

# UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION

April 22, 2021

Danielle A. Larochelle Regulatory Manager Nufarm Americas Inc. 4020 Aerial Center Parkway, Suite 101 Morrisville, NC 27560

Subject: Registration Review Label Mitigation for Azoxystrobin

Product Name: Upgrade Fungicide EPA Registration Number: 228-724

Application Date: 7/05/2019 Decision Number: 552858

## Dear Ms. Larochelle:

The Agency, in accordance with the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, has completed reviewing all the information submitted with your application to support the Registration Review of the above referenced product in connection with the Azoxystrobin Interim Decision, and has concluded that your submission is acceptable. The label referred to above, submitted in connection with registration under FIFRA, as amended, is acceptable.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

A copy of your label stamped "Accepted" is enclosed. Products shipped after 12 months from the date of this amendment must bear the new revised label. Your release for shipment of the product bearing the amended label constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6.

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If you have any questions about this letter, please contact Jaclyn Pyne by phone at 703-347-0445, or via email at pyne.jaclyn@epa.gov.

Sincerely,

Linda Arrington, Branch Chief

Risk Management and Implementation Branch 4

Pesticide Re-Evaluation Division

Office of Pesticide Programs

Enclosure

# ACCEPTED

Apr 22, 2021

Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 228-724

**AZOXYSTROBIN** 

**GROUP** 

11

**FUNGICIDE** 

# **UPGRADE™** Fungicide

Broad spectrum fungicide for the control of listed diseases on turf and ornamental plants and listed vegetable seedlings and transplants

#### **ACTIVE INGREDIENT**

Azoxystrobin (methyl (E)-2-{2-[6-(2-cyanophenoxy)pyrimidin-4-yloxy]-	
phenyl}-3-methoxyacrylate	22.9%
OTHER INGREDIENTS	77.1%
TOTAL	100.0%

Contains 2.04 pounds of active ingredient per gallon

# KEEP OUT OF REACH OF CHILDREN. CAUTION / PRECAUTIÓN

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

SEE LABEL BOOKLET FOR [FIRST AID AND] PRECAUTIONARY STATEMENTS

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

EPA	REG	i. NO.	228-724	
EPA	Est.	No.		

MANUFACTURED FOR NUFARM AMERICAS INC. 11901 S. AUSTIN AVENUE ALSIP, IL 60803



NET CONTENTS:	(Gal.) (	_ liters)
[Designation as "NONRI	EFILLABLE" or "REFILI	LABLE" for containers > 5 GAL

[Nufarm Grow a better tomorrow] [Grow a better tomorrow]

FIRST AID				
IF ON SKIN OR CLOTHING	<ul> <li>Take off contaminated clothing.</li> <li>Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>			
HOTH ME MIMBED				

#### **HOTLINE NUMBER**

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact (877) 325-1840 for emergency medical treatment information.

# PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION / PRECAUCTIÓN

Harmful if absorbed through skin. Avoid contact with skin, eyes, or clothing.

## PERSONAL PROTECTIVE EQUIPMENT (PPE)

#### All handlers must wear:

- Long-sleeved shirt and long pants
- Waterproof gloves.
- Shoes plus socks

In addition, mixers/loaders/applicators using mechanically pressurized handwands, except when applying to Christmas tree farms, nursery ornamentals, or landscape areas, must wear:

A minimum of a NIOSH-approved particulate filtering facepiece respirator with any N, R or P filter;
 OR a NIOSH-approved elastomeric particulate respirator with any N, R or P filter;
 OR a NIOSH-approved powered air purifying respirator with HE filters.

Human flagging is prohibited.

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

#### **Engineering Controls**

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.

When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "applicators and other handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown.

#### Respirator fit testing, medical qualification, and training for Non-WPS uses

Using a program that conforms to OSHA's requirements (see 29 CFR Part 1910.134), employers must verify that any handler who uses a respirator is:

- · Fit-tested and fit-checked,
- · Trained, and
- Examined by a qualified medical practitioner to ensure physical ability to safely wear the style of respirator to be worn. A qualified medical practitioner is a physician or other licensed health care professional who will evaluate the ability of a worker to wear a respirator. The initial evaluation consists of a questionnaire that asks about medical conditions (such as a heart condition) that would be problematic for respirator use. If concerns are identified, then additional evaluations, such as a physical exam, might be necessary. The initial evaluation must be done before respirator use begins. Handlers must be reexamined by a qualified medical practitioner if their health status or respirator style or use conditions change.

Upon request by local/state/federal/tribal enforcement personnel, employers must provide documentation demonstrating how they have complied with these requirements.

#### **USER SAFETY RECOMMENDATIONS**

#### **Users should:**

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

#### **ENVIRONMENTAL HAZARDS**

This pesticide is toxic to freshwater and estuarine/marine fish and aquatic invertebrates. Do not apply directly to water except as specified on this label. For terrestrial uses, do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwater or rinsate.

The active ingredient, azoxystrobin, in this product can be persistent for several months or longer. Azoxystrobin has degradation products which have properties similar to chemicals which are known to leach through soil to ground water under certain conditions as a result of agricultural use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in around water contamination.

Notify state and/or federal authorities and Nufarm immediately if you observe any adverse environmental effects due to use of this product.

#### PHYSICAL OR CHEMICAL HAZARDS

Do not mix or allow coming in contact with oxidizing agent. 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.

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

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 to 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 4 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
- Waterproof gloves
- Shoes plus socks

#### NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box only 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 treat areas while unprotected humans or domestic animals are present in the treatment areas. Because certain states may require more restrictive reentry intervals, consult your State Department of Agriculture for further information.

**Turf and Landscape Uses:** Do not enter or allow others to enter the treated area until sprays have dried.

#### PRODUCT INFORMATION

This product is a suspension concentrate (SC) or flowable formulation. It is a broad spectrum, preventive fungicide with systemic and curative properties recommended for the control of many important plant diseases. This product may also improve the yield and/or quality of the crop. These additional benefits are due to positive effects on plant physiology. The effects may vary according to factors such as the crop, crop hybrid, or environment. This product may be applied as a foliar spray in alternating spray programs or in tank mixes with other registered crop protection products. Make all applications according to the use directions on this label.

#### **PHYTOTOXICITY**

This product is extremely phytotoxic to certain apple and crabapple varieties.

AVOID SPRAY DRIFT. Extreme care must be used to prevent injury to apple and crabapple trees (and fruit). Refer to SPRAY DRIFT MANAGEMENT information below.

Do not spray this product where spray drift may reach apple and crabapple trees.

Do not spray apple and crabapple trees with spray equipment previously used to apply this product or a product that contains azoxystrobin. Even trace amounts of product may cause unacceptable phytotoxicity to certain apple and crabapple varieties.

Some phytotoxicity may be observed when applying tank mixtures of this product with emulsifiable concentrate (EC) formulations. These effects may be enhanced if applications are made under cool, cloudy conditions and these conditions remain for several days following application. In addition, adjuvants that contain some forms of silicone may also contribute to phytotoxicity.

#### **INTEGRATED PEST MANAGEMENT (IPM)**

To reduce the potential for development of resistance, integrate this product into an overall disease and pest management strategy whenever the use of a fungicide is required. Follow cultural practices known to reduce disease development such as selection of disease-tolerant varieties, removal of plant debris in which inoculum overwinters, and proper timing and placement of irrigation. Consult with your State Agricultural Experiment Station or Extension Service specialist for additional IPM strategies established for your area. This product may be used in State Agricultural Extension advisory (disease forecasting) programs which recommend application timing based on environmental factors favorable for disease development.

**Crop Tolerance:** Plant tolerance has been found to be acceptable for all crops on the label. However, not all possible tank mixture combinations have been tested under all conditions. It is recommended to test tank mixture combinations on a small portion of the crop to assess plant response before large scale applications. See the USE PRECAUTIONS AND LIMITATIONS section for apple phytotoxicity information.

### **SPRAY DRIFT MANAGEMENT**

#### SPRAY DRIFT

#### **Aerial Applications**

- Do not release spray at a height greater than 10 feet above the ground or crop canopy, unless a greater application height is necessary for pilot safety.
- Applicators are required to select nozzles that deliver medium to coarse spray droplets in accordance with ASABE Standard S-572.1.
- Do not apply when wind speed exceeds 15 mph at the application site. If the windspeed is greater than 10 mph, the boom length must be 65% or less of the wingspan for fixed wing aircraft and 75% or less of the rotor diameter for helicopters. Otherwise, the boom length must be 75% or less of the wingspan for fixed-wing aircraft and 90% or less of the rotor diameter for helicopters.
- Applicators must use ½ swath displacement upwind at the downwind edge of the field.
- Do not apply during temperature inversions.

