



GROUP **BM02** **FUNGICIDE**

HOWLER[®]

f u n g i c i d e

Active Ingredient: *Pseudomonas chlororaphis* strain AFS009†..... 50.0%
Other Ingredients: 50.0%
Total: 100.0%

† Contains not less than 1 X 10⁶ CFU/g of product.

KEEP OUT OF REACH OF CHILDREN CAUTION

SEE INSIDE FOR ADDITIONAL PRECAUTIONARY STATEMENTS.

FIRST AID	
IF INHALED	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. • Call a poison control center or doctor for treatment advice.
IF IN EYES	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
IF ON SKIN OR CLOTHING	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
IF SWALLOWED:	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told by a poison control center or doctor. • Do not give anything by mouth to an unconscious person.
HOTLINE NUMBER Have the product container or label with you when calling a poison control center or doctor. You may also contact 1-800-262-8200 for emergency medical treatment information.	

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Manufactured for:

Net Weight: 25 lbs

AgBiome Innovations, Inc.
 104 T.W. Alexander Drive
 Research Triangle Park, NC 27709

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

Harmful if inhaled, absorbed through the skin, or swallowed. Causes moderate eye irritation. Avoid breathing dust or spray mist. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

The PPE requirements below pertain to both Worker Protection Standard (WPS uses (in general, agricultural plant uses are covered by the Worker Protection Standard (40 CFR Part 170)) and Non-WPS uses.

Applicators and other handlers must wear:

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

Wear a minimum of a NIOSH-approved particulate filtering facepiece respirator with any R, or P filter; OR a NIOSH approved elastomeric particulate respirator with any R, or P filter; OR a NIOSH-approved powered air-purifying respirator with an HE filter. (Repeated exposures to high concentrations of microbial proteins can cause allergic sensitization.)

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

ENGINEERING CONTROLS

When handlers use closed systems, or enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40CFR 170.607(d) and (e)], the handler PPE requirements may be reduced or modified as specified in the WPS.

IMPORTANT: 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 break-down.

USER SAFETY RECOMMENDATIONS

- Users should remove clothing/PPE immediately if pesticide is gets inside. The user should wash thoroughly and put on clean clothing.
- Users should 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

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. Do not contaminate water when disposing of equipment washwater or rinsate.

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), 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.

Exception: If the product is soil injected or soil incorporated, 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.

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) includes:

- Coveralls
- Waterproof gloves
- Shoes plus socks
- Protective eyewear

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.

Keep unprotected persons out of treated areas until sprays have dried.

Product Information: Howler® is a biological fungicide containing the active ingredient *Pseudomonas chlororaphis* strain AFS009 for use on growing plants and crops to control or suppress a wide range of foliar and soil borne diseases. Howler may be mixed with water and applied in field, greenhouse, or nursery use sites as a foliar spray, soil drench, in furrow spray, transplant spray or dip, cuttings or bare root dip, or hydroponic or chemigation application. It may be mixed with potting mix or applied dry in furrow. Howler may be used as a seed treatment or a seed piece treatment.

PREVENTATIVE APPLICATIONS FOR PLANT HEALTH AND OPTIMUM DISEASE CONTROL

Howler® provides benefits that can result in healthier plants. Howler colonizes plants preventing the establishment of disease-causing fungi and bacteria. Improved plant health may help the treated plant tolerate environmental stresses such as drought, heat and cold temperatures and ozone damage. Overall increased plant health may improve crop vigor, yield and quality especially under stressful conditions.

- Apply Howler as a soil application or foliar spray alone, in alternating spray programs or in tank mixes with other registered crop protection products.
- Apply Howler with spray equipment commonly used for making ground, aerial and chemigation applications.
- Adjust the spray intervals of Howler according to the Crop-Specific Use Directions tables depending upon disease pressure and environmental conditions. Heavy rainfall or irrigation shortly after application may require retreatment.
- To enhance performance, consider adding a surfactant that is known to be safe to the target crop to the spray tank to improve penetration and coverage of above-ground portions of the plant.
- Howler is most effectively used in a preventative disease management program.

FUNGICIDE RESISTANCE MANAGEMENT AND IPM:

The PPE requirements below pertain to both Worker Protection Standard (WPS uses (in general, agricultural plant uses are covered by the Worker Protection Standard (40 CFR Part 170)) and Non-WPS uses.

Howler is classified as a FRAC group BM02 Fungicide (multiple modes of action and low resistance risk).

Howler can be used in tank mixes or rotations to reduce the risk of resistance to other fungicides.

Integrate Howler into an overall disease and pest management strategy. Follow practices known to reduce disease development. Consult local agricultural authorities for specific IPM strategies developed for your location and crop(s).

USE INSTRUCTIONS:

Howler® has been evaluated for phytotoxicity on a variety of crops under various normal growing conditions. However, testing all crop varieties, in all mixtures and combinations, is not feasible. Prior to treating the entire crop, test a small portion of the crop for sensitivity.

Howler can be applied as a foliar spray, soil drench, soil incorporation, banded spray, broadcast, in-furrow, transplant water or tray drench. Howler may be used as a seed treatment or a seed piece treatment. Howler can be applied through various types of chemigation application as described in the Chemigation section of this label.

Mixing Directions:

Always add a sufficient volume of water to the mix before adding Howler. Constant agitation during mixing and application is necessary to maintain uniform suspension.

For foliar applications, good coverage of the foliage is needed to ensure performance.

Refer to the crop specific portions of the label for proper application instructions for each crop/disease combination. Under light disease pressure, use lower rates and longer intervals. When conditions are conducive to severe disease pressure, use higher rates and shorter intervals. Repeat applications at the intervals specified in the label and use an appropriate Integrated Pest Management program.

Not all tank mixtures with Howler have been tested. Before using any tank mix, test the combination on a small portion of the crop to ensure that the tank mixture is not phytotoxic to the crop. It is the responsibility of the user to ensure all components of the tank mixture are registered for use on the crop. When applying a tank mixture, the user must follow the instructions of the product with the most restrictive label.

FOLIAR APPLICATION DIRECTIONS:

GROUND:

This product can be applied by commonly used ground equipment such as hose-end and pressurized sprayers. Consult spray nozzle and accessory documentation for specific information on proper equipment calibration. Maintain agitation during mixing and application to assure uniform product suspension. Thorough coverage of all foliage and/or soil surfaces is essential for effective disease control or suppression. Use the application rate indicated for the crop in the Crop-Specific Use Directions tables of this label in sufficient water to achieve thorough coverage. Overall, to achieve good coverage, use proper spray pressure, gallonage per acre, nozzles, nozzle spacing and ground speed.

AERIAL:

This product can be applied by aerial application. Refer to the Spray Drift Management section of this label for additional directions and precautions. Use the appropriate application rate as indicated for the crop in the Crop-Specific Use Directions tables of this label. To ensure thorough coverage use a minimum of 10 GPA. Reduced spray volumes used in aerial applications may result in physical incompatibility, reduced disease control or crop injury, especially when Howler is tank mixed with other products.

CHEMIGATION:

This product can be applied through sprinklers including center pivot, lateral move, end tow, side (wheel) roll, traveler, solid set, big gun or hand move irrigation systems. Application through drip irrigation systems is permitted in specific crops if specified on the Crop-Specific Use Directions tables. Refer to the Chemigation Application Directions portion of this label for additional directions and precautions. Maintain agitation during mixing and application to ensure uniform product suspension. Use the appropriate application rate as indicated for the crop in the Crop-Specific Use Directions tables of this label. Use sufficient water to achieve thorough coverage.

GENERAL FOLIAR APPLICATION USE RESTRICTIONS:

- Do not apply when wind speed favors drift beyond the area intended for treatment.
- Remove scale, pesticide residues and other foreign matter from the chemical supply tank and entire injector system. Flush with clean water. Failure to provide a clean tank that is void of scale or residues may cause Howler® to lose effectiveness or strength.
- Do not combine Howler with pesticides, surfactants or fertilizers for application through chemigation equipment unless prior experience has shown the combination to be physically compatible, effective and non-injurious under conditions of use. Howler has not been fully evaluated for compatibility with all agricultural products.
- Unless prior experience with a specific product, conduct a spray compatibility test if tank mixing with other pesticides, surfactants or fertilizers is planned.

CHEMIGATION APPLICATION DIRECTIONS:

TYPES OF IRRIGATION SYSTEMS

Apply this product only through the following types of equipment:

- Sprinkler irrigation systems including center pivot, lateral move, end tow, side (wheel) roll, traveler, solid set, big gun or hand move. Drip-type and micro-jet irrigation systems also allowed.

Do not apply this product through any other type of irrigation system.

Maintain agitation during mixing and application to ensure uniform product suspension. Use the application rate indicated in the Crop-Specific Use Directions of this label. Use sufficient water to achieve thorough coverage.

UNIFORM WATER DISTRIBUTION AND SYSTEM CALIBRATION

The chemigation system must provide uniform distribution of treated water. Crop injury or lack of effectiveness can result from non-uniform distribution of treated water. The chemigation system must be calibrated to uniformly apply the rates specified in the crop-specific label sections. If you have questions about calibration, you should contact local State Extension Service specialists, equipment manufacturers or other experts.

