

73314-1

10/24/2011

1/55

Ms Heather R Bjornson
Regulatory Consultant for
Natural Industries, Inc
Technology Sciences Group Inc
1150 18th Street, NW Suite 1000
Washington, D C 20036

Subject Product Name Acti novate® Soluble – EPA Reg No 73314-1
Application for Notification Dated August 17, 2011 to add a non-public
health pests to Sub-label B *Sclerotium rolfsii* (Southern Blight)
Xanthomonas fragariae (Angular leaf spot) *Macrophomina phaseolina*
(Charcoal rot) as permitted by PR Notices 98-10

Dear Ms Bjornson,

The Biopesticides and Pollution Prevention Division is in receipt of your application for Notification under Pesticides Registration Notice (PRN) 98-10 dated above A preliminary screen of this request has been conducted for its applicability under PRN 98-10 and it has been determined that the action(s) requested falls within the scope of PRN 98-10 Our records have been duly noted, and the label submitted with this application has been stamped as “Notification, received and accepted” and will be placed accordingly in our records

Questions concerning this action should be directed to Mary Paden at 703) 308-0411 or email at paden.mary@epa.gov

Sincerely,

Sheryl K Reilly

Sheryl K Reilly, Ph D , Chief
Microbial Pesticides Branch
Biopesticides and Pollution
Prevention Division (7511P)

OCT 24 2011

CONCURRENCES

SYMBOL ▶	7511(P)							
SURNAME ▶	Paden							
DATE ▶	24 OCT 11							



United States
Environmental Protection Agency
Washington DC 20460

<input type="checkbox"/>	Registration
<input type="checkbox"/>	Amendment
<input checked="" type="checkbox"/>	Other

OPP Identifier Number

Application for Pesticide - Section I

1 Company/Product Number 73314 1	2 EPA Product Manager Sheryl Reilly	3 Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4 Company/Product (Name) Actinovate Soluble	PM# Chief /Microbial Branch/BPPD	
5 Name and Address of Applicant (Include ZIP Code) Natural Industries, Inc 6223 Theall Road Houston TX 77066 <input type="checkbox"/> Check if this is a new address	6 Expedited Review In accordance with FIFRA Section 3(c)(3) (b)(i) my product is similar or identical in composition and labeling to EPA Reg No _____ Product Name _____	

Section - II

<input type="checkbox"/> Amendment Explain below	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____	Notification Accepted Date: 10/24/2011 reviewer: mgj/aden
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> Me Too" Application	
<input checked="" type="checkbox"/> Notification Explain below	<input type="checkbox"/> Other Explain below	

Explanation Use additional page(s) if necessary (For section I and Section II)
 This notification is to add a non public health pests to the label per PR Notice 98 10
 This notification is consistent with the provisions of PR Notice 98 10 and EPA regulations at 40 CFR 152 46 and no other changes have been made to the labeling of the Confidential statement of formula of this product I understand that it is a violation of 18 U S C Sec 1001 to willfully make any false statement to EPA I furthur understand that if this notification is not consistent with the terms of PR Notice 98 10 and 40 CFR 152 46 this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA

Section - III

1 Material This Product Will Be Packaged In				2 Type of Container	
Child Resistant Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	If "Yes" Package wgt		<input type="checkbox"/> Metal <input checked="" type="checkbox"/> Plastic <input checked="" type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____
* Certification must be submitted		No per container	No per container		
3 Location of Net Contents Information <input checked="" type="checkbox"/> Label <input type="checkbox"/> Container	4 Size(s) Retail Container 2 18 30 300 oz	5 Location of Label Directions <input checked="" type="checkbox"/>			
6 Manner in Which Label is Affixed to Product <input checked="" type="checkbox"/> Lithograph <input checked="" type="checkbox"/> Paper glued <input checked="" type="checkbox"/> Stenciled			<input type="checkbox"/> Other _____		