# **Ground Boom Applications**

- User must only apply with the release height recommended by the manufacturer, but no more than 4 feet above the ground or crop canopy.
- Applicators are required to use a medium or coarser droplet size (ASABE S572.1).
- Do not apply when wind speeds exceed 15 mph at the application site.
- Do not apply during temperature inversions.

#### SPRAY DRIFT ADVISORIES

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT.
BE AWARE OF NEARBY NON-TARGET 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 drift will be greater if applications are made improperly or under unfavorable environmental conditions.

#### Controlling Droplet Size - Ground Boom

- Volume Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- Pressure Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- Spray Nozzle Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

#### **Controlling Droplet Size – Aircraft**

• Adjust Nozzles - Follow nozzle manufacturers' recommendations for setting up nozzles. Generally, to reduce fine droplets, nozzles should be oriented parallel with the airflow in flight.

#### **BOOM HEIGHT - Ground Boom**

For ground equipment, the boom should remain level with the crop and have minimal bounce.

#### **RELEASE HEIGHT – Aircraft**

Higher release heights increase the potential for spray drift.

#### 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.

#### RESISTANCE MANAGEMENT

For resistance management, this product contains azoxystrobin, a Group 11 fungicide. The mode of action for this active ingredient is the inhibition of the QoI (quinone outside) site within the electron transport system as well as disruption of membrane synthesis by blocking demethylation. Any fungal population may contain individuals naturally resistant to azoxystrobin and other Group 11 fungicides. A gradual or total loss of pest control may occur over time if these fungicides are used repeatedly in the same fields. Appropriate resistance-management strategies should be followed.

The following steps may delay the development of fungicide resistance:

- Rotate the use of this product or other Group 11 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 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 crop rotation, 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 local extension specialist or certified crop advisor for any additional pesticide resistance management and/or IPM recommendations for specific crops and pathogens.
- For further information or to report suspected resistance, contact Nufarm Americas Inc. at (855) 280-6609. You can also contact your pesticide distributor or university extension specialist to report resistance.

Follow the crop specific resistance management recommendations provided in the directions for use.

If no resistance management instructions regarding the number of applications per crop are provided in the crop specific directions for use, follow the instructions in the table below.

If planned total number of fungicide applications per crop is:	1	2	3	4	5	6	7	8	9	10	11	12
Recommended Solo Qol fungicide sprays	1	1	2	2	2	2	2	3	3	3	3	4
Recommended QoI fungicide sprays in mixture (tank-mix or formulated)	1	2	2	2	2	3	3	4	4	5	5	6

Under conditions requiring multiple fungicide applications, develop season long spray programs for Group 11 (QoI) fungicides. In crops where two sequential Group 11 fungicide applications are made, alternating with two or more applications of a fungicide that is not in Group 11 will help reduce the potential for resistance development. If more than 12 applications are made, observe the following guidelines:

• When a QoI fungicide is used as a solo product, make no more than 1/3 (33%) of the total number of fungicide applications per season with the QoI containing product.

- For programs including tank mixes or premixes of Qol fungicide with mixing partners of a different mode of action, the number of Qol containing applications must represent no more than 1/2 (50%) of the total number of fungicide applications per season.
- In programs including applications of QoI fungicides as both solo products and mixtures, the number of QoI containing applications must represent no more than 1/2 (50%) of the total number of fungicide applications per season.

If a Group 11 fungicide is applied to the seed or soil, do not make another application with a Group 11 fungicide for at least 3 weeks.

#### PRODUCT USE INSTRUCTIONS

**Application:** Thorough coverage is necessary to provide good disease control. Make no more spray solution than is needed for application. Avoid spray overlap, as crop injury may occur.

**Adjuvants:** The use of an adjuvant may improve consistency and performance of this product. Refer to crop specific directions for use for information regarding the use of adjuvants.

**Efficacy**: Under certain conditions conducive to extended infection periods, use another registered fungicide for additional applications once the maximum amount of this product has been used. If resistant isolates to Group 11 fungicides are present, product performance may be reduced for certain diseases. When heavy infection pressure exists, when treating varieties highly susceptible to disease, or when environmental conditions are conducive to disease development, best results are obtained when using the higher rates and/or the shorter spray intervals allowed in the crop specific use directions on this label..

# SOIL BORNE/SEEDLING DISEASE CONTROL

For crops that have specific use directions for soil borne disease control:

This product can provide control of many soil borne diseases if applied early in the growing season. Specific applications for soil borne diseases include in-furrow applications and banded applications applied over the row, either shortly after plant emergence or during herbicide applications or cultivation. These applications will provide control of pre- or postemergence damping off and diseases that infect plants at the soil-plant interface.

The use of either type of application depends on the regional cultural practices. In some locations, one type of application may provide better disease control than the other, depending on the timing of the disease epidemic. Seedling diseases are generally controlled by in-furrow applications while banded applications are more effective against soil borne diseases that develop later in the season. Consult your local expert to get some guidance regarding application type.

Under cool, wet conditions, crop injury from soil directed applications can occur.

# Drip

Refer to the Instructions for Use through Irrigation Systems (Chemigation) section.

#### MIXING AND APPLICATION INSTRUCTIONS

#### **Spray Equipment**

All types of spray equipment commonly used for ground and aerial applications may be used with this product. Proper adjustment and calibration of spraying equipment to give good canopy penetration and coverage is essential for good disease control.

#### **Nozzles**

- Equip sprayers with nozzles that provide accurate and uniform application.
- Use nozzles that are the same size and uniformly spaced across the boom.
- Calibrate sprayer before use.
- Use screens to protect the pump and to prevent nozzles from clogging.
- Use screens 16-mesh or coarser on the suction side of the pump.
- Do not place a screen in the recirculation line.
- Use 50-mesh or coarser screens between the pump and boom, and where required, at the nozzles.
- Check nozzle manufacturer's use guidelines.

#### **Pump**

- Use a pump with capacity to:
  - a) Maintain 35 to 40 psi at nozzles.
  - b) Provide sufficient agitation in tank to keep mixture in suspension. This requires recirculation of 10% of tank volume per minute.

- Use a jet agitator or liquid sparge tube for agitation.
- Do not air sparge.

For more information on spray equipment and calibration, consult sprayer manufacturers and state agricultural agency for advice. For specific local directions and spray schedules, consult your state agricultural agency for advice.

# **Spray Solution Preparation**

- Proper mixing of this product with water requires use of a spray tank equipped with agitation.
- Prepare only the amount of spray solution required for immediate use. Do not allow spray mixture *to* stand overnight or for prolonged periods.
- Thoroughly clean spray equipment before preparing the spray solution.
- Maintain constant agitation throughout the spraying operation.
- Rinse spray tank thoroughly with clean water after each day's use and dispose of pesticide rinsate by application to an already treated area.

#### Stand-alone product solution:

- Add ½ to ¾ of the required amount of water to a spray or mixing tank and begin agitation.
- · Add the specified amount of this product to the tank.
- Continue agitation while adding the remainder of the water and allow time for good dispersion.
- Begin application of the spray solution after the product has completely dispersed in the mix water and maintain agitation during spraying.

# Tank mixture with other products:

- Add  $\frac{1}{2}$  to  $\frac{2}{3}$  of the required amount of water to a spray or mixing tank and begin agitation.
- Add tank mix partners to the tank in the following order: 1) wettable powder and water dispersible granule (WDG) formulations, 2) liquid flowables (aqueous suspensions), and 3) emulsifiable concentrates.
- Allow the material to completely dissolve and disperse into the mix water.
- Continue agitation while adding the remainder of the water and this product to the tank mix and allow time for good dispersion
- Begin application of the spray mixture while maintaining agitation.

#### Compatibility

This product is compatible with many pesticides and additives commonly used in tank mixtures. To determine the physical compatibility of this product with other products prior to full scale use, conduct a jar test as follows: Using a quart jar, add the proportionate amounts of the tank mixture components to 1 qt. of water. Add wettable powders and water dispersible granule (WDG) products first, then liquid flowables, and emulsifiable concentrates last. Mix thoroughly and let stand for at least 5 minutes. If the combination remains mixed or can be remixed readily, it is physically compatible. Once compatibility has been confirmed, use the same procedure for adding required ingredients to the spray tank.