CHEMIGATION MONITORING

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.

REQUIRED SYSTEM SAFETY DEVICES

The system must contain a functional check valve, a vacuum relief valve and a low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow. The pesticide injection pipeline must contain a functional automatic quick-closing check valve to prevent the flow of fluid back toward the injection pump. The pesticide injection pipeline must also contain a functional, normally closed solenoid-operated valve located on the intake side of the injection pump and irrigation system is either automatically or manually shut down. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected. Systems must use a metering pump such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

USING WATER FROM PUBLIC WATER SYSTEMS

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.

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. Chemigation systems connected to public water systems must contain a functional reduced-pressure zone (RPZ) backflow preventer or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public waste system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe. The pesticide injection pipeline must contain a functional automatic quick-closing check valve to prevent the flow of fluid back toward the injection pump. The pesticide injection pipeline must contain a functional normally closed solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected. Systems must use a metering pump such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock. Do not apply when wind speed favors drift beyond the area intended for treatment.

INJECTION FOR CHEMIGATION

Inject the specified dosage of Howler® into the irrigation main water stream: (1) through a constant flow meter device; (2) into the center of the main line flow via a pivot tube or equivalent; (3) at a point ahead of at least one right-angle turn in the mainstream flow such that thorough mixing with the irrigation water is ensured.

CENTER PIVOT, LATERAL MOVE, END TOW, BIG GUN AND TRAVELER IRRIGATION EQUIPMENT (USE ONLY WITH ELECTRIC OR OIL HYDRAULIC DRIVE SYSTEMS THAT PROVIDE A UNIFORM WATER DISTRIBUTION)

- Determine the size of area to be treated.
- Determine the time required to apply no more than ¼ inch of water (6,750 gallons water per acre) over the area to be treated when the system and injection equipment are operated at normal pressures specified by the equipment manufacturer. Run system at 80 to 95% of manufacturer's rated capacity.
- Using only water, determine the injection pump output when operated at normal line pressure.
- Determine the amount of Howler required to treat area.
- Add required amount of Howler and sufficient water to meet the injection time requirements of the solution tank.
- Maintain constant solution tank agitation during the injection period.
- Stop injection equipment after treatment is completed. Continue to operate the system until Howler solution has cleared the sprinkler head.

SOLID SET, SIDE (WHEEL) ROLL AND HAND MOVE IRRIGATION EQUIPMENT

- Determined acreage covered by sprinkler
- Fill injector solution tank with water and adjust flow rate to use contents over a 10 to 30 minute interval
- Determine the amount of Howler® required to treat area.
- Add the required amount of Howler into the same quantity of water used to calibrate the injection equipment.
- Maintain constant solution tank agitation during the injection period.
- Operate system at normal pressures specified by the manufacturer of the injection equipment and used for the time interval established during calibration.
- Inject Howler at the end of the irrigation cycle or as a separate application to maximize foliar fungicide retention.
- Stop injection equipment after treatment is completed. Continue to operate the system until Howler solution has cleared the last sprinkler head.

FLUSHING AND CLEANING THE CHEMICAL INJECTION SYSTEM

At the end of the application period, allow time for all lines to flush the pesticide through all nozzles or emitters before turning off irrigation water. To ensure the lines are flushed and free of pesticides, a dye indicator may be injected into the lines to mark the end of the application period.

In order to apply pesticides accurately, the chemical injection system must be kept clean and free of chemical or fertilizer residues and sediments. Refer to your owner's manual or ask your equipment supplier for the cleaning procedure for your injection system.

SPRAY DRIFT MANAGEMENT:

The interaction of many equipment and weather-related factors determine the potential for spray drift. The applicator is responsible for considering all of these factors when making application decisions. Consult the local Cooperative Extension for additional information. Avoiding spray drift is the responsibility of the applicator.

DROPLET SIZE

Use the largest droplet size that provides sufficient control and coverage. Higher flow nozzles and lower pressures will produce larger droplets and minimize drift. Low drift and air induction nozzles will provide lower drift potential. Use larger droplet size when applying in hot, dry conditions (droplet evaporation is higher under these conditions thus reducing the effective droplet size and increasing drift potential).

WIND SPEED

Drift potential increases at wind speeds of less than 3 mph (due to inversion potential) or more than 10 mph. Applications during gusty or calm wind conditions should be avoided. However, factors including droplet size, canopy and equipment specifications determine drift potential at any given wind speed. For applications made in-furrow or below soil-level, wind speed restrictions are not applicable.

TEMPERATURE INVERSIONS

Drift potential is high during temperature inversions and applications should be avoided under these conditions. Temperature inversions are common on nights with limited cloud cover and light to no wind. Temperature inversions begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog. If fog is not present, inversions can also be identified by the movement of smoke or dust from a ground source – smoke or dust that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion.

SENSITIVE AREAS

When applying adjacent to residential areas, bodies of water, habitats known to have threatened or endangered species or non-target crops, drift can be minimized to these areas by making the application when the wind direction is away from these areas.

Where states or local authorities have more stringent regulations, they should be observed.

AIRBLAST (AIR ASSIST) APPLICATIONS FOR TREE CROPS AND VINEYARDS

Airblast sprayers carry droplets into the canopy of trees/vines via a radially or laterally directed air stream. Use the following specific drift management practices:

- Adjust deflectors and aiming devices so that spray is only directed into the canopy.
- Block off upward pointed nozzles when there is no overhanging canopy.
- Use only enough air volume to penetrate the canopy and provide good coverage.
- Do not allow the spray to go beyond the edge of the cultivated area (i.e. turn off sprayer when turning at end rows).
- Only spray inward toward the orchard or vineyard for applications to outside rows.

AERIAL APPLICATIONS

- Mount the spray boom on the aircraft to minimize drift caused by wing tip vortices.
- The minimum practical boom length should be used and should not exceed 75% of the wingspan or rotor diameter.
- Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety.

SEED TREATMENT USE:

Follow the manufacturer's application instructions for the seed treatment equipment being used.

PRODUCT INFORMATION

Howler® is a fungicide seed dressing for protection against listed soil-borne, seed-borne and early season post-emergence diseases of listed crop plants.

APPLICATION INSTRUCTIONS

- Apply using commercial slurry or mist-type seed treatment equipment.
- Uniform application on seed is necessary to ensure seed safety and best disease protection.
- Dilute product with sufficient water to ensure complete seed coverage.
- Continuous agitation or mixing of the slurry mixture is necessary to prevent settling of the solution.
- Apply to high quality, properly cleaned seed.

USE RESTRICTIONS

- This product does not contain dye. All seed treated with this product must be colored with an EPA-approved dye or colorant of a suitable color to prevent accidental use as food for humans or feed for animals.
- The Federal Seed Act requires that bags containing seed treated with this product shall be labeled with the following information: "This seed has been treated with *Pseudomonas chlororaphis* strain AFS009. Do not use for food, feed or oil purposes.
- Allow seed to dry before bagging.

Compatibility

It is essential that before using Howler® seed treatment in any tank mixture the compatibility of the mixture be established. Add Howler® at the labeled rate to a clean quart jar containing approximately one-half the amount of water intended for a final slurry application rate. Next, follow with all other tank mix components that will be used in the total slurry application. Add last the remaining balance of water. The total amount of volume is determined by the seed size and how much is necessary to ensure complete and uniform coverage and distribution on the seed, as well as the type of commercial seed treating application equipment that will be used.

Crop	Rate	Diseases Controlled
Brassica Vegetables Bulb Vegetables Cereal Grains Cotton Cucurbit Vegetables Fruiting Vegetables Herbs and Spices Leafy Vegetables Legume Vegetables Non-Grass Forages Oilseeds Peanuts Root and Tuber Vegetables Soybean Turf Ornamental Plants	0.25-7.5 lbs./100 lbs. of seed	Seed and soil-borne fungal diseases related to wilt, root rot, and damping off caused by <i>Fusarium</i> spp., <i>Pythium</i> spp., <i>Rhizoctonia</i> spp., and <i>Phytophthora</i> spp.

SOIL APPLICATION DIRECTIONS:

Howler® can be applied to soil either alone or mixed with various registered pest control products and fertilizers. Prior to making field applications of tank mixtures, determine the physical compatibility by mixing a test quantity as described in the Compatibility Testing and Tank Mix Partners section of this label. It is important to maintain agitation of the product mix throughout the application process.

SOIL DRENCH APPLICATIONS

Complete coverage of the root zone and crown are critical for optimum performance. Make a drench application with adequate water volume to drench through the root zone. Make the application prior to infection.

SHANKED-IN AND INJECTED APPLICATIONS

Howler can be applied before planting, at planting or after planting of seed or transplants when using shanked-in and injected application equipment.

TRANSPLANT WATER APPLICATIONS

Howler can be applied at transplanting by drenching the root ball and/or drenching the planting hole with a solution containing Howler.