Section - IV

1 Contact Point (Complete items directly below for identification of individual to be contacted if necessary to process this application)		
Name Heather R Bjornson Technology Sciences Group Inc	Title Senior Regulatory Consultant	Telephone No (Include Area Code) (202) 828 8945
Certification I certify that the statements I have made on this form and all attachments thereto are true accurate and complete I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law		6 Date Application Received (Stamped)
2 Signature 	3 Title Regulatory Consultant to Natural Industries Inc	
4 Typed Name Heather R Bjornson	5 Date August 17, 2011	

ACTINOVATE[®] SOLUBLE

(Alternate Brand Names Actinovate[®] SP Actinovate[®] AG ActinoGro[®], ActinoGro[®] TURF Actinovate[®] Lawn & Garden and Actinovate[®] For Lawn & Garden, ActinoGrow, ActinoGrow T & O)

Sublabel A Greenhouse Nursery and Ornamental Landscape & Interiorscape Use (18-oz bag)	Notification Accepted Date <i>10/24/2011</i> Reviewer <i>mg.poden</i>
Sublabel B Agriculture Production Use (18-oz bag and 300-oz pail)	
Sublabel C Residential Use (2 oz bag)	
Sublabel D Turf and Turf Landscape Use (18-oz bag)	
Sublabel E Agricultural Use on Select Major Crops (30-oz bag)	
Optional Label Claims	

ACTIVE INGREDIENT

Streptomyces lydicus WYEC 108* 00 0371%

OTHER INGREDIENTS 99 9629%

TOTAL 100 0000%

*End-use product contains not less than 1 X 10⁷ colony forming units per gram *Streptomyces lydicus* WYEC 108

Information regarding the contents and levels of metals in this product is available on the Internet at <http://www.aapfco.org/metals.htm>

KEEP OUT OF REACH OF CHILDREN

CAUTION

US Patent Number 5 403 584

EPA Reg No 73314-1

EPA Establishment No 73314-TX-001

Manufactured by

Natural Industries Inc

6223 Theall Road

Houston Texas 77066

Questions? (888) 261-4731

4/55

Sublabel A Greenhouse, Nursery, and Ornamental Landscape & Interiorscape Use

(FRONT PANEL)

**ACTINOVATE® SOLUBLE
(ALTERNATE BRAND NAME ACTINOVATE® SP)**

ACTIVE INGREDIENT

Streptomyces lydicus WYEC 108* 00 0371%

OTHER INGREDIENTS 99 9629%

TOTAL 100 0000%

*End-use product contains not less than 1 X 10⁷ colony forming units per gram *Streptomyces lydicus* WYEC 108

Information regarding the contents and levels of metals in this product is available on the Internet at [http //www aapfco org/metals htm](http://www.aapfco.org/metals.htm)

KEEP OUT OF REACH OF CHILDREN

CAUTION

See back panel for additional precautionary statements

US Patent Number 5 403 584

EPA Reg No 73314-1

EPA Establishment No 73314-TX-001

Manufactured by

Natural Industries Inc

6223 Theall Road

Houston Texas 77066

Questions? (888) 261-4731

Net Contents

(Back Panel)

PRECAUTIONARY STATEMENTS

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

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 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 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
- Waterproof gloves
- 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® Soluble is a biological fungicide for the suppression/control of root rot and damping-off fungi and the suppression/control of foliar fungal pathogens. When used as a soil drench, soil borne fungi suppressed/controlled include *Fusarium*, *Rhizoctonia*, *Pythium*, *Phytophthora*, *Phytophthora*, *Phytophthora*, *Phytophthora*, *Phytophthora*, *Sclerotinia*, *Gaeumannomyces*, *Verticillium*. The active ingredient in Actinovate® Soluble colonizes the

root system and protects it from harmful fungi. When used as a foliar spray Actinovate® Soluble effectively suppresses/controls foliar diseases such as Powdery and Downy Mildew *Botrytis Sclerotinia* and *Alternaria*

Actinovate® Soluble is also effective against Walnut Blight (*Xanthomonas arboricola pv juglandis*) Bacterial Spot (*Xanthomonas perforans*) Citrus Canker (*Xanthomonas axonopodis pv citri*) and Club Root (*Plasmodiophora brassicae*)

Actinovate Soluble is also a nematicide for use against the root knot nematode *Meloidogyne*. The Actinovate Soluble microorganism produces metabolites that are destructive to the nematode egg thereby reducing their population in the soil and root zone of plants.