**NOTE**: Some phytotoxicity may be observed when applying tank mixtures of this product with emulsifiable concentrate (EC) formulations. These effects may be enhanced if applications are made under cool, cloudy conditions and these conditions remain for several days following application. In addition, adjuvants that contain some forms of silicone may also contribute to phytotoxicity.

# INSTRUCTIONS FOR USE THROUGH IRRIGATION SYSTEMS (CHEMIGATION)

- Use only on crops for which chemigation is specified on this label.
- Apply this product through 1) sprinkler irrigation systems including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move; 2) drip irrigation systems. Do not apply this product through any other type of irrigation system.
- Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water
- Apply in 0.1-0.25 inches of water per acre. Excessive water may reduce efficacy
- If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers, or other experts.
- 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.
- 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.

Spray Preparation: Clean chemical tank and injector system thoroughly. Flush system with clean water.

**Drip Irrigation**: This product may be applied through drip irrigation systems for soil-borne disease control. The soil 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 this product through sprinkler irrigation systems including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move. 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 20-30 minutes of the set.

Do not apply when winds are greater than 10-15 mph to avoid drift or wind skips. 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 may result from non-uniformly treated water. Thorough coverage of foliage is required for good control. Good agitation should be maintained during the entire application period.

If you have questions about calibration, contact your State Extension Service specialist, equipment manufacturer or other experts.

# **Operating Instructions:**

- 1. Do not apply when wind speed favors drift beyond the area intended for treatment.
- 2. 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.
- 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 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.
- 5. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- 6. 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.
- 7. 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.
- 8. 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.
- 9. 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.

#### **Center Pivot Irrigation Equipment**

**Notes:** (1) Use only with drive systems which provide uniform water distribution. (2) Do not use end guns when applying this product through center pivot systems as it may result in non-uniform application.

- Determine the size of the area to be treated.
- Determine the time required to apply 1/8 to 1/2 inch of water over the area to be treated when the
  system and injection equipment are operated at normal pressures as specified by the equipment
  manufacturer. When applying this product through irrigation equipment use the lowest obtainable
  water volume while maintaining uniform distribution. Run the system at 80-95% of the manufacturer's
  rated capacity.
- Using water, determine the injection pump output when operated at normal line pressure.
- Determine the amount of product required to treat the area covered by the irrigation system.

- Add the required amount of product and sufficient water to meet the injection time requirements to the solution tank.
- Make sure the system is fully charged with water before starting injection of the spray solution. Time
  the injection to last at least as long as it takes to bring the system to full pressure.
- Maintain constant agitation of the spray solution during the injection period.
- Continue to operate the system until the spray solution has cleared the sprinkler head.

## Solid Set, Hand Move, and Moving Wheel Irrigation Equipment

- Determine the acreage covered by the sprinklers.
- Fill injector solution tank with water and adjust flow rate to use the contents over a 20 to 30-minute interval. When applying this product through irrigation equipment, use the lowest obtainable water volume while maintaining uniform distribution.
- Determine the amount of product required to treat the area covered by the irrigation system.
- Add the required amount of product into the same quantity of water used to calibrate the injection period.
- Operate the system at the same pressure and time interval established during the calibration.
- Stop injection equipment after treatment is completed. Continue to operate the system until the spray solution has cleared the last sprinkler head.

# **Specific Instructions for Public Water Systems**

- 1. Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
- 2. Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, back-flow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, 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.

## **TURF**

UPGRADE may be used for control of certain pathogens causing foliar, stem, and root diseases, including leaf and stem blights, leaf spots, patch diseases, mildews, anthracnose, fairy rings, molds, and rusts of turfgrass plants. UPGRADE may be used to control certain diseases on turf in golf courses, lawns and landscape areas around residential, institutional, public, commercial and industrial buildings, parks, recreational areas and athletic fields.

**Integrated Pest (Disease) Management (IPM):** Sound turf management resulting healthy, vigorous turf is the foundation of a good IPM program. Cultural practices such as proper choice of turf variety, nutrient-management, proper cutting height, thatch management, and proper watering, drainage, and moisture stress management should be integrated with the use of fungicides to increase turf vigor and reduce the susceptibility to disease, immunoassay detection kits and extension service diagnostic services can assist in the early and accurate identification of causal organisms and corresponding selection of the proper fungicide when required.

**Resistance Management:** Some turf disease pathogens are known to have developed resistance to products used repeatedly for their control. UPGRADE should be applied at full use rates in a tank mix or alternation program with other registered fungicides that have a different mode of action and to which

pathogen resistance has not developed. Since UPGRADE is a strobilurin fungicide, avoid alternation with other strobilurins, such as kresoxim-methyl and trifloxystrobin. Do not apply more than two [2] sequential UPGRADE applications for Gray Leaf Spot and *Pythium spp.* control. For all other diseases when Gray Leaf Spot and *Pythium spp.* are not present, do not apply more than three sequential applications of UPGRADE.

#### APPLICATIONS FOR TURF DISEASES

#### Restrictions

Make applications by ground only.

Do not apply more than 2.4 gallons product/Acre/year or 7.1 fl oz product/1000 sq ft/year (equivalent to 5 lb ai/Acre/year).

For application to landscape turf using handheld equipment, do not exceed 0.16 fl oz product/gallon (equivalent to 0.0025 lb ai/gallon).

For application on golf courses (tees, greens, fairways) and landscape turf using mechanically pressurized handwands, do not exceed 60 oz product/A or 1.4 fl oz product/1,000 sq ft (equivalent to 0.95 lb ai/A).

**Application Directions:** UPGRADE should be applied prior to disease development. Mix UPGRADE with the required amount of water and apply as a dilute spray application in 1 to 3 gals. of water per 1000 sq. ft. (44-132 gals/A). Repeat applications at specified intervals for as long as required. For spot treatments, use 0.38 fl. oz. UPGRADE per 1 to 3 gals. of water.

**Dollar Spot:** UPGRADE does not control dollar spot. During periods of dollar spot pressure, always mix UPGRADE with Legend®, Spectro™, 26/36® or another dollar spot control fungicide. UPGRADE is compatible in tank mixes with many other fungicides that control dollar spot.

Target Diseases	Use Rate fl oz product per 1000 sq ft (oz ai/1000 sq ft)	Application Interval (days)	Remarks**
Anthracnose (Colletotrichum graminicola)	0.38-0.77 (0.1-0.2)	14-28	Use preventatively. Begin applications when conditions are favorable for disease infection, prior to disease symptom development.
Brown Patch (Rhizoctonia solani	0.38-0.77 (0.1-0.2)	14-28	Apply when conditions are favorable for disease development.
Cool Weather Brown Patch Yellow Patch (Rhizoctonia cerealis)	0.77 (0.2)	28	Make one or two applications in fall or when conditions are favorable for disease development.
Fairy Ring (Lycoperdon spp., Agrocybe pediades, and Bovistra plumbea)	0.77 (0.2)	28	For prevention in Cool season turf, initiate applications in the spring when root zone soil temperatures reach 55-60° F. Make a second application using a 28day interval. Immediately after fungicide is applied, irrigate the area with sufficient water to move the active ingredient down into the crown and active root zone of the turf. The amount of water is dependent on the depth of the root zone. Do not use a wetting agent unless hydrophobic soil conditions exist. Fairy ring symptoms may take 2 to 3 weeks to disappear following application. Alternate with another fungicide with a different mode of action, such as Affirm®, Torque® or Prostar®. For hydrophobic areas, Use an appropriate wetting agent to effectively penetrate the hydrophobic zone commonly created with this disease.
Fusarium Patch (Microdochium nivale)	0.38-0.77 (0.1-0.2)	14-28	Use preventatively. Begin applications when conditions are favorable for disease infection, prior to disease symptom development.