TRAY DRENCH APPLICATIONS

Transplants can be tray drenched with a solution containing Howler prior to transplanting in the field. Tray drench applications can be made in the greenhouse prior to transplanting to allow root colonization of Howler.

APPLICATIONS IN HYDROPONIC GROWTH SYSTEMS

Howler can be applied in hydroponic growth systems. Follow instructions under greenhouse applications.

BANDED APPLICATIONS

Banded applications can be made after plant emergence. The width of the sprayed band and the width of the unsprayed portion of the row must be considered when calculating the appropriate rate Howler® to apply.

Use the following formula to determine the appropriate rate of Howler to use in a banded application:

$$\frac{\text{spray band width (inches)}}{\text{total row width (inches)}} \times \text{standard foliar rate/A} = \text{banded rate/A}$$

If a 7.5 inch band will be applied to 15 inch rows and the normal foliar application rate is 20 oz/A, use the following example calculation:

$$\frac{7.5 \text{ inch band}}{15 \text{ inch row}} \times 20 \text{ oz/A standard foliar rate} = 10 \text{ oz/A applied in the band.}$$

IN-FURROW APPLICATIONS

Howler can be applied at planting as an in-furrow treatment. Follow the instructions listed in Table 1. In-Furrow Soil Application Rates in the Field. Use the appropriate amount of water for the crop.

TABLE 1. IN-FURROW SOIL APPLICATION RATES IN THE FIELD

Rates for In-Furrow Applications of Howler® Fungicide										
Product Rate/acre (lbs.)	Row Spacing (inches)									
	12	15	20	22	30	32	36	38	40	72
	Rate per 1000 row feet (oz wt. of product)									
0.5	0.2	0.2	0.3	0.3	0.5	0.5	0.6	0.6	0.6	1.1
1	0.4	0.5	0.6	0.7	0.9	1.0	1.1	1.2	1.2	2.2
1.5	0.6	0.7	0.9	1.0	1.4	1.5	1.7	1.7	1.8	3.3
2	0.7	0.9	1.2	1.3	1.8	2.0	2.2	2.3	2.4	4.4
2.5	0.9	1.1	1.5	1.7	2.3	2.5	2.8	2.9	3.1	5.5
3	1.1	1.4	1.8	2.0	2.8	2.9	3.3	3.5	3.7	6.6
3.5	1.3	1.6	2.1	2.4	3.2	3.4	3.9	4.1	4.3	7.7
4	1.5	1.8	2.5	2.7	3.7	3.9	4.4	4.7	4.9	8.8
4.5	1.7	2.1	2.8	3.0	4.1	4.4	5.0	5.2	5.5	9.9
5	1.8	2.3	3.1	3.4	4.6	4.9	5.5	5.8	6.1	11.0
5.5	2.0	2.7	3.3	3.8	5.0	5.5	6.0	6.4	6.6	12.1
6.0	2.4	3.0	3.6	4.2	5.4	6.0	6.6	7.0	7.2	13.2
6.5	2.6	3.2	4.0	4.5	5.8	6.5	7.1	7.6	7.8	14.3
7.0	2.8	3.5	4.2	4.9	6.3	7.0	7.7	8.1	8.4	15.3
7.5	3.0	3.7	4.5	5.2	6.7	7.5	8.2	8.7	9.0	16.5

COMPATIBILITY TESTING AND TANK MIX PARTNERS

COMPATIBILITY AND ORDER OF MIXING

Howler® is physically and biologically compatible with many commonly used pesticides, fertilizers, adjuvants and surfactants, but has not been fully evaluated with all products. To ensure compatibility of tank-mix combinations evaluate them prior to use as follows: Using a suitable container, add proportional amounts of product to water. Add wettable powders first, followed by water dispersible granules, then by liquid flowables and lastly, emulsifiable concentrates. Mix thoroughly and let stand for at least five minutes. If the combination stays mixed or can be remixed, it is physically compatible. Test the combination on a small portion of the crop to be treated to ensure that a phytotoxic response does not occur as a result of application.

Do not combine Howler with pesticides, surfactants or fertilizers where there has been no previous experience or use demonstrating they are physically compatible, effective and non-injurious under your specific use conditions. Conduct a compatibility test if no prior experience.

Howler may be tank-mixed with other registered pesticides to enhance plant disease control or suppression. This product cannot be mixed with any product with a prohibition against such mixing. When tank-mixing Howler with other registered pesticides, always read and follow all use directions, restrictions and precautions of both Howler and the tank-mix partner(s). Use of the resulting tank mix must be in accordance with the more restrictive label limitations and precautions. Do not exceed label dosage rates.

Product Mixing Instructions

1. Partially fill the spray tank with clean water and begin agitation.
2. Add the specified amount of Howler.
3. Add other appropriately labeled agricultural products if tank mixing.
4. Finish filling the tank to the volume necessary to obtain the proper spray concentration.

It is critical that the spray solution be agitated during mixing and application to assure a uniform suspension. Avoid allowing spray mixture to stand overnight or for prolonged periods of time.

Maintain a spray solution pH between 4.5 and 10.0.

RESTRICTIONS AND LIMITATIONS

- **Crop Rotation Restriction** – None
- **Preharvest Interval (PHI)** – 0 Day
- **Not registered for use in California** on crops marked with an asterisk (*) in **Crop-Specific Use Directions**
- **Do not apply to cut fruit or vegetables**

CROP-SPECIFIC DIRECTIONS

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
<p>Berry and small fruit group (for see Grape and Strawberry see Crop-Specific Use Direction Tables)</p> <p>Bayberry Bearberry Bilberry Blackberry Blueberry, highbush Blueberry, lowbush Cranberry, lowbush Cranberry, highbush Currant black Currant, red Elderberry Gooseberry Huckleberry Lingonberry Mulberry Native currant Raspberry, black and red Wild raspberry Cultivars, varieties, and/or hybrids of these</p>	<p>Foliar Diseases Alternaria fruit rot* (<i>Alternaria</i> spp.)</p> <p>Anthracnose fruit rot* (<i>Colletotrichum</i> spp.)</p> <p>Botrytis blight* (<i>Botrytis</i> spp.)</p> <p>Charcoal rot* (<i>Macrophomina</i> spp.)</p> <p>Downy mildew* (<i>Peronospora</i> spp.)</p> <p>Mummy berry* (<i>Monilinia</i> spp.)</p> <p>Neopestilotiopsis* (<i>Neopestilotiopsis</i> spp.)</p> <p>Phomopsis* (<i>Phomopsis</i> spp.)</p> <p>Powdery mildew* (<i>Sphaerotheca</i> spp.)</p> <p><i>Microsphaera</i> spp. <i>Podosphaera</i> spp.)</p> <p>Rust* (<i>Pucciniastrum</i> spp.)</p> <p>Spur blight* (<i>Didymella</i> spp.)</p>	<p>Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A)</p> <p>Greenhouse Applications 2.5-7.5 lbs./100 gallons water</p>	<p>Use higher rate and shorter intervals when disease pressure is high.</p> <p>Use lower rates when used in tank mixes and/or rotations with other effective fungicides.</p>

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CROP-SPECIFIC DIRECTIONS (CONTINUED)

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Berries and small fruit subgroups	Soil Diseases Charcoal rot* <i>(Macrophomina spp.)</i> Fusarium wilt* <i>(Fusarium spp.)</i> Phytophthora root rot* <i>(Phytophthora spp.)</i> Pythium damping off* <i>(Pythium spp.)</i> Rhizoctonia root rot* <i>(Rhizoctonia spp.)</i>	Field Applications 40-120 oz. wt./A (2.5-7.5 lb./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications.

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CROP-SPECIFIC DIRECTIONS (CONTINUED)

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
<p>Brassica (cole) leafy vegetables</p> <p>Arugula Broccoli, Chinese Broccoli raab Cabbage, Abyssinian Cabbage, Chinese, Bokchoy Cabbage, seakale Collards Cress, garden Cress, upland Kale Mustard greens Radish, leaves Rape greens Rocket, wild Shepherd's purse Turnip greens Watercress Cultivars, varieties, and hybrids of these</p>	<p>Foliar Diseases</p> <p>Alternaria leaf spot* (<i>Alternaria</i> spp.)</p> <p>Anthrachnose* (<i>Colletotrichum</i> spp.)</p> <p>Bacterial leaf spot and Bacterial blight* (suppression) (<i>Pseudomonas</i> spp.)</p> <p>Black rot* (<i>Xanthomonas</i> spp.) (suppression)</p> <p>Charcoal rot* (<i>Macrophomina</i> spp.)</p> <p>Downy mildew* (<i>Peronospora</i> spp.)</p> <p>Pin rot* (<i>Alternaria</i> spp.)</p> <p>Powdery mildew* (<i>Erysiphe</i> spp.)</p> <p>Southern blight* (<i>Sclerotium</i> spp.)</p> <p>Xanthomonas leaf spot* (<i>Xanthomonas</i> spp.) (suppression)</p>	<p>Field Applications</p> <p>40-120 oz. wt./A (2.5-7.5 lbs./A)</p> <p>Greenhouse Applications</p> <p>2.5-7.5 lbs./100 gallons water</p>	<p>Begin applications prior to infection and continue on a 5-14 day interval as needed.</p> <p>Use higher rate and shorter intervals when disease pressure is high.</p> <p>Use lower rates when used in tank mixes and/or rotations with other effective fungicides.</p> <p>Bacterial diseases: Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.</p>
	<p>Soil Diseases</p> <p>Charcoal rot* (<i>Macrophomina</i> spp.)</p> <p>Fusarium wilt* (<i>Fusarium</i> spp.)</p> <p>Phytophthora root rot* (<i>Phytophthora</i> spp.)</p> <p>Pythium damping off* (<i>Pythium</i> spp.)</p> <p>Rhizoctonia root rot* (<i>Rhizoctonia</i> spp.)</p> <p>White mold* (<i>Sclerotinia</i> spp.)</p>	<p>Field Applications</p> <p>40-120 oz. wt./A (2.5-7.5 lbs./A)</p> <p>Greenhouse Applications</p> <p>2.5-7.5 lbs./100 gallons water</p>	<p>See application instruction for in-furrow, shanked-in, injected, tray drench or soil drench applications.</p>

