



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

June 28, 2022

Karen E. Warkentien
Director, Regulatory Affairs
Certis USA LLC
9145 Guilford Road, Suite 175
Columbia, MD 21046

Subject: Non-PRIA (Pesticide Registration Improvement Act) Labeling Amendment –OMRI Seal Placeholder Deletion, Respirator Text Update, and Minor Formatting Corrections
Product Name: *Bacillus subtilis* CX-9090
EPA Registration Number: 70051-105
EPA Receipt Date: 6/2/2021
Action Case Number: 00305166

Dear Ms. Warkentien:

The amended labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is acceptable.

This approval does not affect any terms or conditions that were previously imposed on this registration. You continue to be subject to existing terms or conditions on your registration and any deadlines connected with them.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one (1) copy of the final printed labeling before you release this product for shipment with the new labeling. In accordance with 40 CFR § 152.130(c), you may distribute or sell this product under the previously approved labeling for 18 months from the date of this letter. After 18 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR § 152.3.

Should you wish to add/retain a reference to your company's website on your label, then please be aware that the website becomes labeling under FIFRA and is subject to review by the U.S. Environmental Protection Agency (EPA). If the website is false or misleading, the product will be considered to be misbranded and sale or distribution of the product is unlawful under FIFRA section 12(a)(1)(E). 40 CFR § 156.10(a)(5) lists examples of statements the 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 EPA find or if it is brought to our attention that a website contains statements or claims substantially differing from statements or claims made in connection with obtaining a FIFRA section 3 registration, the website will be referred to the EPA's Office of Enforcement and Compliance Assurance.

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Your release for shipment of this product constitutes acceptance of these terms. If these terms are not complied with, this registration will be subject to cancellation in accordance with FIFRA section 6.

If you have any questions, please contact me by phone at (703) 308-8077 or via email at cerrelli.susanne@epa.gov.

Sincerely,

Cerrelli,
Susanne

Digitally signed by
Cerrelli, Susanne
Date: 2022.06.28
11:19:21 -04'00'

Susanne Cerrelli, Risk Manager
Microbial Pesticides Branch
Biopesticides and Pollution
Prevention Division (7511M)
Office of Pesticide Programs

Enclosure

Bacillus subtilis **CX-9090**

Water Dispersible Granular Biofungicide



For Organic Production

ACCEPTED

Jun 28, 2022

Under the Federal Insecticide, Fungicide
and Rodenticide Act as amended, for the
pesticide registered under
EPA Reg. No. 70051-105

Active Ingredient:

Bacillus subtilis strain CX-9060 25.0%

Other Ingredients 75.0%

Total..... 100.0%

*Contains a minimum of 5×10^{10} colony-forming units (cfu) per gram

Manufactured by:
Certis USA LLC
9145 Guilford Rd., Suite 175
Columbia, MD 21046



EPA Reg. No. 70051-105

EPA Est. No. _____

Lot No. _____

Net Weight: _____

KEEP OUT OF REACH OF CHILDREN
CAUTION

FIRST AID

IF IN EYES: 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: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for further treatment advice.

IF INHALED: 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.

Have the product container or label with you when calling a poison control center or doctor.

Hot Line No.: 1-800-255-3924.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS & DOMESTIC ANIMALS

CAUTION. Causes moderate eye irritation. Harmful if absorbed through skin. Harmful if inhaled. Avoid contact with skin, eyes, or clothing. Avoid breathing spray mist. 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 and wash clothing before reuse.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

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

Mixer/loaders and applicators must wear a NIOSH-approved particulate filtering facepiece respirator with any R or P filter; OR a NIOSH-approved powered air-purifying respirator with an HE filter. (Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.)

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

USER SAFETY RECOMMENDATIONS

Users should:

- Remove clothing/PPE immediately if pesticides get 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

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 washwaters or rinsate. Do not apply when weather conditions favor drift or runoff from treated areas.

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/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), notification to workers, and restricted-entry interval. The requirements in this box 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

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.

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.