When applied to the soil Actinovate® Soluble also breaks down minerals and micronutrients making them more available to plants resulting in increased size and vitality. Plants treated with Actinovate® Soluble as a soil drench will become hardier, more vigorous and will have a robust and protected root system.

APPLICATION DIRECTIONS

Compatibility

Actinovate® Soluble is completely soluble and does not require agitation to keep suspended in a solution. Actinovate® Soluble 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® Soluble can be tank mixed or dry mixed with all chemical fungicides, insecticides and fertilizers unless otherwise restricted. Consult manufacturer for compatibility questions. Do not apply soil fumigants to areas treated with Actinovate® Soluble.

Application Timing

Apply Actinovate® Soluble throughout the growing season from early spring to late fall on ornamentals, greenhouse and nursery crops. Note: Since Actinovate® Soluble contains live spores of a microbe, best results will be obtained if the product is used prior to disease onset. Actinovate® Soluble 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® Soluble can be applied to sterilized or fumigated soil, but it must be applied after sterilization or fumigation.

Application Uses

Actinovate® Soluble is a biological fungicide for use as a soil drench in-furrow seed spray cutting or bare rooted transplant dip ornamental bulb crop soak or dusting treatment and foliar application for ornamentals all greenhouse and nursery crops and landscape plants including tree seedlings for transplanting to the field

GREENHOUSE, NURSERY, ORNAMENTAL LANDSCAPE OR INTERIORSCAPE DRENCH

For preventative suppression/control of *Pythium Rhizoctonia Phytophthora Fusarium Verticillium* and *Sclerotinia* on greenhouse nursery landscape and interiorscape crops

Mix 4-6 oz of Actinovate® Soluble 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) or until soil in pot (or root ball of plant) is completely saturated just prior to run off For smaller quantities Use 1 teaspoon of Actinovate® Soluble per 2 gallons of water to create solution and apply as above

Actinovate® Soluble can be applied through low pressure watering nozzles such as fan nozzles through overhead boom type sprayers or sprinklers hydroponics systems injectors flood benches or other drench watering systems Actinovate® Soluble is compatible with most chemical fungicides insecticides and fertilizers as well as other biological products See the Compatibility section for additional details

Cutting or Bare Rooted Transplant Dip

Dip cuttings or transplants in Actinovate® Soluble dry powder or in a solution of 18-oz Actinovate® Soluble and 5 gallons water For larger trees or woody ornamentals dissolve 18-oz of Actinovate® Soluble in 50 gallons of water and let bare root plants soak in the solution for 4-12 hours prior to planting Plant treated cuttings or transplants in potting mix or soil in the usual manner

GREENHOUSE, NURSERY, ORNAMENTAL LANDSCAPE AND INTERIORSCAPE FOLIAR SPRAYS

For preventative suppression/control of Powdery Mildew Downy Mildew *Botrytis Phytothotricum Sclerotinia* and *Alternaria* on greenhouse nursery landscape and interiorscape plants apply 6-12 oz Actinovate® Soluble per acre Dissolve Actinovate® Soluble 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® Soluble per gallon of water as a dilution and apply as above

Actinovate® Soluble 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.

Ornamental Bulb Crops (Including corms, rhizomes, tubers, and seeds)

Soak Soak bulbs in solution of Actinovate® Soluble at 6-18 oz per 100 lbs of bulbs. Dilute in enough water to completely cover bulbs. Thoroughly cover all surfaces of bulbs with solution for 1 hour prior to planting.

Soil Drench Apply to soil through irrigation or as an in-furrow seed spray in 10-200 gallons of water at a rate of 6-12 oz of Actinovate® Soluble per acre.

Dusting Prior to planting or shipping evenly dust bulbs at a rate of 2-6 oz of Actinovate® Soluble per 100 lbs of bulbs.

Nematode Application When applying Actinovate Soluble to control nematodes a standard rate of 6-oz per 100 gallons should be used with each application. If applying in smaller quantities use 1 teaspoon per gallon of water to create solution. Apply solution to the soil until area around the root ball or entire pot is saturated. Reapply every 2-8 weeks depending on nematode infestation level.