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CROP-SPECIFIC DIRECTIONS (CONTINUED)

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Bulb vegetables Chive, fresh leaves Chive, Chinese, fresh leaves Daylily, bulb Elegans hosta Garlic, bulb Garlic, greatheaded, bulb Garlic, serpent, bulb Leek Leek, wild Lily, bulb Onion, Beltsville bunching Onion, bulb Onion, Chinese, bulb Onion, fresh Onion, green Onion, macrostem Onion, pearl Onion, potato bulb Onion, tree, tops Onion, Welsh, tops Shallot, bulb Shallot, fresh leaves Cultivars, varieties, and/or hybrids of these	Foliar Diseases Botrytis neck rot* (<i>Botrytis</i> spp.) Botrytis leaf blight* (<i>Botrytis squamosa</i>) Downy mildew* (<i>Peronospora</i> spp.) Pin rot* (<i>Alternaria</i> spp.) Powdery mildew* (<i>Erysiphe</i> spp.) Purple blotch* (<i>Alternaria porri</i>) Stemphyllium blight* (<i>Stemphyllium</i> spp.)	Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 5-14 day interval as needed. Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides.
	Soil Diseases Fusarium wilt* (<i>Fusarium</i> spp.) Phytophthora root rot* (<i>Phytophthora</i> spp.) Pythium damping off* (<i>Pythium</i> spp.) Rhizoctonia root rot* (<i>Rhizoctonia</i> spp.)	Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications.

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CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Cereal grains Barley Buckwheat Corn Millet, pearl Millet, proso Oats Popcorn Rice Rye Sorghum (milo) Teosinte Triticale Wheat Wild rice Cultivars, varieties, and/or hybrids of these	Soil Diseases Fusarium wilt* (<i>Fusarium</i> spp.) Phytophthora root rot* (<i>Phytophthora</i> spp.) Pythium damping off* (<i>Pythium</i> spp.) Rhizoctonia root rot* (<i>Rhizoctonia</i> spp.)	Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications.

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CROP-SPECIFIC DIRECTIONS (CONTINUED)

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
<p>Citrus fruit group Citron Citrus hybrids Grapefruit Kumquat Lemon Lime Orange Pummelo Satsuma mandarin Tangelo Tangerine (mandarin) Cultivars, varieties, and/or hybrids of these</p>	<p>Foliar Diseases Alternaria leaf spot* (<i>Alternaria</i> spp.) Alternaria decay* (<i>Alternaria</i> spp.) Anthracnose* (<i>Colletotrichum</i> spp.) Gray mold* (<i>Botrytis</i> spp.) Greasy spot* (<i>Mycosphaerella</i> spp.) Melanose* (<i>Diaporthe</i> spp.) Post bloom fruit drop* (<i>Colletotrichum</i> spp.) Scab* (<i>Elsinoe</i> spp.) Sour rot* (<i>Geotrichum</i> spp.)</p>	<p>Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water</p>	<p>Begin applications prior to infection and continue on a 5-14 day interval as needed. Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides.</p>
	<p>Soil Diseases Fusarium wilt* (<i>Fusarium</i> spp.) Phytophthora root rot* (<i>Phytophthora</i> spp.) Pythium damping off* (<i>Pythium</i> spp.) Rhizoctonia root rot* (<i>Rhizoctonia</i> spp.)</p>	<p>Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water</p>	<p>See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications.</p>

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CROP-SPECIFIC DIRECTIONS (CONTINUED)

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Coffee	Foliar Diseases Coffee berry disease* (<i>Colletotrichum</i> spp.)	Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 5-14 day interval as needed. Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides.
	Soil Diseases Phytophthora root rot* (<i>Phytophthora</i> spp.) Rhizoctonia root rot* (<i>Rhizoctonia</i> spp.)	Field Applications 80 oz. wt./A (5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications.

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CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Cotton	Foliar Diseases Alternaria leaf spot* (<i>Alternaria</i> spp.) Target spot* (<i>Corynespora</i> spp.)	Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	Begin foliar applications prior to infection and continue on a 5-14 day interval as needed. Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides.
	Soil Diseases Phytophthora root rot* (<i>Phytophthora</i> spp.) Rhizoctonia root rot* (<i>Rhizoctonia</i> spp.)	Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications.

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CROP-SPECIFIC DIRECTIONS (CONTINUED)

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
<p>Cucurbit vegetables</p> <p>Chayote (fruit) Chinese waxgourd Cucumber Gherkin Gourds Momordica spp.(includes Balsam apple, Balsam pear, Bittermelon, Chinese cucumber) Muskmelon (includes True cantaloupe, Cantaloupe, Casaba, Crenshaw melon, Golden pershaw melon, Honeydew melon, Honey balls, Mango melon, Persian melon, Pineapple melon, Santa Claus melon and Snake melon) Pumpkin Squash, summer (Straightneck squash, Zucchini) Squash, winter (includes Butternut squash, Calabaza, Hubbard squash, Acorn squash, Spaghetti squash) Watermelon Cultivars, varieties, and/or hybrids of these</p>	<p>Foliar Diseases</p> <p>Alternaria leaf spot, rot* (<i>Alternaria</i> spp.)</p> <p>Anthracnose* (<i>Colletotrichum</i> spp.)</p> <p>Downy mildew* (<i>Pseudoperonospora</i> spp.)</p> <p>Gray mold* (<i>Botrytis</i> spp.)</p> <p>Gummy stem blight* (<i>Stagonosporopsis</i> spp.)</p> <p>Phytophthora blight* (<i>Phytophthora</i> spp.)</p> <p>Powdery mildew* (<i>Erysiphe</i> spp.)</p> <p><i>Sphaerotheca</i> spp.)</p> <p>Target Spot* (<i>Corynespora</i> spp.)</p>	<p>Field Applications</p> <p>40-120 oz. wt./A (2.5-7.5 lbs./A)</p> <p>Greenhouse Applications</p> <p>2.5-7.5 lbs./100 gallons water</p>	<p>Begin applications prior to infection and continue on a 5-14 day interval as needed.</p> <p>Use higher rate and shorter intervals when disease pressure is high.</p> <p>Use lower rates when used in tank mixes and/or rotations with other effective fungicides.</p>
	<p>Soil Diseases</p> <p>Charcoal rot* (<i>Macrophomina</i> spp.)</p> <p>Fusarium wilt* (<i>Fusarium</i> spp.)</p> <p>Phytophthora root rot* (<i>Phytophthora</i> spp.)</p> <p>Pythium damping off* (<i>Pythium</i> spp.)</p> <p>Rhizoctonia root rot* (<i>Rhizoctonia</i> spp.)</p> <p>Southern blight* (<i>Athelia/Sclerotium</i> spp.)</p>	<p>Field Applications</p> <p>40-120 oz. wt./A (2.5-7.5 lbs./A)</p> <p>Greenhouse Applications</p> <p>2.5-7.5 lbs./100 gallons water</p>	<p>See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications.</p>

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CROP-SPECIFIC DIRECTIONS (CONTINUED)