GENERAL INFORMATION

CX-9090 is a broad-spectrum preventative biofungicide for control or suppression of fungal and bacterial plant diseases. The active ingredient of CX-9090 is a naturally-occurring strain (CX-9060) of the beneficial rhizobacterium *Bacillus subtilis*, which colonizes leaves, roots, and other plant surfaces, killing pathogenic organisms by means of antibiotic compounds (iturins) which disrupt pathogen cell wall production. CX-9090 rapidly colonizes plant root hairs, leaves, and other surfaces, preventing establishment of disease-causing fungi and bacteria.

CX-9090 can be applied alone or in combination and/or rotation with chemical fungicides as a tool for integrated disease management in agricultural crops, ornamental and nursery plants, and turfgrass. CX-9090 offers a valuable tool for management of resistance to chemical fungicides through its multiple and unique modes of action.

CX-9090 is exempt from the requirement for residue tolerance and therefore can be applied up to and including the day of harvest.

MIXING AND HANDLING INSTRUCTIONS

Mix the required amount of CX-9090 in cool water with sufficient agitation to maintain a uniform suspension in the spray or mixing tank. Tank should be cleaned prior to use. Do not use highly alkaline or highly acidic water to mix sprays. Use a buffering agent if necessary to maintain neutrality (pH 6 to 8) of water in the tank. Maintain agitation during application. Apply immediately after mixing; do not allow spray mix to stand overnight.

APPLICATION METHODS

Ground: CX-9090 can be applied in most commonly-used ground application equipment, such as tractor-mounted boom, airblast, high clearance, hose-end, backpack, and other pressurized sprayers; hose-end or hand-held sprayers; foggers or mist blowers; water wheel and other drench applicators; and shank or other soil injection method.

Aerial: CX-9090 can be applied by fixed or rotary winged aircraft in a minimum of 3 gallons of water per acre. Standard precautions should be taken to minimize spray drift.

Chemigation: CX-9090 can be applied through drip (trickle) and sprinkler type irrigation equipment. Refer to the section entitled "Chemigation Instructions" for detailed instructions.

Agricultural crops (see table below for specific comments on crops and diseases)

For control of diseases on foliage, flowers, or fruit. Mix CX-9090 in water and apply as a spray at a rate of 1¼ to 5 pounds per acre in sufficient water to achieve thorough coverage of the crop canopy with minimal runoff. Begin applications at crop emergence, transplanting, or when conditions are conducive to development of disease. Repeat application every 7 to 10 days or as needed, for as long as conditions favor disease development. Lower rates (1¼ to 3 pound per acre) may be applied under light disease pressure, to smaller (e.g. newly-emerged) plants, or when CX-9090 is used in a tank mix with other fungicides whose labels allow such use. Under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, use higher label rates (3 to 5 pounds per acre), apply more frequently (3-7 days), and mix or rotate with other fungicides for improved performance.

For control of soilborne diseases attacking the roots, crown, stems, or other parts of the plant below ground or in contact with soil: Apply CX-9090 at 1/8 to 1 pound (2 to 16 ounces) per acre. Mix the required amount in water and apply as a soil or seedline (in-furrow) drench at planting, through drip (trickle) or sprinkler irrigation, as a spray directed toward the soil surface and/or lower plant parts, or through shank injection into the rooting zone. CX-9090 may also be applied as a soil drench to transplants in flats or pots in greenhouse or nursery prior to transplanting (see additional instructions under “Nurseries, greenhouses, shadehouses, and ornamental plants”).

