

# Actinovate® AG

## biological fungicide

PROD. # 5000-710

### ACTIVE INGREDIENT

*Streptomyces lydicus* WYEC 108\*

% w/w

00.0371%

### OTHER INGREDIENTS

99.9629%

Total

100.0%

\*End-use product contains not less than  $1 \times 10^7$

CFU/g *Streptomyces lydicus* WYEC 108

## KEEP OUT OF REACH OF CHILDREN CAUTION

### Biological fungicide

Controls/suppresses soil-borne plant diseases such as *Pythium*, *Rhizoctonia*, *Phytophthora*, *Verticillium* and *Fusarium* when applied according to label directions

Suppresses and controls foliar diseases such as powdery mildew, downy mildew, greasy spot, *Botrytis*, *Sclerotinia*, *Monilinia*, *Alternaria*, *Erwinia* and bacterial spot (*Xanthomonas perforans*) when applied according to label directions

100% soluble – will not clog machinery

See attached booklet for additional Precautionary Statements, First Aid, Complete Directions for Use and Warranty.

### Net contents

18 oz (510 g)

USA

US Patent Number: 5,403,584

EPA Registration Number: 73314-1

EPA Establishment Number: 73314-TX-001

Made in the USA. Information regarding the contents and levels of metals in this product is available on the internet <http://www.aapfco.org/metals.htm>  
96-52 08.15 2621-104-0214

Batch code and expiration date:




Actinovate® AG is for organic use under the guidelines of the USDA's National Organics Program (NOP).

FIRST AID	
IF IN EYES:	<ul style="list-style-type: none"><li>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</li></ul>
IF INHALED:	<ul style="list-style-type: none"><li>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 advice</li></ul>
IF ON SKIN OR CLOTHING:	<ul style="list-style-type: none"><li>Take off contaminated clothing. Rinse skin immediately with plenty of water for 15–20 minutes. Call a poison control center or doctor for advice</li></ul>
IF SWALLOWED:	<ul style="list-style-type: none"><li>Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person</li></ul>
<b>HOT LINE NUMBER</b> Have the product container or label with you when calling a poison control center or doctor or going for treatment. For emergency information on this pesticide product (including health concerns, medical emergencies, or pesticide incidents), call the National Pesticide Information Center at 1-800-858-7378, 6:30 AM to 4:30 PM Pacific Time (PT), seven days a week. During other times, call the poison control center at 1-800-222-1222	

novozymes®



Rethink Tomorrow

Novozymes BioAg Inc.  
3101 W. Custer Ave.  
Milwaukee WI 53209  
1-800-245-4104



## Precautionary statements

### Hazards to humans and domestic animals. CAUTION.

Avoid contact with skin, eyes, or clothing. Avoid breathing dust or spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

### Personal Protective Equipment (PPE):

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants,
- Shoes plus socks

Mixer/loaders and applicators must wear a dust/mist filtering respirator meeting NIOSH standards of at least N-95, R-95, or P-95. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.

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

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides (40CFR 170.240(d)(4-6)), the handler PPE requirements may be reduced or modified as specified in the WPS.

## User safety recommendations

### Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing
- Remove PPE immediately after handling this product. If gloves are worn, 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 cleaning equipment or disposing of equipment washwaters or rinseate.

## 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 one (1) hour or until solution has dried.

Exception: If the product is soil incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter treated area if there is 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) is:

- Coveralls
- Chemical-resistant gloves (made of any waterproof material)
- Shoes plus socks

## Non-agricultural use requirements

The requirements in this box apply to uses of the 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

Actinovate® AG is a biological fungicide for the suppression of root rot and damping-off fungi and the suppression/control of foliar fungal pathogens. When used as a soil drench or as a seed treatment, soil-borne fungi suppressed/controlled include *Fusarium*, *Rhizoctonia*, *Pythium*, *Phytophthora*, *Phytophthora omnivorum* (cotton root rot), *Aphanomyces*, *Monosporascus*, *Armillaria*, *Sclerotinia*, and *Gaeumannomyces*. The active ingredient in Actinovate® AG colonizes the root system and protects it from harmful fungi. When used as a foliar spray, Actinovate® AG effectively suppresses/controls foliar diseases such as powdery and downy mildew, *Botrytis*, *Monilinia*, *Anthraco*se, greasy spot, *Sclerotinia*, *Alternaria*, and *Erwinia*.