GREENHOUSE AND NURSERY CHEMIGATION

General Requirements

- Apply Actinovate® Soluble at 4-6 oz per 100 gallons of water
- Apply Actinovate® Soluble only through 1) overhead boom and mist-type systems 2) sprinklers such as impact or micro-sprinklers 2) pressurized drench (flood) or drip (trickle) systems 3) micro irrigation such as spaghetti tube or individual tube irrigation 4) hand-held calibrated irrigation equipment such as hand-held wand with injector and 5) 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

- 1) Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year
- 2) Chemigation systems connected to public water systems must contain a functional reduced-pressure zone back flow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, 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.
- 3) The pesticide injection pipeline must contain a functional automatic quick-closing check valve to prevent the flow of fluid back toward the injection.
- 4) The pesticide injection pipeline must contain a functional normally closed solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 5) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops or in cases where there is no water pump when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 6) Systems must use a metering pump such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- 7) Do not apply when wind speed favors drift beyond the area intended for treatment.
- 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.

Sprinkler 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 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 appropriately 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 or 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 Disposal

Non-refillable container. Do not reuse or refill this container. Clean container promptly after emptying. Then offer for recycling if available or puncture and dispose of in sanitary landfill or by incineration. Do not burn, unless allowed by state and local ordinances.

Batch Code _____

LIMITED WARRANTY/DISCLAIMER

To the extent consistent with applicable law, manufacturer warrants that this product is suited for the labeled uses when applied according to label directions. To the extent consistent with applicable law, manufacturer makes no warranty of merchantability. To the extent consistent with applicable law, there are no warranties that extend beyond the description on this label and in no event shall manufacturer be liable for any consequential damages.

Use By

LOT NUMB

14/55

SUBLABEL B AGRICULTURE PRODUCTION USE

(FRONT PANEL)

**ACTINOVATE® SOLUBLE
(ALTERNATE BRAND NAME ACTINOVATE® AG)**

ACTIVE INGREDIENT

Streptomyces lydicus WYEC 108* 00 0371%

OTHER INGREDIENTS 99 9629%

TOTAL 100 0000%

*End-use product contains not less than 1 X 10⁷ colony forming units per gram *Streptomyces lydicus* WYEC 108

Information regarding the contents and levels of metals in this product is available on the Internet at [http //www aapfco org/metals htm](http://www.aapfco.org/metals.htm)

KEEP OUT OF REACH OF CHILDREN

CAUTION

See back panel for additional precautionary statements

US Patent Number 5 403 584

EPA Reg No 73314-1

EPA Establishment No 73314 TX-001

Manufactured by

Natural Industries Inc

6223 Theall Road

Houston Texas 77066

Questions? (888) 261-4731

Net Contents

(Back Panel)

PRECAUTIONARY STATEMENTS

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

User Safety Recommendations

- 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 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 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
- Waterproof gloves
- 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® Soluble 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 seed treatment, soil borne fungi suppressed/controlled include *Fusarium*, *Rhizoctonia*, *Pythium*, *Phytophthora*, *Phymatotrichum omnivorum* (cotton root rot), *Aphanomyces*, *Monosporascus*, *Armillaria*, *Sclerotinia*, *Gaeumannomyces*, *Postia*, *Verticillium* and *Geotrichum*. The active ingredient in Actinovate® Soluble colonizes the root

system and protects it from harmful fungi. When used as a foliar spray Actinovate® Soluble effectively suppresses/controls foliar diseases such as Powdery and Downy Mildew *Botrytis* *Monilinia* *Anthraco* *Greasy Spot* *Sclerotinia* *Alternaria* and *Erwinia*

Actinovate® Soluble is also effective against Walnut Blight (*Xanthomonas arboricola pv juglandis*) Bacterial Spot (*Xanthomonas perforans*) Citrus Canker (*Xanthomonas axonopodis pv citri*) Sclerotium rolfsii (Southern Blight) *Xanthomonas fragariae* (Angular leaf spot) *Macrophomina phaseolina* (Charcoal rot) and Club Root (*Plasmodiophora brassicae*)



Actinovate Soluble is also a nematicide for use against the root knot nematode *Meloidogyne*. The Actinovate Soluble microorganism produces metabolites that are destructive to the nematode egg thereby reducing their population in the soil and root zone of plants.