CROPS	DISEASES/PATHOGENS (See footnotes for additional information)
Vegetables:	
Brassica vegetables such as broccoli, cabbage, cauliflower, Brussels sprouts, kohlrabi, and other cole crops.	Pin rot complex (<i>Alternaria/Xanthomonas</i>)* Leaf spots (<i>Alternaria</i> spp., <i>Xanthomonas</i> spp.) Downy mildew (<i>Peronospora</i> spp.) Powdery mildew (<i>Erysiphe polygoni</i>)
Bulb vegetables such as onions, garlic, shallots, and others.	<i>Botrytis</i> spp. (neck rot, leaf blight) Purple blotch (<i>Alternaria</i> spp.) Downy mildew (<i>Peronospora</i> spp.) Powdery mildew (<i>Erysiphe</i> spp.) Rust (<i>Puccinia porii</i>)*
Cucurbits such as cucumbers, cantaloupes, muskmelons and other melons, squash, and watermelons.	Powdery mildew (<i>Erysiphe</i> and <i>Sphaerotheca</i> spp.) Downy mildew (<i>Pseudoperonospora</i> spp.) Gummy stem blight (<i>Didymella bryoniae</i> and <i>Phoma cucurbitacearum</i>) Vine decline (<i>Monosporascus cannonballus</i>) Charcoal rot (<i>Macrophomina phaseoli</i>)
Fruiting vegetables such as tomatoes, peppers, eggplant, tomatillo, okra, and others.	Bacterial spot (<i>Xanthomonas</i> spp.)* ¹ Bacterial speck (<i>Pseudomonas syringae</i> pv. <i>tomato</i>)* ¹ Gray mold (<i>Botrytis cinerea</i>) Powdery mildew* (<i>Leveillula taurica</i> , <i>Oidiopsis taurica</i> , <i>Erysiphe</i> spp. and <i>Sphaerotheca</i> spp.) Early blight (<i>Alternaria solani</i>)* Late blight (<i>Phytophthora infestans</i>)*
Leafy vegetables such as head and leaf lettuce, celery, spinach, radicchio, arugula, watercress, and others (including leafy <i>Brassica</i> vegetables such as mustard and collard greens, kale, bok choy, and related crops).	Downy mildew (<i>Bremia lactucae</i> , <i>Peronospora</i> spp.)* Powdery mildew (<i>Golovinomyces (Erysiphe) cichoracearum</i>)* Head and leaf drop (<i>Sclerotinia</i> spp.)* ² Pink rot (<i>Sclerotinia sclerotiorum</i>) Bacterial blights Leafspots (<i>Cercospora</i> spp.)

CROPS	DISEASES/PATHOGENS (See footnotes for additional information)
<p>Legume vegetables succulent and dried beans and peas) such as green, snap, shell, and Lima beans, garbanzo beans, chickpeas, soybeans, dry beans, peas, split peas, lentils, and other legumes.</p>	<p>Rusts (<i>Uromyces appendiculatus</i>, <i>Puccinia</i> spp.)* White mold (<i>Sclerotinia sclerotiorum</i>)</p>
<p>Root, tuber, and corm vegetables such as potato, sweet potato, carrot, beet, ginger, radish, horseradish, ginseng, turnip, and other root crops.</p>	<p>Black root/crown rot (<i>Alternaria</i> spp.) Bacterial leaf blight (<i>Xanthomonas campestris</i>) Downy mildew (<i>Peronospora</i> spp.) Powdery mildew (<i>Erysiphe</i> spp.) Gray mold (<i>Botrytis</i> spp.) White mold (<i>Sclerotinia sclerotiorum</i>) Early blight (<i>Alternaria solani</i>)* Late blight (<i>Phytophthora infestans</i>)*</p>
<p>Other vegetables such as sweet corn, popcorn, asparagus, peanut, and watercress (only non-flooded fields)</p>	<p><i>Botrytis</i> spp. Rusts (<i>Puccinia</i> spp.) White mold (<i>Sclerotinia sclerotiorum</i>) Leaf spots (<i>Cercospora</i> and <i>Cercosporidium</i> spp.)*</p>
Tree fruits and nuts:	
<p>Citrus such as orange, lemon, lime, grapefruit, tangerine (mandarin), tangelo, pummelo, and other citrus</p>	<p><i>Alternaria</i> leaf spot (<i>Alternaria alternata</i>) Postbloom fruit drop (<i>Colletotrichum acutatum</i>)* Greasy spot (<i>Mycosphaerella citri</i>)*³ Scab (<i>Elsinoe fawcetti</i>)*⁴ Melanose (<i>Diaporthe citri</i>)*</p>
<p>Pome fruits such as apple, pear, crabapple, quince, and others</p>	<p>Powdery mildew (<i>Podosphaera leucotricha</i>)⁵ Scab (<i>Venturia</i> spp.)* Fire blight (<i>Erwinia amylovora</i>)*⁶</p>
<p>Stone fruits such as apricot, cherry, nectarine, peach, plum, prune, and others</p>	<p>Powdery mildew (<i>Sphaerotheca</i> and <i>Podosphaera</i> spp.)*⁷ Bacterial canker (<i>Pseudomonas</i> spp.) Brown rot blossom blight (<i>Monilinia laxa</i>)⁸ Fruit brown rot (<i>Monilinia fructicola</i>)*⁹ Gray mold (<i>Botrytis cinerea</i>)⁹</p>
<p>Tree nuts such as almond, pistachio, pecan, walnut, filbert, hazelnut, chestnut, macadamia, and other tree nuts.</p>	<p>Walnut blight (<i>Xanthomonas campestris</i>)¹⁰ Anthracnose (<i>Colletotrichum acutatum</i>)* Bacterial canker (<i>Pseudomonas syringae</i>) Shot hole (<i>Wilsonomyces carpophilus</i>)* Brown rot (<i>Monilinia</i> spp.)*</p>