Actinovate® AG is also effective against walnut blight (*Xanthomonas arboricola pv juglandis*), bacterial spot (*Xanthomonas perforans*), citrus canker (*Xanthomonas axonopodis pv citri*), southern blight (*Sclerotium rolfsii*), angular leaf spot (*Xanthomonas fragariae*), charcoal rot (*Macrophomina phaseolina*), club root (*Plasmodiophora brassicae*), bacterial blast (*Pseudomonas syringae*), rice blast (*Magnaporthe grisea*), sheath spot (*Rhizoctonia oryzae*), rice stem rot (*Sclerotium oryzae*), and peach leaf curl (*Taphrina deformans*).

## Integrated Pest Management (IPM)

Integrate Actinovate® AG into an overall disease and pest management strategy whenever fungicide use is necessary. Follow practices known to reduce disease development. Consult local agricultural authorities for specific IPM strategies developed for your crop(s) and location.

## Use rate determination

Carefully read and follow all label directions, use rates, and restrictions. For best results, apply Actinovate® AG prior to or in the early stages of disease development. For proper foliar application, determine the number of acres to be treated, the specified label use rate, and select the appropriate gallonage to give thorough and uniform coverage of all plant parts to be protected. For proper soil application, determine the number of acres to be treated, the specified label use rate, and select the appropriate gallonage to give good saturation of the soil in order for the product to establish itself on the root system. For best results, apply product solution to damp soil. Prepare only the amount of spray of soil drench solution to treat the measured area. Accurate spray equipment calibration is essential prior to use.

## Preharvest interval

Actinovate® AG can be applied up to and including the day of harvest.

## Application directions

### Compatibility:

Actinovate® AG is completely soluble and does not require agitation to keep suspended in a solution. Actinovate® AG is compatible with most chemical fungicides, insecticides and fertilizers. If tank mixes are desired, observe the most restrictive directions, precautions and limitations on labeling of all products used. Actinovate® AG can be tank mixed and dry mixed with all chemical fungicides, insecticides, and fertilizers unless otherwise restricted. Do not apply soil fumigants to the areas treated with Actinovate® AG. Consult manufacturer for compatibility questions. If fumigants must be applied to the soil, all fumigant active ingredients must be completely dissipated prior to applying Actinovate® AG.

### Application timing:

Apply Actinovate® AG throughout the growing season, from early spring to late fall to the production agriculture crops listed in the "Crops on Which Actinovate® AG May Be Used" section.

Note: Since Actinovate® AG contains live spores of a microbe, best results will be obtained if the product is used prior to disease onset. Actinovate® AG becomes active in soil or on the plant foliage when the temperatures are above 45°F and

is not effective when temperatures remain cold. Actinovate® AG can be applied to sterilized or fumigated soil, but it must be applied after sterilization or fumigation active ingredient has dissipated.

### Application uses:

Actinovate® AG is a biological fungicide for use as a soil application (drench and in-furrow), seed treatment, bulb crop dusting treatment, and foliar application for production agriculture crops listed in the "Crops On Which Actinovate® AG May Be Used" section.

## Greenhouse vegetables and herbs

For suppression of *Pythium*, *Phytophthora*, *Rhizoctonia*, *Verticillium*, *Fusarium*, *Sclerotinia*, *Botrytis*, *Alternaria*, *Anthraco*, powdery mildew and downy mildew on all greenhouse vegetable and herb crops listed in the "Crops on which Actinovate® AG may be used" section.