Target Diseases	Use Rate fl oz product per 1000 sq ft (oz ai/1000 sq ft)	Application Interval (days)	Remarks**
Gray Leaf Spot (Pyricularia grisea)	0.38-0.77 (0.1-0.2)	14-28	Begin applications before disease is present and continue applications while conditions are favorable for disease development.
Leaf Rust Stem Rust Stripe Rust (Puccinia spp.)	0.38-0.77 (0.1-0.2)	14-28	Begin applications when conditions are favorable for disease infection, prior to disease symptom development.
Leaf Spot (Bipolaris sorokiniana)	0.38-0.77 (0.1-0.2)	14-21	Apply when conditions are favorable for disease development.
Melting Out (Drechslera poae)	0.38-0.77 (0.1-0.2)	14-21	Apply when conditions are favorable for disease development
Necrotic Ring Spot (Leptosphaeria korrae)	0.77 (0.2)	14-28	Apply when conditions are favorable for disease development.
Pink Patch (Limonomyses roseipellis)	0.38-0.77 (0.1-0.2)	14-28	Apply when conditions are favorable for disease development.
Powdery Mildew (Erysiphe graminis)	0.38-0.77 (0.1-0.2)	14-28	Begin applications when conditions are favorable for disease infections prior to disease symptom development.
Pythium Blight Pythium Root Rot (Pythium aphanidermatum, Pythium spp.)	0.77 (0.2)	10-14	Use preventatively. Begin applications when conditions are favorable for disease infection, prior to disease symptom development. During periods of prolonged favorable conditions, treat on the 10 day application interval. For use on newly seeded as well as established turf.
Red Thread (Laetisaria fuciformis)	0.38-0.77 (0.1-0.2)	14-28	Apply when conditions are favorable for disease development.
Rhizoctonia Large Patch (Rhizoctonia solani)	0.77 (0.2)	14-28	Make one or two applications in fall or when conditions are favorable for disease development.
Southern Blight (Sclerotium rolfsii)	0.38-0.77 (0.1-0.2)	14-28	Apply when conditions are favorable for disease development.
Spring Dead Spot (Leptosphaeria korrae) or (Gaeumannomyces graminis var. graminis) or (Ophiosphaerella herpotricha)	0.77 (0.2)	14-28	Apply applications approximately when soil temps in the root zone reach 80°F or approximately two months prior to bermudagrass dormancy. Water application into root zone. 1/4" to 1/2" of irrigation directly after application is recommended. Reapply 14 to 28 days later. Tank mixing with other SDS products such as Torque may enhance control under severe disease pressure.
Snow Molds Gray Snow Mold, Typhula Blight (Typhula incarnata) Pink Snow Mold (Microdochium nivale)	0.77 (0.2)	10-28	Make two applications of 0.77 fl oz spaced 10 - 28 days apart in late fall just before snow cover. Tank mixing with other snow mold fungicides, such as Torque, 26/36, Legend, or Spectro may enhance control under severe disease pressure.
Summer Patch (Magnaporthe poae)	0.38-0.77 (0.1-0.2)	14-28	Apply when conditions are favorable for disease development.
Take-all Patch (Gaeumannomyces graminis var. avenae)	0.77 (0.2)	28	Begin applications when conditions are favorable for disease infection, prior to disease symptom development. Make two applications, 28 days apart in the spring and two applications 28 days apart in the fall.
Zoysia Patch (Rhizoctonia solani and/or Gaeumannomyces incrustana)	0.38-0.77 (0.1-0.2)	14-28	Apply 1 or 2 applications approximately one month prior to zoysiagrass dormancy. Reapply 14 to 28 days later.

\*\*Do not apply more than two consecutive applications of UPGRADE for control of Gray Leaf Spot and Pythium spp. For all other diseases when Gray Leaf Spot and Pythium spp. are not present, do not apply more than three consecutive applications of UPGRADE.

#### **UPGRADE** Rate Conversion Chart for Turf

Fl. Oz. Product per 1000 Sq. Ft.	Ounces Al per 1,000 Sq Ft	Fl. Oz. Product per Acre	Pints Product per Acre
0.38	0.10	16.6	1.03
0.58	0.15	25.3	1.58
0.77	0.20	33.5	2.10

# Dilution Table for Turf Applications Small Volume Application - Amount of UPGRADE to Mix per Gallon for Turf Applications

UPGRADE Use Rate	Amount UPGRADE [milliliters] for the Desired Spray Volume/1,000 Sq Ft				
fl. oz./1000 sq ft	1 gallon	3 gallons	5 gallons		
0.38	11.2	33.6	56.0		
0.58	17.2	51.6	86.0		
0.77	22.8	68.4	114.0		

#### **ORNAMENTALS**

UPGRADE is recommended for control of certain pathogens causing foliar, aerial, and root diseases, including leaf, tip, and flower blights, leaf spots, downy mildew, powdery mildew, anthracnose, and rusts of ornamental plants. UPGRADE may be used to control listed diseases of herbaceous, deciduous and evergreen ornamentals and listed vegetable seedlings and transplants grown in greenhouses, lath houses, hoop houses, high tunnel and shadehouses, and herbaceous, deciduous and evergreen ornamentals grown in field, container, nurseries, retail nurseries, and other residential and commercial landscape areas.

# Restrictions

Do not use this product for the production of edible crops or food.

Do not exceed 2.4 gallons product acre/year or 8 applications/crop/year.

Do not exceed 600 gallons spray volume per acre for foliar applications.

Do not exceed 2 pints volume per square foot for drench and crown applications,

For ornamentals grown in field or nurseries, do not exceed 47 fl oz product/A or 1.1 fl oz/1,000 sq ft (equivalent to 0.75 lb ai/A) for foliar sprays applied by groundboom or chemigation.

For broadcast application to nursery ornamentals and application to landscape plantings (plants, flowers, trees) using handheld equipment, do not exceed 0.16 fl oz product (equivalent to 0.0025 lb ai) per gallon.

For application to greenhouse ornamentals using mechanically pressurized handwands, do not exceed 0.16 fl oz product (equivalent to 0.0025 lb ai) per gallon.

#### Integrated Pest (Disease) Management:

UPGRADE should be integrated into an overall disease management strategy that includes selection of varieties with disease tolerance, optimum plant populations, proper fertilization, winter and/or spring pruning, plant residue management and proper timing and placement of irrigation.

**Resistance Management:** Some ornamental disease pathogens are known to have developed resistance to fungicides used repeatedly for their control. UPGRADE should be applied in an alternation or tank mix program with other registered fungicides that have a different mode of action and to which pathogen resistance has not developed. Do not make more than two (2) sequential applications of UPGRADE before alternating with a fungicide of a different mode of action. Do not alternate UPGRADE with other FRAC 11 or strobilurin fungicides.

**Application Directions:** Apply UPGRADE 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. Good

coverage and wetting of foliage is necessary for best control. Refer to the label for specific use directions for control of certain diseases. Repeat applications at specified intervals (plus alternations for resistance management) for as long as required. Applications may be made by ground only.

UPGRADE applications should begin prior to disease development and continue throughout the season at specified intervals following resistance management guidelines. UPGRADE works best when used as part of a preventative disease management program.

Use only surfactants approved for ornamental plants in combination with UPGRADE. Do not use silicone based products with Heritage Fungicide due to possible phytotoxicity. Always test tank mixes on a small group of representative plants prior to broad scale use.

Apply UPGRADE at use rates of 1.9-7.7 fluid ounces/100 gallons every 7-28 days (or as otherwise specified for a specific plant or disease). The addition of a non-silicone-based wetter-sticker at the recommended use rate may enhance coverage on hard-to-wet plant foliage.

Under most conditions and for most diseases, apply 3.9-7.7 fluid ounces/ 100 gallons on a 7-14 day interval.

Under light to moderate disease pressure, use the lower rates (1.9-3.9 fl oz/100 gallons) on a 7-14 day interval or the higher rates (5.8-7.7 fl oz/100 gallons) on a longer 14-28 day interval.

Under environmental conditions which promote severe disease development, use the higher rates (5.8-7.7 fl oz/100 gallons) on a 7-14 day interval. Use of UPGRADE as a "rescue" (late curative or eradicant) treatment may not always result in satisfactory disease control.

In addition, do not tank mix UPGRADE with other fungicides, insecticides, herbicides, fertilizers,

adjuvants, etc, unless local experience indicates that the tank mix is safe to ornamental plants.

**Drench Application:** UPGRADE may be applied to control soilborne, seedling, and crown diseases of production ornamentals (greenhouse, hoop house, lath house, shadehouse, and field or container grown) as a preventative, drench treatment prior to infection. Good coverage of the pre-infection area (root zone, root ball, crown, etc.) is necessary for satisfactory control. UPGRADE may be drench applied to container grown ornamentals using 0.39-1.7 fluid ounces/100 gallons of water. Apply 1-2 pints of the solution per square foot surface area on a 7-28 day interval. Apply drench prior to infection as healthy roots are necessary to optimize product uptake, systemic translocation and disease protection. For resistance management do not make more than three sequential drench applications of UPGRADE before alternating with a fungicide of a different mode of action. Caution should be taken before making application of UPGRADE as a drench to small bedding plants in the seedling/plug stage due to possible phytotoxicity. A limited quantity of plants should be tested prior to full-scale application.