CROPS	DISEASES/PATHOGENS (See footnotes for additional information)
Other fruits:	
Strawberry	Powdery mildew (<i>Sphaerotheca macularis</i> , <i>Erysiphe</i> spp.)* ¹¹ Gray mold (<i>Botrytis cinerea</i>)* ¹⁰ Anthracnose (<i>Colletotrichum acutatum</i>)
Berries including blueberry, blackberry, raspberry, loganberry, huckleberry, gooseberry, elderberry, cranberry (only non-flooded fields), current, and other berries	Mummy berry (<i>Monilinia vaccinii-corymbosi</i>)* Botrytis blight (<i>Botrytis cinerea</i>) Bacterial canker (<i>Pseudomonas</i> spp.) ¹²
Grapes including wine grapes, table grapes, and raisins	Powdery mildew (<i>Erysiphe necator</i>) ¹³ Gray mold (<i>Botrytis cinerea</i>) ¹⁴ Sour rot complex ¹⁴ Downy mildew (<i>Plasmopara viticola</i>)* Phomopsis (<i>Phomopsis viticola</i>) ¹⁵ Eutypa (<i>Eutypa lata</i>) ¹⁶
Tropical fruits such as avocado ¹⁷ , mango ¹⁷ , papaya ¹⁸ , pineapple ¹⁸ , banana, plantain, and others.	Anthracnose (<i>Colletotrichum</i> spp.) Scab (<i>Sphaceloma perseae</i>) Bacterial canker (<i>Xanthomonas campestris</i>) Sigatoka (<i>Mycosphaerella fijiensis</i>) ¹⁹
Other crops	
Herbs and spices such as basil, thyme, coriander, dill, cilantro, parsley, mint, and others.	Powdery mildews (<i>Oidium</i> spp. and others) Damping off diseases (<i>Rhizoctonia</i> , <i>Pythium</i> , <i>Alternaria</i> , <i>Fusarium</i> spp.) Leaf spots (<i>Alternaria</i> , <i>Septoria</i> , <i>Colletotrichum</i> , <i>Cercospora</i> spp.)* Bacterial diseases (<i>Erwinia</i> , <i>Xanthomonas</i> , <i>Pseudomonas</i> spp.) Rusts (<i>Puccinia</i> spp.)
Hops	Powdery mildew (<i>Sphaerotheca macularis</i>) ²⁰

Footnotes:

*Suppression only; for improved control mix or rotate with chemical fungicide approved for such use.

¹ Tank mix or rotate with copper-based fungicides at label rates for improved control.

² Apply at or immediately following planting (but before plant emergence) as a banded seedline treatment 4 to 6 inches wide. Make second application at thinning in sufficient water and multiple nozzles to ensure thorough coverage of lower leaves and surrounding soil surface. Incorporation with light irrigation after application may improve disease control. Repeat at 10-14 day intervals if conditions for disease development persist.

³ For greasy spot suppression, apply at first new foliar flush and repeat with each new flush. Tank mix with spray oil or copper based fungicide at labeled rates.

⁴ For suppression of citrus scab, start applications at first new foliage flush and repeat at petal fall and when fruit are ½ inch in diameter.

⁵ Make first application at or before tight cluster if conditions favor disease development. Repeat at 7-10 day intervals through the second cover spray or longer on susceptible varieties or if environmental conditions favor rapid disease development.