**Soil drench:** Use 4–6 oz of Actinovate® AG in 100 gallons of water to create solution. Apply solution as a drench to plants/ growing media at a rate of 1 gallon per cubic foot of growing media (this equates to enough solution to saturate soil without creating run-off).

**Application to Soil at Blending:** Anytime prior to planting, incorporate Actinovate® AG into potting soil as a spray during blending. Use 1.5-4 oz of Actinovate® AG in an appropriate amount of water per yard of soil.

**Hydroponics systems:** Use 0.5–1.5 oz per 1,000 square feet of growing area.

**Foliar spray:** Apply 6–12 oz Actinovate® AG per acre. Dissolve Actinovate® AG in 50–100 gallons of water and apply to foliage and blossoms every 7 to 14 days depending on disease pressure. Crop size, spray equipment, and local practices will determine the volume of water needed. Spray to wet, but do not allow run-off.

*For smaller quantities: Use 1 teaspoon of Actinovate® AG per gallon of water as a dilution and apply as above.*

Actinovate® AG can be applied using hand-held backpack or ground spray equipment. Clean application equipment before use of this product and use prepared sprays within 4 hours of preparation. For best results, use a non-ionic spreader-sticker in conjunction with application. Consult manufacturer or sales representative for specific suggestions.

## Agriculture production

For soil treatment and seed treatment for the suppression/control of *Fusarium*, *Rhizoctonia*, *Pythium*, *Phytophthora*, *Phymatotrichum omnivorum* (cotton root rot), *Aphanomyces*, *Monosporascus*, *Armillaria*, *Sclerotinia*, *Gaeumannomyces*, *Postia*, *Verticillium*, and *Geotrichum*.

For foliar treatment of powdery and downy mildew, *Botrytis*, *Monilinia*, *Anthraco*, greasy spot, *Sclerotinia*, *Alternaria* and *Erwinia*.

### Soil treatment at planting:

Use at planting, in-furrow, seeding, or transplant. Apply 1–12 oz. of Actinovate® AG in 10–200 gallons of water per acre. Refer to the "Crops On Which Actinovate® AG May Be Used" section for crop-specific application rates.

### Soil treatment through irrigation:

Actinovate® AG may be used in drip, overhead, or other irrigation systems listed in the "Chemigation" section at any stage of plant growth as a soil treatment. Apply 1–12 oz. of Actinovate® AG in 10–200 gallons of water per acre. See "Chemigation" section for additional information and "Crops On Which Actinovate® AG May Be Applied" section for crop-specific application rates.

### Seed treatment:

**Seed Spray or Slurry Coating:** Apply this product through mist-type commercial seed treatment equipment, slurry or other comparable methods that provide thorough coverage of treated seed. Prior to planting, dissolve 2–18 oz. of Actinovate® AG in 4oz of water per acre of seed and spray directly on seed. **Hopper Box Dry Coating:** Apply directly to seed as a dry coating at a rate of 2–18 oz per acre of seed. Apply as to insure even coating of product on seeds.

Do not use treated seed for food or feed purposes or process for oil. Treat only those seeds needed for immediate use, minimizing the interval between treatment and planting. Do not store excess treated seeds beyond planting time.

Seed treatment on agricultural establishment in hopper-box, planted box, or other seed-treatment application at or immediately before planting is within the scope of WPS, while commercial treatment of seeds is not within the scope.

### Foliar treatment:

Use 3–12 oz of Actinovate® AG in 10–150 gallons of water per acre. Apply initial application prior to onset of disease season. Reapply every 7–14 days depending on disease pressure and environmental conditions. For best results, use a spreader-sticker (adjuvant) in conjunction with product application. Actinovate® AG can be used in all types of spray equipment including aerial applications.

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment- and weather-related factors determines the potential for spray drift. The applicator and grower/treatment coordinator are responsible for considering all of these factors when making decisions.

### Dusting and coating of bulbs, corms, tubers, rhizomes and seeds:

Prior to planting or shipping, evenly dust bulbs at a rate of 2–6 oz of Actinovate® AG per 100 lbs of bulbs, corms, tubers, rhizomes or seeds.