**Drip Irrigation:** UPGRADE may be applied through drip irrigation systems to potted ornamentals or to bedded, field grown ornamentals for soil-borne disease control. Apply 3.9-30.8 fluid ounces UPGRADE per acre as a preventative disease application. The soil or potting media should have adequate moisture capacity prior to drip application. Terminate drip irrigation at fungicide depletion from the main feed supply tank or after 6 hours from start, whichever is shorter. For maximum efficacy, subsequent irrigation (water only) should be delayed for at least for 24 hours following drip application.

#### **Ornamental Use Precautions**

**Do not** apply UPGRADE to apple or cherry trees (Flowering, Yoshina variety) due to possible phytotoxicity. Furthermore, do not use spray equipment that has applied UPGRADE for use in these sensitive crops due to possible phytotoxicity from residue remaining in the sprayer. UPGRADE may be applied to certain varieties of crabapple for control of apple scab. UPGRADE has been shown to be safer when applied to the species and varieties listed in Table 4. However, due to the large number of genera, species, and varieties of crabapple, it is impossible to test every one for tolerance to UPGRADE. The professional user should conduct small scale testing to insure plant safety prior to broadscale commercial use on plant genera and species not listed on this label.

TABLE 1: Diseases Controlled: When used in accordance with the label directions, UPGRADE will provide control of the following diseases of ornamental plants:

Disease [Pathogen]	Use Rates and Specific Instructions [fluid ounces product per 100 gallons]
[1] CONIFER BLIGHTS	
Phomopsis Blight (Phomopsis juniperovora) Tip Blight (Sirococcus strobilinus) [2] LEAF BLIGHTS/LEAF SPOTS	1.9 – 7.7 fl oz every 7-28 days
Alternaria Leaf Spot (Alternaria spp.) Anthracnose (Colletotrichum spp., Elsinoe spp.)	1.9 – 7.7 fl oz every 7-28 days
Downy Mildew of Rose (Peronospora sparsa)	3.9 – 7.7 fl oz every 7-21 days during periods of active plant growth and prior to dormancy or severe infection.
Entomosporium Leaf Spot (Entomosporium mespili)	1.9 – 7.7 fl oz every 7-28 days
Iris Leaf Spot (Mycosphaerella macrospora)	3.9 – 7.7 fl oz every 7-28 days
Leaf spot (Cladosporium echinulatum)	1.9 – 7.7 fl oz every 7-28 days
Rose Blackspot (Diplocarpon rosea)	7.7-15.4 fl oz every 7-14 days. Under severe disease conditions or if disease is already present, UPGRADE may be tank mixed with other fungicides such as Protect®, Legend®, or 3336® for enhanced disease management. Do not exceed 46 fl oz/acre/application.
Myrothecium leaf spot (Myrothecium spp.)	3.9-7.7 fl oz every 7-21 days
Downy Mildew of bedding plants (Peronospora spp.)	1.9-7.7 fl oz every 7-28 days
Scab (Venturia inaequalis)	For crabapples only, see Table 4 for tolerant species. Do not apply to apple trees.  1.9 – 7.7 fl oz every 10-28 days.
Marrsonina Leaf Spot (Marsonina spp.)	1.9 – 7.7 fl oz 14-28 days.
Cercospora Leaf Spot (Cercospora sp.)	1.9 – 7.7 fl oz 7-28 days.
[3] POWDERY MILDEW  Erysiphe pannosa, Erysiphe spp. Microsphaera azaleae Sphaerotheca pannosa	Preventative applications only. Do not make more than 2 sequential applications before rotating to another class of fungicide.  1.9 – 7.7 fl oz every 7-28 days
[4] RUSTS	
Needle Rust (Melampsora occidentalis) Phragmidium spp. Pucciniaspp. Gymnosporagium spp. [5] FLOWER BLIGHTS	1.9 – 7.7 fl oz every 7-28 days. Alternation with a DMI Class fungicide such as Torque can enhance disease management.
	10 77floz overv 7 00 dove
Anthracnose (Collectotrichum spp., Elsinoe spp.)  Botrytis Blight (Botrytis cinerea)	1.9 – 7.7 fl oz every 7-28 days  For suppression only. 7.7-15.4 fl oz every 7-21 days. Do not exceed 46 fl oz/acre. Rotation or tank mixing with other fungicides such as Protect®, Legend®, Spectro®, Affirm®, or 3336® will enhance disease management.

Disease [Pathogen]	Use Rates and Specific Instructions [fluid ounces product per 100 gallons]
[6] SHOOT/STEM DISEASES	
Aerial/Shoot Blight (Phytophthora spp.)	1.9-3.9 fl oz every 7-28 days
[7] SOILBORNE DISEASES	Apply as a directed spray to the soil surface
[Directed Spray]	and lower stem and crown area of the plant. 1.9 – 7.7 fl oz every 7-21 days.
Rhizoctonia solani	, , ,
Sclerotium rolfsii	
Fusarium spp.	
[8] SOILBORNE DISEASES [Drench]	0.39-1.7 fl oz [11-51 mL]
	Apply 1-2 pints of the solution per square
Rhizoctonia solani	foot surface area, every 7-28 days.
Sclerotium rolfsii	See Ornamentals Section for additional
Fusarium spp.	drench directions.

**PLANT SAFETY:** UPGRADE has been shown to be safe when applied to the ornamental plants listed in Tables 2 and 3. However, due to the large number of genera, species and varieties of ornamental and nursery plants, it is impossible to test every one for tolerance to UPGRADE. Neither the manufacturer nor the seller has determined whether or not UPGRADE can be used safely on genera, species, or varieties of ornamental and nursery plants not specified on this label. The professional user should conduct small scale testing to insure plant safety prior to broad scale commercial use on plant genera and species not listed in this label. In addition, do not tank mix UPGRADE with other fungicides, insecticides, herbicides, fertilizer, adjuvants, etc, unless local experience indicates that the tank mix is safe to ornamental plants.

Do not apply UPGRADE to certain apple, crabapple, or cherry trees due to possible phytotoxicity. Furthermore, do not use spray equipment that has applied UPGRADE for use in these sensitive crops due to possible phytotoxicity from residue remaining in the sprayer.

**Tolerant Ornamental Plants:** UPGRADE has been found to be safe when applied to the plants listed in Tables 2 and 3 when applied according to recommended application methods, rates, and timings.

**TABLE 2**; Tolerant Plants Listed by Botanical Name

BOTANICAL NAME	COMMON NAME	DISEASES
Abelia spp.	Abelia	2
Abies fraseri	Fraser fir	1,4
Abies procera	Noble Fir	1,4
Acer palmatum	Japanese maple	2
Acer saccharum	Sugar maple	2
Ageratum spp.	Floss-Flower	3,4
Ageratum spp.	Pussy's-Foot	3,4
Aglaonema spp.	Chinese evergreen	2,4
Ajuga reptans	Bugle, Bugleweed	3
Antirrhinum spp.	Snap-Dragon	2[DM],3,4
Aphelandra spp.	Zebra-Plant	2
Artemisia spp.	Mugwort, Sagebrush	2
Artemisia spp.	Wormwood	2
Aster spp.	Aster, Starwort	4
Aucuba japonica	Japanese aucuba, Japanese laurel	7
Begonia spp. (except Rieger begonia)	Begonia	2,3
Berberis thunbergii	Barberry	3,4
Betula nigra	River birch	3,4
Bougainvillea spp.	Bougainvillea	2
Brassaia actinophylla	Rubber-tree, Umbrella-tree	2,7
Buddleia davidii	Buddleia, Butterfly-bush	2
Buxus sempervirens	Boxwood	2,7 [Rhizoctonia]
Caladium spp.	Caladium	7