When applied to the soil Actinovate® Soluble also breaks down minerals and micronutrients making them more available to plants resulting in increased size and vitality. Plants treated with Actinovate® Soluble as a soil application will become hardier, more vigorous and will have a robust and protected root system.

INTEGRATED PEST MANAGEMENT (IPM)

Integrate Actinovate® Soluble 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® Soluble 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 or soil drench solution to treat the measured area. Accurate spray equipment calibration is essential prior to use.

PREHARVEST INTERVAL

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

APPLICATION DIRECTIONS

Compatibility

Actinovate® Soluble is completely soluble and does not require agitation to keep suspended in a solution. Actinovate® Soluble 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® Soluble 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® Soluble. Consult manufacturer for compatibility questions.

Application Timing

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

Note: Since Actinovate® Soluble contains live spores of a microbe, best results will be obtained if the product is used prior to disease onset. Actinovate® Soluble 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® Soluble can be applied to sterilized or fumigated soil, but it must be applied after sterilization or fumigation.

Application Uses

Actinovate® Soluble 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® Soluble May Be Used" section.

GREENHOUSE VEGETABLES AND HERBS

For suppression of *Pythium*, *Phytophthora*, *Rhizoctonia*, *Verticillium*, *Fusarium*, *Sclerotinia*, *Botrytis*, *Alternaria*, Anthracnose, Powdery Mildew, and Downy Mildew on all greenhouse vegetable and herb crops listed in the section "Crops on which Actinovate® Soluble may be used".

Soil Drench: Use 4-6 oz of Actinovate® Soluble 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).

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

Foliar Spray: Apply 6-12 oz Actinovate® Soluble per acre. Dissolve Actinovate® Soluble 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® Soluble per gallon of water as a dilution and apply as above

Actinovate® Soluble 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 Anthracnose Greasy Spot Sclerotinia Alternaria and Erwinia*

Soil Treatment At Planting

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

Soil Treatment Through Irrigation

Actinovate® Soluble 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® Soluble in 10-200 gallons of water per acre See Chemigation section for additional information and Crops On Which Actinovate® Soluble 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 1-6 oz of Actinovate® Soluble 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 1-6 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® Soluble 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® Soluble 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® Soluble per 100-lbs of bulbs, corms, tubers, rhizomes or seeds.

For Use As A Nematicide

Actinovate Soluble can be applied to soil and plant roots to suppress nematodes. Use 6-oz per acre in enough water to properly drench soil. For best results apply while preparing or creating beds in furrow during seeding or transplanting and as a regular soil application every 1-6 week throughout the growing season.

Crops On Which Actinovate® Soluble May Be Used

Crops	Soil Drench Rate	Foliar Spray Rate
<p>Agronomic Field and Row Crops Cotton succulent and dry peas and other agronomic field and row crops</p>	<p>1 3 oz of Actinovate® Soluble per acre Applied in furrow</p>	<p>3 12 oz of Actinovate® Soluble per acre Reapply every 7 14 days For best results use with a spreader sticker</p>
<p>Cucurbit Vegetables cucumbers melons gourds squash cantaloupe and other curcubits</p> <p>Fructing Vegetables Eggplant sweet peppers hot peppers tomatoes tomatillos and other fructing vegetables</p> <p>Herbs Spices and Mints Sage rosemary thyme peppermint dill basil oregano and other herbs and spices</p> <p>Leafy Vegetables and Cole Crops Broccoli Brussels sprouts cabbage cauliflower celery collards endive kale kohlrabi lettuce mustard greens parsley spinach and other leafy vegetable crops</p> <p>Legume and Vegetable Crops Snap and dry beans lentils succulent and dry peas</p>	<p>3 12 oz of Actinovate® Soluble per acre</p>	<p>3 12 oz of Actinovate® Soluble per acre Reapply every 7 14 days For best results use with a spreader sticker</p>
<p>Small Grains Rice</p> <p>Root/Tuber and Bulb Crops Garlic onions carrot ginger ginseng horseradish turnip radish and other root/tuber/bulb crops</p> <p>Berry Crops Blueberries blackberry raspberry loganberry huckleberry gooseberry elderberry currant caneberry and other berry crops</p> <p>Strawberry</p> <p>Asparagus</p> <p>Citrus Orange grapefruit lemon tangerine tangelo lime pummelo and other citrus crops</p> <p>Corn Sweet corn and other corn crops</p> <p>Grape Wine grapes table grapes raisins and other grape crops</p> <p>Hops</p> <p>Pome Fruit Apple crabapple pear quince mayhaw and other pome fruit</p> <p>Stone Fruit Apricot cherry nectarine peach plum prune and other stone fruit</p> <p>Tree Nuts Almond pistachio pecan walnut filberts and other tree nuts</p>	<p>3 12 oz of Actinovate® Soluble per acre</p>	<p>3 12 oz of Actinovate® Soluble per acre Reapply every 7 14 days For best results use with a spreader sticker</p>