Cutting of bare rooted transplant dip: Dip cuttings or transplants in Actinovate® AG dry powder or in a solution of 6–18 oz Actinovate® AG and 50 gallons water. Let soak for up to three hours prior to planting. Plant treated cuttings or transplants in potting mix or soil in the usual manner.

Crops on which Actinovate® AG may be used		
CROPS	Soil Drench Rate	Foliar Spray Rate
<b>Agronomic Field and Row Crops:</b> Cotton, succulent and dry peas, and other agronomic field and row crops	1–3 oz of Actinovate® AG per acre	
<b>Potatoes:</b> All types of Irish potatoes, sweet potatoes, and other potatoes	3–12 oz of Actinovate® AG per acre. Applied in furrow, over treated seed pieces, or as a side dressing	
<b>Cucurbit Vegetables:</b> cucumbers, melons, gourds, squash, cantaloupe, and other cucurbits	3–12 oz of Actinovate® AG per acre	
<b>Fruiting Vegetables:</b> Eggplant, sweet peppers, hot peppers, tomatoes, tomatillos, and other fruiting vegetables	3–12 oz of Actinovate® AG per acre	
<b>Herbs, Spices and Mints:</b> Sage, rosemary, thyme, peppermint, dill, basil, oregano and other herbs and spices	3–12 oz of Actinovate® AG per acre	
<b>Leafy Vegetables and Cole Crops:</b> Broccoli, brussel sprouts, cabbage, cauliflower, celery, collards, endive, kale, kohlrabi, lettuce, mustard greens, parsley, spinach and other leafy vegetable crops	3–12 oz of Actinovate® AG per acre	3–12 oz of Actinovate® AG per acre Reapply every 7–14 days
<b>Legume and Vegetable Crops:</b> Snap and dry beans, lentils, succulent and dry peas	3–12 oz of Actinovate® AG per acre	For best results, use with a spreader-sticker
<b>Small Grains:</b> Rice*	3–12 oz of Actinovate® AG per acre	
<b>Root/Tuber and Bulb Crops:</b> Garlic, onions, carrot, ginger, ginseng, horseradish, turnip, radish and other root/tuber/bulb crops	3–12 oz of Actinovate® AG per acre	
<b>Berry Crops:</b> Strawberries, blueberries, blackberry, raspberry, loganberry, huckleberry, gooseberry, elderberry, currant, caneberry and other berry crops	3–12 oz of Actinovate® AG per acre	
<b>Asparagus</b>	3–12 oz of Actinovate® AG per acre	
<b>Citrus:</b> Orange, grapefruit, lemon, tangerine, tangelo, lime, pummelo and other citrus crops	3–12 oz of Actinovate® AG per acre	
<b>Corn:</b> Sweet corn and other corn crops	1–3 oz of Actinovate® AG per acre	
<b>Grape:</b> Wine grapes, table grapes, raisins and other grape crops	3–12 oz of Actinovate® AG per acre	
<b>Hops</b>	3–12 oz of Actinovate® AG per acre	

Crops on which Actinovate® AG may be used		
CROPS	Soil Drench Rate	Foliar Spray Rate
<b>Pome Fruit:</b> Apple, crabapple, pear, quince, mayhaw and other pome fruit	3–12 oz of Actinovate® AG per acre	3–12 oz of Actinovate® AG per acre  Reapply every 7–14 days  For best results, use with a spreader-sticker
<b>Stone Fruit:</b> Apricot, cherry, nectarine, peach, plum, prune and other stone fruit	3–12 oz of Actinovate® AG per acre	
<b>Tree Nuts:</b> Almond, pistachio, pecan, walnut, filberts and other tree nuts	3–12 oz of Actinovate® AG per acre	
<b>Tropical Fruits:</b> Avocado, mango, papaya and other tropical fruits	3–12 oz of Actinovate® AG per acre	
<b>Bananas / Plantains</b>	3–12 oz of Actinovate® AG per acre	
<b>Watercress*</b>	3–12 oz of Actinovate® AG per acre	
<b>Mushrooms</b>	3–12 oz of Actinovate® AG per acre	
<b>Ginseng</b>	3–12 oz of Actinovate® AG per acre	
<b>Olives</b>	3–12 oz of Actinovate® AG per acre	

\* Spray only when there is no standing water in bed.