⁶ Rotate with antibiotics registered for fire blight control for improved performance. Begin applications at 1-5% open blossoms and repeat every 3-7 days as necessary until petal fall, when intervals can be increased to 7 days.

⁷ Make first application at popcorn stage and repeat every 7 days.

⁸ Start applying at early bloom stage and repeat every 7 days through petal fall.

⁹ Pre-harvest applications in sufficient water to cover fruit may improve control of postharvest infections.

¹⁰ Begin applications at or before pistillate bloom, repeating every 7-10 days. Apply before rainfall if possible, and tank mix or rotate with a copper-based bactericide registered for such use for improved control.

¹¹ Start applications at or just before flowering and repeat every 7-10 days as needed through harvest.

¹² Apply before fall rains and agains during dormancy before spring growth.

¹³ Start applications when new shoots are ½ to 1½ inches long. Repeat at 3-5 inches, 8-10 inches, and then at 7-10 day intervals until disease conditions no longer exist.

¹⁴ Apply at bloom, before bunch closure, at veraison, and before harvest.

¹⁵ Apply when shoots are ½ to 1 inch long and again when 6-8 inches long.

¹⁶ Mix ½ to 1 pound of CX-9090 per gallon of water and apply to pruning wounds.

¹⁷ Apply at budbreak and repeat on 14-21 day interval as needed through harvest.

¹⁸ Apply at flowering and repeat on 14-21 day interval as needed through harvest

¹⁹ Apply at first appearance of leaves and repeat at 7-21 day intervals as needed, in sufficient water to obtain thorough coverage of foliage. Tank mix with spray oil or other registered fungicides for improved control.

²⁰ Mix 1½ to 3 pounds per 100 gallons of water and apply in minimum of 20 gallons per acre from emergence to training, 50 gallons per acre from training to wire, and 100 gallons per acre from wire touch through harvest.

**Nurseries, greenhouses, shadehouses, and ornamental plants
(See table below for specific comments on crops and diseases)**

Spray application: Mix 1 to 3 pounds of CX-9090 per 100 gallons of water and apply as a foliar spray of sufficient volume to wet the entire plant with minimal runoff. Begin preventative applications at plant emergence and repeat every 14-28 days as needed.

Drench application: Mix 1 to 3 pounds of CX-9090 per 100 gallons of water and apply as a drench or coarse spray to soil or other growing media in pots, flats, plugs, trays, or planting beds, for control or suppression of soilborne diseases of seedlings, cuttings, bedding plants, and transplants (including vegetables and other transplanted food crops). Make first application at or immediately before seeding, sticking, germination, or transplanting. Repeat applications every 14-28 days as needed. Transplants can be treated immediately before transplanting into field soils to protect against damping-off and other diseases that reduce plant establishment.

For *spray* and *drench* applications, under moderate to severe disease pressure, or when environmental conditions and plant stage are conducive to rapid disease development, use higher rates (3-5 pounds per 100 gal.) apply more frequently, and mix or rotate with other fungicides for improved performance.

Cutting or root dip: Dip basal end of cuttings or bare roots (individually or in bunches) in a suspension of ½ pound of CX-9090 per gallon of water. Immerse for 5-10 seconds immediately before planting.

Chemigation: Mix 1 to 3 pounds of CX-9090 per 100 gallons of water and apply via drip or sprinkler irrigation systems. Refer to “Chemigation Instructions” for more detailed information.