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
<p>Fruiting vegetables</p> <p>Bell pepper Cocona Eggplant Okra Pepino Non-bell pepper Tomatillo Tomato Cultivars, varieties, and/or hybrids of these</p>	<p>Foliar Diseases</p> <p>Anthracnose* (<i>Colletotrichum</i> spp.)</p> <p>Bacterial speck* (<i>Pseudomonas</i> spp.) (suppression)</p> <p>Bacterial spot* (<i>Xanthomonas</i> spp.) (suppression)</p> <p>Brown spot and Black pit* (<i>Alternaria</i> spp.)</p> <p>Early blight* (<i>Alternaria</i> spp.)</p> <p>Gray mold* (<i>Botrytis</i> spp.)</p> <p>Late blight* (<i>Phytophthora</i> spp.) (suppression)</p> <p>Powdery mildew* (<i>Leveillula</i> spp.)</p> <p>Southern blight* (<i>Sclerotium</i> spp.)</p> <p>Target spot* (<i>Corynespora</i> spp.)</p>	<p>Field Applications</p> <p>40-120 oz. wt./A (2.5-7.5 lbs./A)</p> <p>Greenhouse Applications</p> <p>2.5-7.5 lbs./100 gallons water</p>	<p>Begin foliar applications prior to infection and continue on a 5-14 day interval as needed.</p> <p>Use higher rate and shorter intervals when disease pressure is high.</p> <p>Use lower rates when used in tank mixes and/or rotations with other effective fungicides.</p> <p>Bacterial diseases: Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.</p>
	<p>Soil Diseases</p> <p>Charcoal rot* (<i>Macrophomina</i> spp.)</p> <p>Fusarium wilt* (<i>Fusarium</i> spp.)</p> <p>Phytophthora root rot* (<i>Phytophthora</i> spp.)</p> <p>Pythium damping off* (<i>Pythium</i> spp.)</p> <p>Rhizoctonia root rot* (<i>Rhizoctonia</i> spp.)</p> <p>Southern blight* (<i>Sclerotium</i> spp.)</p>	<p>Field Applications</p> <p>40-120 oz. wt./A (2.5-7.5 lbs./A)</p> <p>Greenhouse Applications</p> <p>2.5-7.5 lbs./100 gallons water</p>	<p>See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications.</p>

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CROP-SPECIFIC DIRECTIONS (CONTINUED)

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Grapes	Foliar Diseases Black rot* (<i>Guignardia</i> spp.) Downy mildew* (<i>Plasmopara</i> spp.) Gray mold* (<i>Botrytis</i> spp.) Phomopsis* (<i>Phomopsis</i> spp.) Powdery mildew* (<i>Uncinula</i> spp.) Sour rot complex* (Disease complex) (suppression)	Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	Black rot: begin applications prior to infection and continue on a 5-14 day interval as needed. Downy mildew: begin applications before pre-bloom and continue on a 5-14 day interval as needed. Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides. Sour rot complex: Apply 5.0-7.5 lbs./A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.
	Soil Diseases Fusarium wilt* (<i>Fusarium</i> spp.) Phytophthora root rot* (<i>Phytophthora</i> spp.) Pythium damping off* (<i>Pythium</i> spp.) Rhizoctonia root rot* (<i>Rhizoctonia</i> spp.)	Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications.

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CROP-SPECIFIC DIRECTIONS (CONTINUED)

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Hemp Cultivars, varieties, and/or hybrids of these	Foliar Diseases Anthracnose* <i>(Colletotrichum spp.)</i> Botrytis gray mold* <i>(Botrytis spp.)</i> Brown blight* <i>(Alternaria spp.)</i> Downy mildew* <i>(Pseudoperonospora spp.)</i>	Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 5-14 day interval as needed. Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides.
	Soil Diseases Fusarium wilt* <i>(Fusarium spp.)</i> Phytophthora root rot* <i>(Phytophthora spp.)</i> Pythium damping off* <i>(Pythium spp.)</i> Rhizoctonia root rot* <i>(Rhizoctonia spp.)</i>	Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications.

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CROP-SPECIFIC DIRECTIONS (CONTINUED)

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Herbs and Spices Allspice Angelica Anise Annatto (seed) Balm (lemon balm) Basil Borage Burnet Chamomile Caper buds Caraway Caraway, black Cardamom Cassia Catnip Celery seed Chervil (dried) Chive Chive, Chinese Cinnamon Clary Clove buds Coriander leaf (cilantro or Chinese parsley) Coriander seed (cilantro) Culantro Cumin Curry (leaf) Dill Fennel (common) Fennel, Florence (seed) Fenugreek Juniper berry Lavender Lemongrass Lovage Mace Marigold Marjoram Mustard (seed) Nutmeg Parsley Pepper Poppy (seed) Rosemary Rue Saffron Sage Savory, summer and winter Sweet bay Tarragon Thyme Vanilla Wintergreen Cultivars, varieties, and/or hybrids of these	Foliar Diseases Alternaria leaf blight* (<i>Alternaria</i> spp.) Anthracnose* (<i>Colletotrichum</i> spp.) Gray mold* (<i>Botrytis</i> spp.)	Field Applications 40-120 oz. wt./A (2.5-7.5 lb./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 5-14 day interval as needed. Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides.
	Soil Diseases Fusarium wilt* (<i>Fusarium</i> spp.) Phytophthora root rot* (<i>Phytophthora</i> spp.) Pythium damping off* (<i>Pythium</i> spp.) Rhizoctonia root rot* (<i>Rhizoctonia</i> spp.)	Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications.

CROP-SPECIFIC DIRECTIONS (CONTINUED)

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Hops	Foliar Diseases Downy mildew* (<i>Peronospora</i> spp.) Grey mold* (<i>Botrytis</i> spp.) Powdery mildew* (<i>Sphaerotheca</i> spp.)	Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 5-14 day interval as needed. Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides.
	Soil Diseases Fusarium wilt* (<i>Fusarium</i> spp.) Phytophthora root rot* (<i>Phytophthora</i> spp.) Pythium damping off* (<i>Pythium</i> spp.) Rhizoctonia root rot* (<i>Rhizoctonia</i> spp.)	Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications.

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CROP-SPECIFIC DIRECTIONS (CONTINUED)

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
<p>Leafy vegetables (except Brassica)</p> <p>Amaranth Arugula Cardoon Celery Celery, Chinese Celtuce Chervil Chrysanthemum, edible-leaved Chrysanthemum, garland Corn salad cress, garden cress, upland Dandelion Dock (sorrel) Endive (escarole) Fennel, Florence Lettuce, head and leaf Orach Parsley Purslane, garden Purslane, winter Radicchio (red chicory) Rhubarb Spinach Spinach, New Zealand Cultivars, varieties, and/or hybrids of these</p>	<p>Foliar Diseases</p> <p>Alternaria leaf spot* (<i>Alternaria</i> spp.)</p> <p>Anthracnose* (<i>Microdochium</i> spp.)</p> <p>Botrytis gray mold* (<i>Botrytis</i> spp.)</p> <p>Downy mildew* (<i>Bremia</i> spp., <i>Peronospora</i> spp.)</p> <p>Late blight* (<i>Septoria</i> spp.)</p> <p>Powdery mildew* (<i>Erysiphe</i> spp.)</p> <p>Sclerotinia head and leaf drop/Pink rot* (<i>Sclerotinia</i> spp.)</p>	<p>Field Applications</p> <p>40-120 oz. wt./A (2.5-7.5 lbs./A)</p> <p>Greenhouse Applications</p> <p>2.5-7.5 lbs./100 gallons water</p>	<p>Begin applications prior to infection and continue on a 5-14 day interval as needed</p> <p>Use higher rate and shorter intervals when disease pressure is high.</p> <p>Use lower rates when used in tank mixes and/or rotations with other effective fungicides.</p>
	<p>Soil Diseases</p> <p>Fusarium wilt* (<i>Fusarium</i> spp.)</p> <p>Phytophthora root rot* (<i>Phytophthora</i> spp.)</p> <p>Pythium damping off* (<i>Pythium</i> spp.)</p> <p>Rhizoctonia root rot* (<i>Rhizoctonia</i> spp.)</p> <p>Sclerotinia wilt* (<i>Sclerotinia</i> spp.)</p> <p>Southern blight* (<i>Athelia</i> spp.)</p>	<p>Field Applications</p> <p>40-120 oz. wt./A (2.5-7.5 lbs./A)</p> <p>Greenhouse Applications</p> <p>2.5-7.5 lbs./100 gallons water</p>	<p>See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications.</p>

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CROP-SPECIFIC DIRECTIONS (CONTINUED)