## Chemigation

### General requirements:

Apply Actinovate® AG at 1–12 oz per 10–200 gallons of water.

Apply Actinovate® AG only through 1) overhead boom and mist-type systems, 2) sprinklers including impact or micro-sprinklers, central pivot, lateral move, end tow, side wheel roll, traveler, solid set, or hand move systems, 3) pressurized drench (flood) or drip (trickle) systems, 4) micro irrigation such as spaghetti tube or individual tube irrigation, 5) hand-held calibrated irrigation equipment such as hand-held wand with injector, and 6) ebb and flow systems. Do not apply this product through any other type of irrigation system.

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

If you have questions about calibration, you should contact State Extension 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.

### Requirements for chemigation systems connected to public water systems:

- 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, back flow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, 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 flow outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
- The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection.
- 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.
- Continuous agitation is not required in pesticide supply tanks unless tank mixing with other products or fluid fertilizers that require it.
- Application of the product may be made continuously for the duration of the water application or can be applied at the end or after the water application.
- To mix in supply tank, fill tank half way with water and add product. Stir until completely dissolved. Fill tank with remaining amount of water.
- Use product with 10–200 gallons of water per acre. Use enough water so as not to create excessive leaching or run off.

### Sprinkler chemigation requirements:

- 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 back flow.
- The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

- 3) The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 4) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- 5) The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 6) Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump), effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- 7) Do not apply when wind speed favors drift beyond the area intended for treatment.
- 8) Continuous agitation is not required in pesticide supply tanks unless tank mixing with other products or fluid fertilizers that require it.
- 9) Application of the product may be made continuously for the duration of the water application or can be applied at the end or after the water application.
- 10) To mix in supply tank, fill tank half way with water and add product. Stir until completely dissolved. Fill tank with remaining amount of water.
- 11) Use product with 10–200 gallons of water per acre. Use enough water so as not to create excessive leaching or run off.

**Drip chemigation requirements:**

- 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 back flow.
- 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 inter-locking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- 5) The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 6) Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump), effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- 7) Use of a supply tank is recommended. Continuous agitation is not required in pesticide supply tanks unless

tank mixing with other products or fluid fertilizers that require it.

- 8) Application of the product may be made continuously for the duration of the water application or can be applied at the end or after the water application.
- 9) To mix in supply tank, fill tank half way with water and add product. Stir until completely dissolved. Fill tank with remaining amount of water.
- 10) Use product with 10–200 gallons of water per acre. Use enough water so as not to create excessive leaching or run off.

**Flood chemigation requirements:**

- 1) Systems using a gravity flow pesticide dispensing system must meter the pesticide into the water at the head of the field and downstream of a hydraulic discontinuity such as a drop structure or weir box to decrease potential for water source contamination from back flow if water flow stops.
- 2) Systems utilizing a pressurized water and pesticide injection system must meet the following requirements:
  - a. The system must contain a functional check valve, vacuum relief valve, and low pressure drain approximately located on the irrigation pipeline to prevent water source contamination from back flow.
  - b. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
  - c. 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.
  - d. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
  - e. 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.
  - f. 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.
- 3) Use of a supply tank is recommended. Continuous agitation is not required in pesticide supply tanks unless tank mixing with other products or fluid fertilizers that require it.
- 4) Application of the product may be made continuously for the duration of the water application or can be applied at the end or after the water application.
- 5) To mix in supply tank, fill tank half way with water and add product. Stir until completely dissolved. Fill tank with remaining amount of water.
- 6) Use product with 10–200 gallons of water per acre. Use enough water so as not to create excessive leaching or run off.