CROPS	DISEASES/PATHOGENS
Indoor, outdoor, and shade- or other cover-grown ornamental trees and shrubs, flowering plants, foliage plants, tropical plants, potted plants, potted or cut flowers, bedding plants, forestry seedlings, conifer production for reforestation, fruit trees, vegetables and other crops grown in greenhouses or nurseries.	Powdery mildews caused by <i>Erysiphe</i> , <i>Podosphaera</i> , <i>Sphaerotheca</i> , <i>Oidium</i> , and <i>Golovinomyces</i> spp.) Anthracnose (<i>Colletotrichum</i> spp.) Bacterial diseases caused by <i>Erwinia</i> , <i>Pseudomonas</i> , and <i>Xanthomonas</i> spp. Damping-off disease (<i>Rhizoctonia</i> , <i>Pythium</i> , <i>Fusarium</i> spp.) Late blight, blackeye, and root rots caused by <i>Phytophthora</i> spp. Gray mold and blight caused by <i>Botrytis cinerea</i> Black root rot (<i>Aspergillus</i> spp.) Black spot of roses (<i>Diplocarpon rosae</i>) Downy mildew (<i>Peronospora</i> spp.) Leaf spots caused by <i>Alternaria</i> , <i>Septoria</i> , <i>Cercospora</i> , <i>Entomosporium</i> , <i>Helminthosporium</i> , and <i>Myrothecium</i> spp.) Rust (<i>Puccinia</i> spp.) Scab (<i>Venturia</i> spp.) Root rot, bottom rot, or stem rot caused by <i>Rhizoctonia solani</i> <i>Sclerotinia</i> blight <i>Fusarium</i> wilts
Turf, sod, lawns, golf course (fairways, roughs, greens, tees), grass seed production	Anthracnose (<i>Colletotrichum graminicola</i>) Brown patch (<i>Rhizoctonia solani</i>) Dollar spot (<i>Sclerotini homeocarpa</i> and others) Powdery mildew (<i>Erysiphe graminis</i>) Rust (<i>Puccinia</i> spp.)

CHEMIGATION INSTRUCTIONS

General information:

Apply this product only through pressurized irrigation systems such as drip (trickle) irrigation (including micro-irrigation through spaghetti tubes or individual tubes) or sprinkler irrigation (including impact or microsprinklers, overhead boom, solid set, lateral move, end tow, side-roll, center pivot, or hand move, including mist-type systems); or with hand-held calibrated irrigation equipment (such as a hand-held wand with injector). Do not apply this product through any other type of irrigation system.

Crop injury or lack of effectiveness can result from non-uniform distribution of treated water.

If you have questions about calibration, 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.

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, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.

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.

Remove scale, pesticide residues, and other foreign matter from the chemical supply tank and injector system and flush with clean water before use. Failure to provide a clean tank, free of scale or residues may reduce effectiveness of this product.

Drip (trickle) and micro-irrigation chemigation

1. The system must contain a functional check valve, vacuum relief valve and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
3. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
5. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
6. Systems must use a metering pump such as a positive displacement injection pump (eg. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
7. Dilute the product in water following the label mixing directions. It may be premixed in a supply tank with water, fertilizer, or other appropriate tank-mixed agricultural chemicals. Agitation is necessary. Apply to moderately moist soils. Use volumes that thoroughly wet the soil but that do not cause significant runoff or excessive drip from pots. Application should be continuous in sufficient water to apply the recommended rate evenly to the entire treated area.

Sprinkler chemigation:

1. The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
3. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
5. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
6. Systems must use a metering pump, such as a positive displacement injection pump (eg: diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
7. Dilute the product in water following the label mixing directions. It may be premixed in a supply tank with water, fertilizer or other appropriate tank-mixed agricultural chemicals. Agitation is necessary. Apply to moderately moist soils. Use volumes that thoroughly wet the soil but that do not cause significant runoff or excessive drip from pots. Application should be continuous in sufficient water to apply the recommended rate evenly to the entire treated area.
8. Do not apply when wind speed favors drift beyond the area intended for treatment.

STORAGE AND DISPOSAL

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

Pesticide Storage: Store in a dry area inaccessible to children. Store in original containers only. Keep container closed when not in use.

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

Container Handling: Nonrefillable Container. Do not reuse or refill this container. Completely empty bag into application equipment. Clean container promptly after emptying. Then offer for recycling if available or dispose of empty bag in a sanitary landfill or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

WARRANTY

Certis USA LLC warrants that the material contained herein conforms to the description on the label and is reasonably fit for the purpose referred to in the directions for use. Timing and method of application, weather, watering practices, nature of soil, the disease problem, condition of the crop, incompatibility with other influencing factors in the use of this product are beyond the control of the seller. To the extent consistent with applicable law, buyer assumes all risks of use, storage, or handling of this material not in strict accordance with directions given herein. NO OTHER EXPRESS OR IMPLIED WARRANTY OF THE FITNESS OR MERCHANTABILITY IS MADE.