Crops	Soil Drench Rate	Foliar Spray Rate
Tropical Fruits Avocado mango papaya and other tropical fruits Bananas / Plantains Watercress Mushrooms Ginseng Olives		

Spray only when there is not standing water in bed

CHEMIGATION

General Requirements

- Apply Actinovate® Soluble at 1-12 oz per 10 -200 gallons of water
- Apply Actinovate® Soluble 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

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

upstream from the point of pesticide introduction. As an option to the RPZ, 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.

- 3) The pesticide injection pipeline must contain a functional automatic quick-closing check valve to prevent the flow of fluid back toward the injection.
- 4) The pesticide injection pipeline must contain a functional normally closed solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 5) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops or in cases where there is no water pump when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 6) Systems must use a metering pump such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- 7) Do not apply when wind speed favors drift beyond the area intended for treatment.
- 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.

Sprinkler 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 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 appropriately 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 or 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 Disposal Non-refillable container Do not reuse or refill this container Clean container promptly after emptying *(For the 300 oz pail)* Triple rinse as follows Empty the remaining contents into application equipment or a mix tank Fill the container 1/4 full with water and recap Shake for 10 seconds Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal Drain for 10 seconds after the flow begins to drip Repeat this procedure two more times) Then offer for recycling if available or puncture and dispose of in sanitary landfill or by incineration Do not burn unless allowed by state and local ordinances

Batch Code _____

LIMITED WARRANTY/DISCLAIMER

To the extent consistent with applicable law manufacturer warrants that this product is suited for the labeled uses when applied according to label directions To the extent consistent with applicable law manufacturer makes no warranty of merchantability There are no warranties that extend beyond the description on this label and in no event shall manufacturer be liable for any consequential damages

Use By

LOT NUMBER

Sublabel C Residential Use

(FRONT PANEL)

ACTINOVATE® SOLUBLE
(ALTERNATE BRAND NAME ACTINOVATE® FOR LAWN & GARDEN)

ACTIVE INGREDIENT

<i>Streptomyces lydicus</i> WYEC 108*	00 0371%
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OTHER INGREDIENTS	<u>99 9629%</u>
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TOTAL	100 0000%
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*End-use product contains not less than 1×10^7 colony forming units per gram *Streptomyces lydicus* WYEC 108

Information regarding the contents and levels of metals in this product is available on the Internet at [http //www aapfco org/metals htm](http://www.aapfco.org/metals.htm)

KEEP OUT OF REACH OF CHILDREN

CAUTION

See back panel for additional precautionary statements

US Patent Number 5 403 584

EPA Reg No 73314-1

EPA Establishment No 73314-TX-001

Manufactured by

Natural Industries Inc

6223 Theall Road

Houston Texas 77066

Questions? (888) 261-4731

Net Contents

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION Avoid breathing dust or spray mist Remove and wash contaminated clothing before reuse

Personal Protective Equipment (PPE) Applicators and other handlers must wear long-sleeved shirt and long pants waterproof gloves and shoes plus socks