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
<p>Legume vegetables (succulent and dried beans and peas, except soybean)</p> <p>Asparagus Bean (Lupinus spp.) (includes Grain Lupin, Sweet lupin, White lupin, and White sweet upin) Bean (Phaseolus spp.) (includes Field bean, Kidney bean, Lima bean, Navy bean, Pinto bean, Runner bean, Snap bean, Tepary bean, Wax bean) Bean (Vigna spp.) (includes Adzuki bean, Asparagus bean, Blackeyed pea, Catjang, Chinese longbean, Cowpea, Crowder pea, Moth bean, Mung bean, Rice bean, Southern pea, Urd bean, Yardlong bean) Broad bean (fava bean) Chickpea (garbanzo bean) Lentil Pea (Pisum spp.) (includes Dwarf pea, Edible-pod pea, English pea, Field pea, Garden pea, Green pea, Snowpea, Sugar snap pea) Pigeon pea All above in both succulent and dry form. Cultivars, varieties, and/or hybrids of these</p>	<p>Foliar Diseases</p> <p>Alternaria blight* (<i>Alternaria</i> spp.) Anthracnose* (<i>Colletotrichum</i> spp.) Ascochyta blight* (<i>Ascochyta</i> spp.) Botrytis gray mold* (<i>Botrytis</i> spp.) Downy mildew* (<i>Peronospora</i> spp.) Gray mold* (<i>Botrytis</i> spp.) Powdery mildew* (<i>Erysiphe</i> spp.) Southern blight* (<i>Athelia</i> spp.) Web blight* (<i>Rhizoctonia</i> spp.) White mold/Sclerotinia stem rot* (<i>Sclerotinia</i> spp.)</p>	<p>Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A)</p> <p>Greenhouse Applications 2.5-7.5 lbs./100 gallons water</p>	<p>Begin applications prior to infection and continue on a 5-14 day interval as needed</p> <p>Use higher rate and shorter intervals when disease pressure is high.</p> <p>Use lower rates when used in tank mixes and/or rotations with other effective fungicides.</p>
	<p>Soil Diseases</p> <p>Fusarium wilt* (<i>Fusarium</i> spp.) Phytophthora root rot* (<i>Phytophthora</i> spp.) Pythium damping off* (<i>Pythium</i> spp.) Rhizoctonia root rot* (<i>Rhizoctonia</i> spp.) White mold/Sclerotinia stem rot* (<i>Sclerotinia</i> spp.)</p>	<p>Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A)</p> <p>Greenhouse Applications 2.5-7.5 lbs./100 gallons water</p>	<p>See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications.</p>

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CROP-SPECIFIC DIRECTIONS (CONTINUED)

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Mint	Foliar Diseases Downy mildew* (<i>Peronospora</i> spp.) Powdery mildew* (<i>Erysiphe</i> spp.)	Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 5-14 day interval as needed. Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides.
	Soil Diseases Fusarium wilt* (<i>Fusarium</i> spp.) Phytophthora root rot* (<i>Phytophthora</i> spp.) Pythium damping off* (<i>Pythium</i> spp.) Rhizoctonia root rot* (<i>Rhizoctonia</i> spp.)	Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications.

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CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Nongrass Animal Feeds for forage, fodder, straw and hay Alfalfa Bean, velvet Clover (Trifolium spp., Melilotus spp.) Kudzu Lespedeza Lupin Sainfoin Trefoil Vetch Vetch, crown Vetch, milk	Foliar Diseases Anthracnose* (<i>Colletotrichum</i> spp.) Downy mildew* (<i>Peronospora</i> spp.) Powdery mildew* (<i>Erysiphe</i> spp.) Rhizoctonia blight* (<i>Rhizoctonia</i> spp.) Rust* (<i>Puccinia</i> spp.) White mold/Sclerotinia crown and stem rot* (<i>Sclerotinia</i> spp.)	Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 5-14 day interval as needed Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides.
	Soil Diseases Fusarium wilt* (<i>Fusarium</i> spp.) Phytophthora root rot* (<i>Phytophthora</i> spp.) Pythium damping off* (<i>Pythium</i> spp.) Rhizoctonia root rot* (<i>Rhizoctonia</i> spp.)	Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications.

CROP-SPECIFIC DIRECTIONS (CONTINUED)

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Oilseed crops (except cotton and peanut) Castor oil plant Chinese tallowtree Cottonseed Crambe Cuphea Echium Euphorbia Evening primrose Flax seed Jojoba Milkweed Mustard seed Poppy seed Rapeseed Rose hip Safflower Sesame Sunflower Sweet rocket Tallowwood Tea oil plant Vernonia Cultivars, varieties, and/or hybrids of these	Foliar Diseases Alternaria leaf spot* (<i>Alternaria</i> spp.) Blackspot* (<i>Alternaria</i> spp.) Powdery mildew* (<i>Erysiphe</i> spp.) White mold/Sclerotinia crown and stem rot* (<i>Sclerotinia</i> spp.)	Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 5-14 day interval as needed Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides.
	Soil Diseases Fusarium wilt* (<i>Fusarium</i> spp.) Phytophthora root rot* (<i>Phytophthora</i> spp.) Pythium damping off* (<i>Pythium</i> spp.) Rhizoctonia root rot* (<i>Rhizoctonia</i> spp.)	Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications.

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CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Olives	Soil Diseases Fusarium wilt* (<i>Fusarium</i> spp.) Phytophthora root rot* (<i>Phytophthora</i> spp.) Pythium damping off* (<i>Pythium</i> spp.) Rhizoctonia root rot* (<i>Rhizoctonia</i> spp.)	Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications.

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CROP-SPECIFIC DIRECTIONS (CONTINUED)

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Peanut	Foliar Diseases Alternaria leaf blight/ leaf spot* (<i>Alternaria</i> spp.) Anthracnose* (<i>Colletotrichum</i> spp.) Botrytis blight* (<i>Botrytis</i> spp.) Southern blight/stem rot* (<i>Sclerotium</i> spp.) White mold* (<i>Sclerotium</i> spp.)	Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 7-14 day interval as needed. Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides.
	Soil Diseases Fusarium wilt* (<i>Fusarium</i> spp.) Phytophthora root rot* (<i>Phytophthora</i> spp.) Pythium damping off* (<i>Pythium</i> spp.) Rhizoctonia limb rot* (<i>Rhizoctonia</i> spp.) Southern blight/stem rot* (<i>Sclerotium</i> spp.) White mold* (<i>Sclerotium</i> spp.)	Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications.

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CROP-SPECIFIC DIRECTIONS (CONTINUED)

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
<p>Pome Fruits Apple Crabapple Loquat Mayhaw Pear Pear, oriental Quince</p>	<p>Foliar Diseases Alternaria blotch* (<i>Alternaria</i> spp.) Anthracnose* (<i>Colletotrichum</i> spp.) Bitter rot* (<i>Colletotrichum</i> spp.) Bot rot* (<i>Botryosphaeria</i> spp.) Botrytis gray mold* (<i>Botrytis</i> spp.) Fire blight* (<i>Erwinia</i> spp.) Powdery mildew* (<i>Podosphaera</i> spp.) Scab* (<i>Venturia</i> spp.)</p>	<p>Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water</p>	<p>Begin applications prior to infection and continue on a 5–14 day interval as needed Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides.</p>
	<p>Soil Diseases Fusarium wilt* (<i>Fusarium</i> spp.) Phytophthora root rot* (<i>Phytophthora</i> spp.) Pythium damping off* (<i>Pythium</i> spp.) Rhizoctonia root rot* (<i>Rhizoctonia</i> spp.)</p>	<p>Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water</p>	<p>See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications.</p>

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CROP-SPECIFIC DIRECTIONS (CONTINUED)

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Pomegranate	Foliar Diseases Botrytis gray mold* (<i>Botrytis</i> spp.)	Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	Alternaria fruit rot/Black heart and Botrytis gray mold: begin applications prior to infection and continue on a 7-10 day interval as needed. Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides.
	Soil Diseases Fusarium wilt* (<i>Fusarium</i> spp.) Phytophthora root rot* (<i>Phytophthora</i> spp.) Pythium damping off* (<i>Pythium</i> spp.) Rhizoctonia root rot* (<i>Rhizoctonia</i> spp.)	Field Applications 80 oz. wt./A (5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications.

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CROP-SPECIFIC DIRECTIONS (CONTINUED)

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Root and Tuber vegetables Arrowroot Artichoke, Chinese Artichoke, Jerusalem Beet, garden Beet, sugar Burdock, edible; Canna, edible Carrot Cassava, bitter and sweet Celeriac (celery root) Chayote (root) Chervil, turnip-rooted Chicory Chufa Dasheen (taro) Ginger Ginseng Horseradish Parsley, turnip-rooted Parsnip Potato Radish Radish, oriental (daikon) Rutabaga Salsify Sweet potato Tanier (cocoyam) Turmeric Turnip Yam Cultivars, varieties, and/or hybrids of these	Foliar Diseases Alternaria leaf spot* (<i>Alternaria</i> spp.) Black dot* (<i>Colletotrichum</i> spp.) Gray mold* (<i>Botrytis</i> spp.) Brown spot and black pit* (<i>Alternaria</i> spp.) Downy mildew* (<i>Peronospora</i> spp.) Early blight* (<i>Alternaria</i> spp.) Powdery Mildew* (<i>Erysiphe</i> spp.) Rhizoctonia stem canker crown rot and rot * (<i>Rhizoctonia</i> spp.)	Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 5-14 day interval as needed Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides.
	Soil Diseases Black scurf* (<i>Rhizoctonia</i> spp.) Cavity spot* (<i>Pythium</i> spp.) Fusarium wilt* (<i>Fusarium</i> spp.) Phytophthora root rot* (<i>Phytophthora</i> spp.) Pythium damping off* (<i>Pythium</i> spp.)	Broadcast, Drip and Drench Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications. Potato seed Piece Treatment: Apply 0.25 – 0.5 lb./CTW of seed pieces

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CROP-SPECIFIC DIRECTIONS (CONTINUED)

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Soybean (including Edamame)	Foliar Diseases Alternaria leaf spot* (<i>Alternaria</i> spp.) Anthracnose* (<i>Colletotrichum</i> spp.) Botrytis gray mold* (<i>Botrytis</i> spp.) Downy mildew* (<i>Peronospora</i> spp.) Powdery mildew* (<i>Erysiphe</i> spp., <i>Microsphaera</i> spp.) Rhizoctonia aerial blight and web blight* (<i>Rhizoctonia</i> spp.) Target spot* (<i>Corynespora</i> spp.) White mold* (<i>Sclerotinia</i> spp.)	Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 5-14 day interval as needed Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides.
	Soil Diseases Fusarium wilt* (<i>Fusarium</i> spp.) Phytophthora root rot* (<i>Phytophthora</i> spp.) Pythium damping off* (<i>Pythium</i> spp.) Rhizoctonia root rot* (<i>Rhizoctonia</i> spp.)	Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications.

