL**

**DO NOT** contaminate water, food or feed by storage or disposal.

**PESTICIDE STORAGE:** Store in a cool place. **DO NOT** store in direct sunlight. Protect from freezing temperatures.

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**CONTAINER HANDLING: Nonrefillable container. DO NOT** reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) promptly after emptying. **Triple rinse 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. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration, or, if allowed by State and local authorities, by burning. If burned stay out of smoke.

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# Spirato<sup>®</sup> GHN

Fungicide

FLUDIOXONIL GROUP 12 FUNGICIDE

For control of certain foliar, stem, and root diseases in ornamentals grown in interiorscapes field nursery plantings, container nurseries, forest nurseries, residential and commercial landscapes, greenhouses, lath and shade houses, hoop houses or other enclosed structures.

\*For control of certain diseases on listed vegetables [Brassica (Cole), Cucurbits, Tomatoes and Fruiting, Herbs, and Leafy Vegetable groups] including seedlings and transplants grown in greenhouses, lath and shade houses, hoop houses or other enclosed structures only. Not for field vegetable production.

\*Not for Use in California

|   |        |
|---|--------|
| <b>ACTIVE INGREDIENT:</b> Fludioxonil ..... | 40.3%  |
| <b>OTHER INGREDIENTS:</b> .....             | 59.7%  |
| <b>TOTAL:</b> .....                         | 100.0% |

Contains 4 pounds active ingredient per gallon (480 grams per liter).

## KEEP OUT OF REACH OF CHILDREN CAUTION / PRECAUCION

SEE ATTACHED BOOKLET FOR FIRST AID, ADDITIONAL PRECAUTIONARY  
STATEMENTS AND COMPLETE STORAGE AND DISPOSAL INSTRUCTIONS

For Medical Emergencies, Call (877) 325-1840

For Chemical Spill, Leak, Fire, or Exposure, Call CHEMTREC (800) 424-9300

EPA Reg. No. 228-723

Manufactured for  
Nufarm Americas Inc.  
11901 S. Austin Avenue  
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**NET CONTENTS: 1 PINT (437 mL)**

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