BOTANICAL NAME	COMMON NAME	DISEASES
Camellia japonica	Camellia	2
Caryota urens	Sago Palm	2,7
Catharanthus roseus	Vinca	2
Ceanothus sanguineus	Wild lilac	3
Ceanothus spp.	Ceanothus, California lilac, Snowball	3
Cedrus atlantica	Atlas cedar	2,4
Cedrus spp.	White cedar	2,4
Cercis occidentalis	Western redbud	2
Chamaecyparis spp.	Cypress, Leyland cypress	1
Chamaecyparis pisifera	Sawara cypress	1
Chamaedora elegans	Parlor palm	7
Chrysanthemum spp.	Chrysanthemums	2, 7 [Fusarium]
Clethra alnifolia	Clethra, White alder	2
Cornus spp.	Dogwood, Pink dogwood,	2[Anthracnose],3
	Flowering dogwood	
Cornus florida	Dogwood	2 [Anthracnose],3
Cortaderia selloana	Pampas grass	3
Cotoneaster adpressus	Creeping Cotoneaster	7
Cotoneaster horizontalis	Cotoneaster – variegated rockspray	7
Cyclamen spp.	Cyclamen	7 [Fusarium]
Cyperus spp.	Cyperus	1
Delphinium spp.	Larkspur	2
Dianthus caryophyllus	Carnation	3,4
Dianthus spp.	Pink	3,4
Dieffenbachia spp.	Oumb-Cane	2
Dietes iridiodes	African iris, Butterfly iris	4 [Puccinia]
Digitalis spp.	Foxglove	2,3
Epipremnum spp.	Pothos	2
Erica dareyensis	Heather	2
Euonymus alata	Dwarf winged euonymus	2
Euonymus alatus	Burning bush	2
Euonymus 17ndromeda	Evergreen euonymus	2
Euphorbia spp.	Poinsettia	2 [Alternaria]
Fatsia japonica	Japanese fatsia, Paper-plant	2
Ficus spp.	Fig	2
Forsythia viridissima	Forsythia	2
Gaillardia spp.	Blanket-Flower	2
Gardenia jasminoides	Gardenia	3
Geranium spp.	Cranesbill	5 [Botrytis]
Gerbera jamesonii	Gerber daisy, Transvaal daisy	3
Hedera algeriensis	Algerian ivy	2
Hedera helix	English ivy	2
Hibiscus moscheutos	Hibiscus	2,3
Hibiscus rosa-sinensis	Hibiscus	2,3
Hibiscus syriacus	Rose of Sharon	2,3
Hosta spp.	Hosta	2
Hydrangea macrophylla	French hydrangea	2,3
Hydrangea spp.	Hydrangea	2,3
llex spp.	Holly, Winterberry, Yaupon	3
Impatiens spp. <sup>1</sup>	Balsam, Impatiens <sup>1</sup>	2 [Alternaria],
		7 [Rhizoctonia
Iris xiphium	Iris (bulbous, Spanish, Dutch)	2 [Iris Leaf Spot]
Itea virginica	Virginia willow	3,4
Juniperus procumbens	Juniper	1 [Phomopsis], 4
Juniperus scopulorum	Juniper	1 [Phomopsis], 4
Juniperus spp.	Juniper	1 [Phomopsis],4

OTANICAL NAME COMMON NAME		DISEASES
Juniperus virginiana	Red cedar	1 [Phomopsis],4
Lagerstroemia indica	Crapemyrtle	2,3
Laurus nobilis	Laurel	3
Lilium spp.	Asiatic Lily	2
Liriope muscari	Lily-turf	2
Lobulaha maritime	Sweet alyssum	7
Magnolia grand/flora	Southern magnolia	2
Magnolia soulangiana	Saucer magnolia	2
Magnolia spp.	Magnolia	2
Malus spp.	Crabapple (See Table 4 for variety list)	2 [Scab]
Nandina domestica	Nandina	2
Nerium oleander	Oleander, Rose-bay	2
Pelargonium spp.	Geranium	3, 4, 5 [Botrytis]
Pennisetum alopecuroides	Grass	2
Peperomia spp.	Baby rubber-plant	2,7
Petunia spp.	Petunia	6
Phalaris spp.	Dwarf pampas grass	3
Philodendron spp.	Philodendron	2
Phlox spp.	Phlox	3
Phoenix dactylifera	Date palm	2,7
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Phoenix roebelenii	Roebelin's palm	2,7
Photinia glabra	Red-tip photinia	2,3,4
Picea abies	Norway spruce	1
Picea glauca	White spruce	1
Picea pungens	Blue spruce	1
Pieris japonica	Japanese Andromeda	2,7
Pinus muhgo	Muhgo pine	1 [Tip Blight], 4
Pinus nigra	Black pine	1 [Tip Blight, 4
Pinus silvestris	Scotch pine	1,4
Pinus spp.	Pine	1 [Tip Blight],4
Pinus 18ndrome	Eastern white pine	1 [Tip Blight],4
Pittosporum spp.	Australian laurel	3,4
Pittosporum tobira	Mock-orange	3,4
Plectranthus spp.	Swedish ivy, Coleus	2
Populus trichocarpa	Poplar	4
Populus spp.	Aspen Trees	2
Potentilla spp.	Cinquefoil	2
Primula spp.	Primrose	2
Prunus pumila	Cherry	2,5
Prunus spp.	Flowering plum, Purple-leaf plum	2,5
Pseudotsuga spp.	Douglas fir	1.4
Pyrus calleryana	Bradford's pear	3
Quercus 18ndrome	Red oak	2,3
Quercus palustris	Pin oak	2,3
Rhaphiolepsis indica	Indian hawthorn	2,3,4
Rhododendron spp.	Azaleas, Rhododendron	2[Anthracnose],3,6,7
Rhododendron spp.	Glacier Azalea	2[Anthracnose],3,6,7
Rosa spp.	Rose	2 [Alternaria,
		Downy Mildew,
		3 [Sphaerotheca],
		4 [Phragmidium]
Rosmarinus spp.	Rosemary (prostrate)	2
Rudbeckia hirta	Black-eyed-susan	2
Salvia spp.	Sage	3,4
Schlumbergera	Holiday cactus	2,7
Sedum spp.	Orpine, Stonecrop	2

BOTANICAL NAME	COMMON NAME	DISEASES
Sempervivum spp.	Live-forever, House-Leek	2
Setaria spp.	Ribbon-grass	2,3
Spathiphyllum floribundium	Peace lily	2,7
Spirea budalda	Spirea	3
Spirea japonica	Spirea	3
Syagrus romanzoffianum	Queen palm	2
Tagetes spp.	Marigold	2 [Alternaria]
Taxus baccata	Spreading yew	7
Thuja plicata	Western Red Cedar	4
Thujopsis spp.	Arborvitae	2
Thymus serphyllum	Creeping thyme	2
Tsuga heterophylla	Western Hemlock	4
Tsuga spp.	Hemlock	4
Verbena spp.	Verbena, Vervain	3
Viburnum spp.	Viburnum	2,3,4
Vinca spp.	Periwinkle	2,6
√iola spp. ¹	Viola, Pansy <sup>1</sup>	2
Wiegela florida	Pink wiegela	2
Yucca spp.	Yucca	7
Zinnia spp.	Zinni	2 [Alternaria],3

Footnotes: <sup>1</sup> Do not exceed 3.9 fl oz/100 gallons on indicated species

**TABLE 3: Tolerant Varieties of Crabapple and Other Malus Species** 

Arkansas Black	Eleyi	Mary Potter	M. seiboldii
M.atrosanguinea	Enterprise	Molten Lava	Selkirk
M. baccata	Evereste	New Centennial	Sentinel
M. baccata var. jackii	Eyelynn	Ormiston Roy	Silver Moon
M. baccata var. mandshurica	M. floribunda	Pink Satin	Silverdrift
Callaway	Gloriosa	Prairie Maid	Sinai Fire
Candymint Sargent	Golden Delicious	Prairifire	M. spectablis
Christmas Holly	Golden Raindrops	Profusion	Sugar Tyme
M. coronaria	Нора	M. pumila	Van Eseltine
David	Indian Magic	Ralph Shay	White Angel
Dolgo	Island	Red Jade	Williams Pride
Donald Wyman	Katherine	Red Baron	Winter Gold
Dorothea	Lancelot	Sargent	Yellow Delicious
Doubloons	Louisa	M. sargentii	M. zumi Calocarpa

TABLE 4: Intolerant Plants – Do Not Apply UPGRADE to these species or varieties.

COMMON NAME	BOTANICAL NAME
Apple	Malus domestica
Crabapple - Flame variety	Malus spp.
Crabapple - Brandywine variety	Malus spp.
Crabapple - Novamac variety	Malus spp.
Cherry, Flowering - Yoshina variety	Prunus yedoensis.
Leatherleaf Fern	Rumohra adianformis
and Other Ferns for cut foliage	and other species for cut foliage
Privet	Ligustrum spp.