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CROP-SPECIFIC DIRECTIONS (CONTINUED)

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
<p>Stone Fruits</p> <p>Apricot Apricot, Japanese Capulin Cherry, black Cherry, Nanking Cherry, sweet Cherry, tart Jujube, Chinese Nectarine Peach Plum Plum, Plumcot Sloe Cultivars, varieties, and/or hybrids of these</p>	<p>Foliar Diseases</p> <p>Alternaria spot/Fruit rot* (<i>Alternaria</i> spp.)</p> <p>Anthracnose* (<i>Colletotrichum</i> spp.)</p> <p>Blossom blight* (<i>Monilinia</i> spp.)</p> <p>Botrytis gray mold* (<i>Botrytis</i> spp.)</p> <p>Brown rot of fruit* (<i>Monilinia</i> spp.)</p> <p>Cherry leaf spot* (<i>Blumeriella</i> spp.)</p> <p>Powdery mildew* (<i>Sphaerotheca</i> spp., <i>Podosphaera</i> spp.)</p> <p>Rusty spot* (<i>Podosphaera</i> spp.)</p> <p>Scab* (<i>Cladosporium</i> spp.)</p> <p>Shot hole* (<i>Wilsonomyces</i> spp.)</p>	<p>Field Applications</p> <p>40-120 oz. wt./A (2.5-7.5 lbs./A)</p> <p>Greenhouse Applications</p> <p>2.5-7.5 lbs./100 gallons water</p>	<p>Begin applications prior to infection and continue on a 5-14 day interval as needed</p> <p>Use higher rate and shorter intervals when disease pressure is high.</p> <p>Use lower rates when used in tank mixes and/or rotations with other effective fungicides.</p>
	<p>Soil Diseases</p> <p>Fusarium wilt* (<i>Fusarium</i> spp.)</p> <p>Phytophthora root rot* (<i>Phytophthora</i> spp.)</p> <p>Pythium damping off* (<i>Pythium</i> spp.)</p> <p>Rhizoctonia root rot* (<i>Rhizoctonia</i> spp.)</p>	<p>Field Applications</p> <p>40-120 oz. wt./A (2.5-7.5 lbs./A)</p> <p>Greenhouse Applications</p> <p>2.5-7.5 lbs./100 gallons water</p>	<p>See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications.</p>

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CROP-SPECIFIC DIRECTIONS (CONTINUED)

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Strawberry	Foliar Diseases Alternaria fruit rot/black leaf spot* (<i>Alternaria</i> spp.) Anthracnose* (<i>Colletotrichum</i> spp.) Botrytis gray mold* (<i>Botrytis</i> spp.) Charcoal rot* (<i>Macrophomina</i> spp.) Common leaf spot* (<i>Mycosphaerella</i> spp.) Downy mildew* (<i>Peronospora</i> spp.) Leather rot* (<i>Phytophthora</i> spp.) Pestalotiopsis leaf spot, root and crown rot* (<i>Neopestalotiopsis</i> spp.) Powdery mildew* (<i>Sphaerotheca</i> spp., <i>Erysiphe</i> spp.)	Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 5-14 day interval as needed Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides.
	Soil Diseases Charcoal rot* (<i>Macrophomina</i> spp.) Fusarium wilt* (<i>Fusarium</i> spp.) Phytophthora root rot* (<i>Phytophthora</i> spp.) Pythium damping off* (<i>Pythium</i> spp.) Rhizoctonia root rot* (<i>Rhizoctonia</i> spp.)	Field Applications 40-120 oz wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications.

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CROP-SPECIFIC DIRECTIONS (CONTINUED)

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Sugarcane	Soil Diseases Fusarium wilt* (<i>Fusarium</i> spp.) Phytophthora root rot* (<i>Phytophthora</i> spp.) Pythium damping off* (<i>Pythium</i> spp.) Rhizoctonia root rot* (<i>Rhizoctonia</i> spp.)	Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications.

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CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Tobacco	Foliar Diseases Alternaria leaf spot* (<i>Alternaria</i> spp.) Anthracnose* (<i>Colletotrichum</i> spp.) Brown spot* (<i>Alternaria</i> spp.) Blue mold* (<i>Peronospora</i> spp.) Botrytis gray mold* (<i>Botrytis</i> spp.) Collar rot* (<i>Sclerotinia</i> spp.) Powdery mildew* (<i>Erysiphe</i> spp.) Target spot* (<i>Rhizoctonia</i> spp.)	Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 5-14 day interval as needed. Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides.
	Soil Diseases Black shank* (<i>Phytophthora</i> spp.) Charcoal rot* (<i>Macrophomina</i> spp.) Fusarium wilt* (<i>Fusarium</i> spp.) Pythium damping off* (<i>Pythium</i> spp.) Rhizoctonia root rot* (<i>Rhizoctonia</i> spp.) Southern blight* (<i>Sclerotium</i> spp.)	Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications.

CROP-SPECIFIC DIRECTIONS (CONTINUED)

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Tree Nuts Almond Beechnut Brazil nut Butternut Candlenut Cashew Chestnut Coconut Ginkgo Hazelnut (filbert) Hickory nut Japanese horse-Chestnut Macadamia nut Pecan Pine nut Walnut Cultivars varieties, and/or hybrids of these	Foliar Diseases Alternaria leaf spot* (<i>Alternaria</i> spp.) Anthracnose* (<i>Colletotrichum</i> spp.) Botryosphaeria blight* (<i>Botryosphaeria</i> spp.) Botrytis gray mold* (<i>Botrytis</i> spp.) Blossom blight/Brown rot* (<i>Monilinia</i> spp.) Pecan scab* (<i>Cladosporium</i> spp.) Shot hole* (<i>Wilsonomyces</i> spp.)	Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 5-14 day interval as needed. Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides.
	Soil Diseases Fusarium wilt* (<i>Fusarium</i> spp.) Phytophthora root rot* (<i>Phytophthora</i> spp.) Pythium damping off* (<i>Pythium</i> spp.) Rhizoctonia root rot* (<i>Rhizoctonia</i> spp.)	Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications.

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CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Watercress	Soil Diseases Fusarium wilt* (<i>Fusarium</i> spp.) Phytophthora root rot* (<i>Phytophthora</i> spp.) Pythium damping off* (<i>Pythium</i> spp.) Rhizoctonia root rot* (<i>Rhizoctonia</i> spp.)	Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications.

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TROPICAL FRUITS CROP-SPECIFIC DIRECTIONS (CONTINUED)

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Avocado and Mango	Foliar Diseases Alternaria leaf spot* (<i>Alternaria</i> spp.) Anthracnose* (<i>Colletotrichum</i> spp.) Fruit rot* (<i>Botrytis</i> spp.) Powdery mildew* (<i>Oidium</i> spp.) Rusty spot* (<i>Colletotrichum</i> spp.) Bacterial canker* (<i>Xanthomonas</i> spp.) (suppression)	Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 5–14 day interval as needed Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides. Bacterial diseases: Apply 5.0-7.5 lbs/A. Use the lower rate when in a tank mix or in rotation with other fungicides registered against these diseases.
	Soil Diseases Fusarium wilt* (<i>Fusarium</i> spp.) Phytophthora root rot/ crown rot* (<i>Phytophthora</i> spp.) Pythium damping off/ root rot* (<i>Pythium</i> spp.) Rhizoctonia seed/ root rot* (<i>Rhizoctonia</i> spp.)	Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications.

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CROP-SPECIFIC DIRECTIONS (CONTINUED)

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Bananas and Plantains	Foliar Diseases Anthracnose* (<i>Colletotrichum</i> spp.) Brown blotch* (<i>Neopestilotiopsis</i> spp.)	Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 5-14 day interval as needed. Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides.
	Soil Diseases Phytophthora root rot* (<i>Phytophthora</i> spp.) Pythium damping off* (<i>Pythium</i> spp.) Rhizoctonia root rot* (<i>Rhizoctonia</i> spp.)	Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications.

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CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Kiwifruit	Foliar Diseases Botrytis fruit rot / Gray mold* (<i>Botrytis</i> spp.)	Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 5-14 day interval as needed. Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides.
	Soil Diseases Fusarium wilt* (<i>Fusarium</i> spp.) Phytophthora root rot* (<i>Phytophthora</i> spp.) Pythium damping off* (<i>Pythium</i> spp.) Rhizoctonia root rot* (<i>Rhizoctonia</i> spp.)	Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications.