## Storage and disposal

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

### Pesticide storage

Store in a dry, cool place out of direct sunlight and away from heat sources. Keep from overheating or freezing. Optimum storage temperature is 40°F to 85°F.

### Pesticide disposal

To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments by industry).

### Container handling

Non-refillable container. Do not reuse or refill this container. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or mix tank. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill or by incineration. Do not burn, unless allowed by state and local ordinances.

## WARRANTY

The Directions for Use of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and must be followed carefully. Novozymes BioAg warrants that at the time of the first sale of this product it conforms to the chemical description on the label and when used according to the label directions under normal growing conditions is reasonably fit for the purposes referred to above. Buyers/Users of this product assume full risk for any use contrary to the specified directions. If this product does not perform as warranted above and to the extent consistent with applicable law, customer's sole remedy for breach of warranty shall be replacement of the product or refund of the purchase price paid, at the option of Novozymes BioAg.

EXCEPT AS PROVIDED ELSEWHERE IN WRITING CONTAINING AN EXPRESSED REFERENCE TO THIS WARRANTY AND LIMITATION OF DAMAGES, SELLER MAKES NO OTHER EXPRESSED OR IMPLIED WARRANTY OR GUARANTEE TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, INCLUDING ANY OTHER EXPRESSED OR IMPLIED WARRANTY OF FITNESS OR OF MERCHANTABILITY, AND NO AGENT OF SELLER IS AUTHORIZED TO DO SO.



# Actinovate® AG

biological  
fungicide

## ACTIVE INGREDIENT

*Streptomyces lydicus* WYEC 108\*

% w/w

00.0371%

## OTHER INGREDIENTS

Total

99.9629%

100.0%

\*End-use product contains not less than  $1 \times 10^7$  CFU/g *Streptomyces lydicus* WYEC 108

PROD. # 5000-710

## KEEP OUT OF REACH OF CHILDREN CAUTION

See booklet for additional Precautionary Statements, Directions for Use and Warranty.

### Storage and disposal

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

#### Pesticide storage

Store in a dry, cool place out of direct sunlight and away from heat sources. Keep from overheating or freezing. Optimum storage temperature is 40°F to 85°F.

#### Pesticide disposal

To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments by industry).

#### Container handling

Non-refillable container. Do not reuse or refill this container. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or mix tank. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or mix tank or store rinsate for late use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill or by incineration. Do not burn, unless allowed by state and local ordinances.

Batch code and expiration date:

Net contents  
18 oz (510 g)  
USA

US Patent Number: 5,403,584

EPA Registration Number: 73314-1

EPA Establishment Number: 73314-TX-001

Made in the USA. Information regarding the contents and levels of metals in this product is available on the internet <http://www.aapfco.org/metals.htm>  
96-52 08.15 2621-104-0214



Actinovate® AG is for organic use under the guidelines of the USDA's National Organics Program (NOP).

FIRST AID	
IF IN EYES:	<ul style="list-style-type: none"><li>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</li></ul>
IF INHALED:	<ul style="list-style-type: none"><li>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 advice</li></ul>
IF ON SKIN OR CLOTHING:	<ul style="list-style-type: none"><li>Take off contaminated clothing. Rinse skin immediately with plenty of water for 15–20 minutes. Call a poison control center or doctor for advice</li></ul>
IF SWALLOWED:	<ul style="list-style-type: none"><li>Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person</li></ul>
<b>HOT LINE NUMBER</b> Have the product container or label with you when calling a poison control center or doctor or going for treatment. For emergency information on this pesticide product (including health concerns, medical emergencies, or pesticide incidents), call the National Pesticide Information Center at 1-800-858-7378, 6:30 AM to 4:30 PM Pacific Time (PT), seven days a week. During other times, call the poison control center at 1-800-222-1222	

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Novozymes BioAg Inc.  
3101 W. Custer Ave.  
Milwaukee WI 53209  
1-800-245-4104