# **Conifers including Christmas Trees**

UPGRADE may be used to control certain diseases on conifers in production (indoor and outdoor) and landscape situations. Please see the Ornamental Section above for more detailed directions for use in landscape situations.

Target Disease	Use Rate fluid ounces product/A (Ib a.i/A)	Application Directions
Diplodia tip blight (Diplodia pinea)  Lophodermium needlecast (Lophodermium pinastri)  Swiss needlecast	6.2-15.4 (0.1-0.25)	Begin applications prior to disease development and continue throughout the season at 7-21-day intervals following the resistance management guidelines. Apply by ground, air, or chemigation. An adjuvant may be added at label specified rates.  Do not make more than two (2) sequential applications
(Phaeocrytopus gaumannii)		of this product or other Group 11 fungicides before alternating with a fungicide that has a different mode of action.

# **Specific Use Restrictions:**

Do not exceed 1 gallon of this product (2 lb ai) per acre per year.

For application to Christmas trees using handheld equipment, do not exceed 0.08 fl oz (2.4 ml) of product/gallon (equivalent to 0.00125 lb ai/gallon).

#### **COMMERCIAL PRODUCTION ROSES**

Target Disease	Use Rate fluid ounces product/A (Ib a.i/A)	Application Directions
Downy Mildew (Peronospora sparsa)  Powdery Mildew (Spherotheca pannosa)  Rust (Phragmidium mucronatum, P. tuberculatum, and other Phragmidium spp.  Septoria Leaf Spot (Septoria rosea)  Alternaria Leaf Spot (Alternaria alternata)	3.1-15.4 (0.05-0.25)	Heritage application should begin prior to disease development and continue throughout the season on 7-21 day intervals following the resistance management guidelines. Applications may be made by ground, air or chemigation. An adjuvant may be added at recommended rates.  Do not make more than 4 sequential applications of Upgrade before alternating with a fungicide that is not in Group 11. Do not make more than 8 applications per acre per year.

# **Specific Use Restrictions:**

Do not exceed 1 gallon of this product (2.04 lb ai)/Acre per year.

**For roses grown in field or nurseries,** do not exceed 47 fl oz product/A or 1.1 fl oz product/1,000 sq ft (equivalent to 0.75 lb ai/A) for foliar sprays applied by groundboom or chemigation.

For broadcast application using handheld equipment on nursery grown roses, do not exceed 0.16 fl oz product/gallon (equivalent to 0.0025 lb ai/gallon).

# **BRASSICA - LEAFY GREENS Subgroup 5B**

Broccoli Raab; Chinese Cabbage (bok choy); Collards; Kale; Mizuna; Mustard Greens; Mustard Spinach; Rape Greens; all Cultivars and/or Hybrids of these

Target Disease	Use Rate fl oz product/A (lb a.i/A)	Application Directions
Black spot (Alternaria spp.) Cercospora leaf spot (Cercospora spp.) White rust (Albugo candida)	6.0-15.5 (0.10-0.25)	Begin applications prior to disease development and continue throughout the season at 7- to 14-day intervals following the resistance management guidelines. Apply by ground, air, or chemigation. An adjuvant may be added at label specified rates.  Do not make more than one application of this product or other Group 11 fungicides before alternating with a fungicide that has a different mode of action.
Soilborne Diseases Seedling Root Rot, Basal Stem Rot (Rhizoctonia solani)	0.40-0.80 fl oz/1000 row ft	For soilborne/seedling disease control, see directions and rates under <b>SOILBORNE/SEEDLING DISEASE CONTROL</b> section.

#### **Use Restrictions:**

Do not exceed 46 fl oz of this product/Acre per year.

Do not exceed the equivalent of 0.75 lb a.i./Acre per year from any azoxystrobin-containing products.

Pre-harvest Interval (PHI) = 0 Days

#### **CUCURBIT VEGETABLES, Crop Group 9**

Cantaloupe; Chayote; Chinese-Waxgourd; Cucumber; Gourds; Honeydew Melon; *Momordica* spp. (bitter melon, balsam apple); Muskmelon; Watermelon; Pumpkin; Squash; Zucchini; Varieties, Cultivars and/or Hybrids of these

Target Disease	Use Rate fl oz product/A (lb a.i/A)	Application Directions
Anthracnose (Colletotrichum lagenarium)	6.0-15.5 (0.10-0.25)	For downy mildew and powdery mildew, make preventative applications at 5- to 7-day intervals.
Belly rot (Rhizoctonia solani) Downy mildew (Pseudoperonospora cubensis)		For belly rot control, make the first application at the 1-3 leaf crop stage with a second application just before vines tip over or 10-14 days later, whichever occurs first.
Gummy stem blight (Didymella bryoniae) Leaf spots (Alternaria spp., Cercospora		For all other diseases, begin applications prior to disease development and continue throughout the season at 7- to 14-day intervals following the resistance management guidelines.
spp.) Myrothecium canker (Myrothecium roridum)		Apply by ground, air, or chemigation. An adjuvant may be added at label specified rates.
Plectosporium blight (Plectosporium tabacinum) Powdery Mildew		Do not tank mix this product with crop oil concentrates (COC), methylated spray oil (MSO) or silicon adjuvants.
(Sphaerotheca fuliginea), (Erysiphe cichoracearum) Ulocladium Leaf Spot		Do not tank mix this product with malathion, Kelthane®, Thiodan®, Phaser®, Lannate®, Lorsban®, M-Pede® or Botran®.
(Ulocladium cucurbitae)		Do not make more than one application of this product or other Group 11 fungicides before alternating with a fungicide that has a different mode of action. Do not make more than four (4) foliar applications of this product or other Group 11 fungicides per crop per acre per year.
Soilborne diseases Rhizoctonia root rot (Rhizoctonia solani)	0.4-0.8 fl oz/1000 row ft	For soilborne/seedling disease control, see directions and rates under SOILBORNE/SEEDLING DISEASE CONTROL section.

# **Use Restrictions:**

Do not exceed 92.3 fl oz of this product/Acre per year.

Do not exceed the equivalent of 1.5 lb a.i./Acre per year from any azoxystrobin-containing products.

Pre-harvest Interval (PHI) = 1 Day.

# FRUITING VEGETABLES - PEPPER / EGGPLANT Subgroup 8-10B \*

African Eggplant; Bell Pepper; Eggplant; Martynia; Nonbell Pepper; Okra; Pea Eggplant; Pepino; Roselle; Scarlet Eggplant; Cultivars, Varieties, and/or Hybrids of these

\*For use on tomatoes, see crop specific Application Directions for Tomato Subgroup 8-10A

Target Disease	Use Rate fl oz product/A (lb a.i/A)	Application Directions
Anthracnose (Colletotrichum spp.) Powdery Mildew (Sphaerotheca spp.)	6.0-15.5 (0.10-0.25)	Begin applications prior to disease development and continue throughout the season at 7- to 14-day intervals following the resistance management guidelines.  Apply by ground, air, or chemigation. An adjuvant may be added at label specified rates.  Do not make more than one application of this product or other Group 11 fungicides before alternating with a fungicide that has a different mode of action.
Soilborne diseases Rhizoctonia seedling rot (Rhizoctonia solani)	0.4-0.8 fl oz/1000 row ft	For soilborne/seedling disease control, see directions and rates under SOILBORNE/SEEDLING DISEASE CONTROL section.

#### **Use Restrictions:**

Do not exceed 61.5 fl oz of this product/Acre per year.

Do not exceed the equivalent of 1.0 lb a.i./Acre per year from any azoxystrobin-containing products.