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CROP-SPECIFIC DIRECTIONS (CONTINUED)

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Papaya	<p>Foliar Diseases Alternaria fruit rot* (<i>Alternaria</i> spp.) Anthracnose* (<i>Colletotrichum</i> spp.) Botrytis Gray mold* (<i>Botrytis</i> spp.) Chocolate spot* (<i>Colletotrichum</i> spp.) Powdery mildew* (<i>Erysiphae</i>, <i>Oidium</i>, <i>Sphaerotheca</i> spp.) Fruit rots caused by <i>Ascochyta</i>, <i>Aspergillus</i>, <i>Fusarium</i>, <i>Penicillium</i>, and <i>Rhizopus</i> spp.{*}</p>	<p>Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water</p>	<p>Begin applications prior to infection and continue on a 5-14 day interval as needed. Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides.</p>
	<p>Soil Diseases Fusarium wilt* (<i>Fusarium</i> spp.) Phytophthora root rot* (<i>Phytophthora</i> spp.) Pythium damping off* (<i>Pythium</i> spp.) Rhizoctonia root rot* (<i>Rhizoctonia</i> spp.)</p>	<p>Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water</p>	<p>See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications.</p>

*Not registered for use in California

CROP-SPECIFIC DIRECTIONS (CONTINUED)

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Pineapple	Foliar Diseases Anthracnose* (<i>Colletotrichum</i> spp.)	Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 5-14 day interval as needed. Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides.
	Soil Diseases Fusarium wilt* (<i>Fusarium</i> spp.) Pythium damping off* (<i>Pythium</i> spp.) Rhizoctonia root rot* (<i>Rhizoctonia</i> spp.)	Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications.

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TURF AND ORNAMENTALS ORNAMENTAL-SPECIFIC DIRECTIONS

GREENHOUSE, LATHHOUSE, SHADEHOUSE, NURSERY AND FIELD			
CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
All types of Ornamental Trees, Shrubs, Flowers, Bedding Plants and other Ornamentals Annuals and Perennials Bedding Plants Container Grown Plants Deciduous Trees and Shrubs Evergreen Trees and Shrubs Foliage Plants Ground Covers Palms Potted Flowers Tropical Foliage Woody Ornamentals	Foliar Diseases Alternaria Leaf Spot* <i>(Alternaria spp.)</i> Anthracnose* <i>(Colletotrichum spp.)</i> Downy mildew* <i>(Peronospora spp., Plasmopara spp., Bremiella spp., Bremia spp.)</i> Grey mold* <i>(Botrytis spp.)</i> Powdery Mildew* <i>(Erysiphe spp., Microsphaera spp., Sphaerotheca spp., Oidium spp., Podosphaera spp., Uncinula spp.)</i>	Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	Begin applications prior to infection and continue on a 5-14 day interval. Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides.
	Soil Diseases Fusarium wilt* <i>(Fusarium spp.)</i> Phytophthora root rot* <i>(Phytophthora spp.)</i> Pythium damping off* <i>(Pythium spp.)</i> Rhizoctonia root rot* <i>(Rhizoctonia spp.)</i>	Field Applications 40-120 oz. wt./A (2.5-7.5 lbs./A) Greenhouse Applications 2.5-7.5 lbs./100 gallons water	See application instruction for in-furrow, shanked-in, injected, tray drench, transplant water or soil drench applications. Begin applications at planting and continue on a 5-14 day interval.

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ORNAMENTAL-SPECIFIC DIRECTIONS (CONTINUED)

CROP	TARGET DISEASES	PRODUCT USE RATE PER APPLICATION	APPLICATION DIRECTIONS
Grasses grown for seed and sod production Bluegrass Bromegrass Fescue Orchard grass Ryegrass Switchgrass	Anthracnose* (<i>Colletotrichum</i> spp.) Brown Patch* (<i>Rhizoctonia</i> spp.) Dollar Spot* (<i>Sclerotinia</i> spp.) Ergot* (<i>Claviceps</i> spp.) Powdery mildews* (<i>Erysiphe</i> spp.) Pythium Blight* (<i>Pythium</i> spp.) Pythium Root Rot* (<i>Pythium</i> spp.) Rusts* (<i>Puccinia</i> spp.) Septoria leaf spots* (<i>Septoria</i> spp.)	Field Applications 40-120 oz wt./A (2.5-7.5 lbs./A)	Begin foliar applications prior to infection and continue on a 5–14 day interval as needed. Use higher rate and shorter intervals when disease pressure is high. Use lower rates when used in tank mixes and/or rotations with other effective fungicides.

*Not registered for use in California

STORAGE AND DISPOSAL

DO NOT contaminate water, food or feed by storage or disposal. Open dumping is prohibited.

Pesticide Storage: Store in original containers only. Store in a cool, dry place and avoid excess heat. Do not contaminate other pesticides, fertilizers, water, food or feed by storage or disposal.

Pesticide Disposal: Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

CONTAINER HANDLING

For Plastic Drums/Totes: Nonrefillable container. Do not reuse or refill this container. Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into formulation equipment. Recycle if facilities for recycling are available, otherwise, dispose of in a sanitary landfill or by incineration. If drum/tote is contaminated and cannot be reused, dispose of it in the manner required for its liner.

For Bags/Pouches: Nonrefillable container. Do not reuse or refill this container. Completely empty bag or pouch into formulation equipment. Recycle if facilities for recycling are available, otherwise, dispose of in a sanitary landfill or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the unopened product at once, and the purchase price will be refunded.

The Directions for Use of this product are believed to be adequate and must be followed carefully. It is impossible to eliminate all risk inherently associated with the use of this product. Plant injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather, plant conditions, presence of other materials or other unknown factors, all of which are beyond the control of AgBiome Innovations, Inc. or Seller. All such risks shall be assumed by the Buyer or User. To the extent consistent with applicable law, Buyer and User agree to hold and Seller harmless for any claims relating to such factors.

AgBiome Innovations, Inc. warrants that this product conforms to the description on this label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks described above, when used in accordance with the Directions for Use under normal use conditions. To the extent consistent with applicable law, (1) this warranty does not extend to the use of this product contrary to this label or under conditions not reasonably foreseeable to or beyond the control of the AgBiome Innovations, Inc. or Seller, and (2) Buyer and User assume the risk of any such use. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, NO WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE THAT EXTEND BEYOND THE STATEMENTS MADE ON THIS LABEL.

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AgBiome Innovations, Inc. and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability.

No agent or employee of AgBiome Innovations, Inc. or Seller is authorized to make any warranties beyond those contained herein, to modify the warranties contained herein, to amend the terms of this Conditions of Sale and Limitation of Warranty and Liability or the product's label or to make a presentation or recommendation different from or inconsistent with the label of this product.

AFS009 Plant Protection, Inc.104 T.W. Alexander Drive, Research Triangle Park, NC 27709 manufactures this product for AgBiome Innovations, Inc.

GROUP BM02 FUNGICIDE



Active Ingredient: *Pseudomonas chlororaphis* strain
 AFS009[†] 50.0%
Other Ingredients: 50.0%
Total: 100.0%
[†] Contains not less than 1 X 10⁶ CFU/g of product.

KEEP OUT OF REACH OF CHILDREN CAUTION

FIRST AID

IF INHALED	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. • Call a poison control center or doctor for treatment advice.
IF IN EYES	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
IF ON SKIN OR CLOTHING	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
IF SWALLOWED:	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told by a poison control center or doctor. • Do not give anything by mouth to an unconscious person.

HOTLINE NUMBER

Have the product container or label with you when calling a poison control center or doctor.
 You may also contact 1-800-262-8200 for emergency medical treatment information.

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION

Harmful if inhaled, absorbed through the skin, or swallowed. Causes moderate eye irritation. Avoid breathing dust or spray mist. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

STORAGE AND DISPOSAL

DO NOT contaminate water, food or feed by storage or disposal. Open dumping is prohibited.

Pesticide Storage: Store in original containers only. Store in a cool, dry place and avoid excess heat.

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

Pesticide Disposal: Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

CONTAINER HANDLING

For Plastic Drums/Totes: Nonrefillable container. Do not reuse or refill this container. Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into formulation equipment. Recycle if facilities for recycling are available, otherwise, dispose of in a sanitary landfill or by incineration. If drum/tote is contaminated and cannot be reused, dispose of it in the manner required for its liner.

For Bags/Pouches: Nonrefillable container. Do not reuse or refill this container. Completely empty bag or pouch into formulation equipment. Recycle if facilities for recycling are available, otherwise, dispose of in a sanitary landfill or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

See label booklet for additional Precautionary Statements and Directions for Use.

EPA Reg. No.: 91197-3-92488

EPA Est. No.: 99016-MEX-1

Net Weight: 25 lbs



Manufactured for:
 AgBiome Innovations, Inc.
 104 T.W. Alexander Drive
 Research Triangle Park, NC 27709

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