Pre-harvest Interval (PHI) = 0 Days

### HERBS & SPICES (Except Black Pepper), Crop Group 19

Allspice; Angelica; Anise (seed); Anise (star); Annatto (seed); Balm; Basil; Borage; Burnet; Camomile; Caper (buds); caraway; Caraway (black); cardamom; Cassia Bark; Cassia Buds; Catnip; Celery Seed; Chervil (dried); Chinese Chive; Chive; Cinnamon; Clary; Clove Buds; Coriander Leaf (cilantro or Chinese parsley); Coriander Seed (cilantro); Costmary; Culantro (leaf); Culantro (seed); Cumin; Curry (leaf); Dill (dillweed); Dill (seed); Fennel (common); Florence Fennel (seed); Fenugreek; Grains of Paradise; Horehound; Hyssop; Juniper Berry; Lavender; Lemongrass; Lovage (leaf); Lovage (seed); Mace; Marigold; Marjoram; Mustard (seed); Nasturtium; Nutmeg; Parsley (dried); Pennyroyal; Pepper (black and white); Poppy (seed); Rosemary; Rue; Saffron; Sage; Savory (summer and winter); Sweet Bay; Tansy; Tarragon; Thyme; Vanilla; Wasabi, Wintergreen; Woodruff; Wormwood

Target Disease	Use Rate fl oz product/A (lb a.i/A)	Application Directions
Corynespora blight (Corynespora cassiicola) Dill blight (Cercosporidium punctum) Phoma blight (Passalora puncta)	6.0-15.5 (0.10-0.25)	Begin applications at the onset of disease development and continue throughout the season at 7-day intervals following the resistance management guidelines, Apply by ground only. An adjuvant may be added at label specified rates. Use a minimum of 30 gallons of water per acre.
		Do not make more than two (2) sequential applications of this product or other Group 11 fungicides before alternating with a fungicide that has a different mode of action.
Fusarium Rhizome and Root Rot	6.2-15.4	For Wasabi only:
( <i>Pythium</i> spp.)	(0.10-0.25)	Begin applications at the onset of disease development and continue throughout the season at 7-day intervals following the resistance management guidelines, Apply by ground or chemigation. An adjuvant may be added at label specified rates. Use a minimum of 30 gallons of water per acre.
		Do not make more than two (2) sequential applications of this product or other Group 11 fungicides before alternating with a fungicide that has a different mode of action.

#### **Use Restrictions:**

Do not exceed 92.3 fl oz of this product/Acre per year.

Do not exceed the equivalent of 1.5 lb a.i./Acre per year from any azoxystrobin-containing products.

Pre-harvest Interval (PHI) = 0 Days.

# **LEAFY VEGETABLES (Except Brassica)**

Amaranth, Arugula, Cardoon, Celery, Celtuce, Chervil, Chrysanthemum (edible), Corn salad, Cress, Dandelion, Dock, Endive, Fennel, Lettuce (head and leaf), Orach, Parsley, Purslane, Radicchio, Rhubarb, Spinach, Swiss Chard, Cultivars, Varieties, and/or Hybrids of these

Target Disease	Use Rate fl oz product/A (lb a.i/A)	Application Directions
Foliar Diseases Alternaria leaf spot	6.0-15.5 (0.10-0.25)	For downy and powdery mildew, make preventative applications at 5- to 7-day intervals.
(Alternaria sonchi, A. spp.) Anthracnose (Microdochium panattonianum, Colletotrichum dematium) Cercospora leaf spot (Cercospora spp.) Septoria leaf spot (Septoria petroselini) White rust		For all other diseases, begin applications prior to disease development and continue throughout the season at 7- to 14-day intervals following the resistance management guidelines. Apply by ground, air, or chemigation. An adjuvant may be added at label specified rates.  Do not make more than one application of this product or other Group 11 fungicides before alternating with a fungicide that has a different mode of action.
(Albugo occidentalis)		ATTENTION
Downy mildew ( <i>Bremia lactucae</i> ) Powdery <i>mildew</i>	12.0-15.5 (0.20-0.25)	Applications of this product to leafy vegetable foliage may contribute to foliar phytotoxicity under certain circumstances. Proceed with caution with regard to tank mixes and adjuvants when treating any leafy vegetable crops with this product.  When treating leaf lettuce, do not tank mix this product
(Eyrisiphe cichoracearum)		with AMBUSH® WP, Pounce® WP, Aliette®, Warrior® with Zeon TM Technology, or any other product that may increase the penetration of this product into the leaf surface such as, but not limited to, silicone wetters.
Soilborne Diseases	0.4-0.8	For soilborne/seedling disease control, see
Web blight, Bottom rot, Crater rot, Root rot (Rhizoctonia solani)	fl oz/ 1000 row ft	directions and rates under SOILBORNE/SEEDLING DISEASE CONTROL section.

# **Use Restrictions:**

Do not exceed 92.3 fl oz of this product/Acre per year.

Do not exceed the equivalent of 1.5 lb a.i./Acre per year from any azoxystrobin-containing products.

Pre-harvest Interval (PHI) = 0 Days

# **TOMATO Subgroup 8-10A**

Bush Tomato; Cocona; Currant Tomato; Garden Huckleberry; Goji Berry; Groundcherry; Naranjilla; Sunberry; Tomatillo; Tomato; Tree Tomato; Cultivars, Varieties, and/or Hybrids of these

Target Disease	Use Rate fl oz product/A (lb a.i/A)	Application Directions
Anthracnose (Colletotrichum coccodes) Black mold (Alternaria alternata) Buckeye rot (Phytophthora spp.) Early blight (Alternaria solani) Powdery Mildew (Oidiopsis sicula) Septoria Leaf Spot (Septoria lycopersici) Target spot (Corynespora cassiicola)	5.0-6.2 (0.08-0.10)	Begin applications prior to disease development and continue throughout the season following the resistance management guidelines. Apply by ground, air, or chemigation.
		For late blight, apply this product at 5- to 7- day intervals.
		For all other tomato diseases, make applications at 7- to 21-day intervals.
		Use of adjuvants may result in severe phytotoxicity. Do not exceed 0.125% adjuvant (v/v).
		Thank mixtures with dimethoate may cause phytotoxicity.
Late Blight (Phytophthora infestans)	6.2 (0.10)	For fresh market tomatoes, do not use adjuvants or tank mix this product with other pesticides formulated as emulsifiable concentrates (EC).
		Do not make more than one application of this product or other Group 11 fungicides before alternating with a fungicide that has a different mode of action.

#### **Use Restrictions:**

Do not exceed 37 fl oz of product/Acre per year.

Do not exceed the equivalent of 0.6 lb a.i./Acre per year from any azoxystrobin-containing product.

Pre-harvest Interval (PHI) = 0 Days

# STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

**STORAGE** Store in original containers only. Keep container closed when not in use. Do not store near food or feed. 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 the label.

**PESTICIDE DISPOSAL**: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative of the nearest EPA Regional Office for guidance.

#### **CONTAINER HANDLING:**

[Note to Reviewer: The following statement will be included on all Final Printed Labels bearing multiple Container Handling statements] "NOTE: This product is available in multiple containers. Refer to the Net Contents section of this product's labeling for the applicable "Nonrefillable" or "Refillable" designation. Follow the container handling instructions below that apply to your container type/size."

#### [Nonrefillable Containers 5 Gallons or Less]

Nonrefillable container. Do not reuse or refill this container. 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.

#### [Nonrefillable containers larger than 5 gallons]

Nonrefillable container. Do not reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse 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 a 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. Then offer for recycling if available, 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.

# [Refillable containers larger than 5 gallons]

Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times

#### WARRANTY DISCLAIMER

The directions for use of this product must be followed carefully. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, (1) THE GOODS DELIVERED TO YOU ARE FURNISHED "AS IS" BY MANUFACTURER OR SELLER AND (2) MANUFACTURER AND SELLER MAKE NO WARRANTIES, GUARANTEES, OR REPRESENTATIONS OF ANY KIND TO BUYER OR USER, EITHER EXPRESS OR IMPLIED, OR BY USAGE OF TRADE, STATUTORY OR OTHERWISE, WITH REGARD TO THE PRODUCT SOLD, INCLUDING, BUT NOT LIMITED TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, USE, OR ELIGIBILITY OF THE PRODUCT FOR ANY PARTICULAR TRADE USAGE. UNINTENDED CONSEQUENCES, INCLUDING BUT NOT LIMITED TO INEFFECTIVENESS, MAY RESULT BECAUSE OF SUCH FACTORS AS THE PRESENCE OR ABSENCE OF OTHER MATERIALS USED IN COMBINATION WITH THE GOODS, OR THE MANNER OF USE OR APPLICATION, INCLUDING WEATHER, ALL OF WHICH ARE BEYOND THE CONTROL OF MANUFACTURER OR SELLER AND ASSUMED BY BUYER OR USER. THIS WRITING CONTAINS ALL OF THE REPRESENTATIONS AND AGREEMENTS BETWEEN BUYER, MANUFACTURER AND SELLER, AND NO PERSON OR AGENT OF MANUFACTURER OR SELLER HAS ANY AUTHORITY TO MAKE ANY REPRESENTATION OR WARRANTY OR AGREEMENT RELATING IN ANY WAY TO THESE GOODS.

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