User Safety Recommendations

- 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 To protect the environment do not allow pesticide to enter or run off into storm drains drainage ditches gutters or surface waters Applying this product in calm weather when rain is not predicted for the next 24 hours will help to ensure that wind or rain does not blow or wash pesticide off the treatment area Rinsing application equipment over the treated area will help avoid run off to water bodies or drainage systems

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling For any requirements specific to your State or Tribe consult the agency responsible for pesticide regulation 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

PRODUCT INFORMATION

Actinovate® Soluble is a biological fungicide for the suppression/control of root rot and damping-off fungi and the suppression/control of foliar fungal pathogens The active ingredient in Actinovate® Soluble is a patented bacterium that when applied grows around the root system (when soil drenched) and foliage of the plant (when sprayed on) Actinovate® Soluble uses several novel modes of antifungal action to protect plants and lawns Actinovate® Soluble may be used on all vegetables fruits and nuts including tomatoes peppers melons carrots broccoli lettuce onions apples pears and walnuts in addition to annual and perennial bedding plants and flowers roses potted flowers foliage plants trees shrubs and lawns located in residential homes residential greenhouses and residential landscapes Actinovate® Soluble can be applied up to and including the day of harvest

In addition when applied to the soil Actinovate® Soluble also breaks down minerals and micronutrients making them more available to plants resulting in increased size and vitality Plants and turf treated with Actinovate® Soluble as a soil drench will become hardier more vigorous and will have a robust and protected root system

DISEASES CONTROLLED/SUPPRESSED

Soil Diseases (When applied as a drench) (When watered in)

*Root Rot and Damping Off in ornamentals & vegetables

(*Pythium Phytophthora Rhizoctonia Fusarium* et al)

*Turf Brownpatch (*Rhizoctonia*)

*Turf Dollarspot (*Sclerotinia*)

*Turf Take-all Patch (*Gaeumannomyces graminis*)

Club Root (*Plasmodiophora brassicae*)

Foliar Diseases (When applied as a spray) (When sprayed)

*Powdery and Downy Mildew

*Grey Mold (*Botrytis*)

*Black Spot (*Diplocarpon rosae*)

*Leaf Spots and Rusts

*Fire Blight (*Erwinia*)

Walnut Blight (*Xanthomonas arboricola* pv *juglandis*)

Bacterial Spot (*Xanthomonas perforans*)

Citrus Canker (*Xanthomonas axonopodis* pv *citri*)

APPLICATION DIRECTIONS

Compatibility

Actinovate® Soluble is completely soluble and does not require continuous mixing to keep suspended in a solution Actinovate® Soluble is compatible with all fungicides insecticides and fertilizers unless otherwise restricted If tank mixes are desired observe the most restrictive directions precautions and limitations on labeling of all products used Consult manufacturer for compatibility questions

SOIL DRENCH

Dissolve 1 2 teaspoons (4-8 grams) of Actinovate® Soluble per 2 gallons of water to create solution

For more severe disease pressure or likelihood of disease pressure use higher label rate Apply solution to pot base of plant or roots of plant by watering until soil is completely saturated without creating run-off One cup of solution usually treats about one 6 pot or its equivalent

For more severe disease pressure or likelihood of disease pressure use higher rates

For best results apply to damp soil and/or apply in conjunction with a wetting agent Pre-dampened soil will allow the Actinovate® Soluble microorganism to work to the root system of the plant much more easily Apply Actinovate® Soluble at any stage of the crop life For best results apply as early as possible such as at seeding transplant or potting stage Reapply every 2-12 weeks as needed Apply product with watering can hose end sprayer or similar devices

FOLIAR SPRAY

Dissolve 1-2 teaspoons (4-8 grams) of Actinovate® Soluble per 2 gallons of water to create solution For more severe disease pressure or likelihood of disease pressure use higher rates

Spray leaves stems and new shoots to runoff providing complete coverage of entire plant For best results apply product prior to disease development or at the first sign of infection Repeat at 7-day intervals to protect new foliage Under conditions of heavy rainfall it may be necessary to reapply the product after the rain has stopped Do not water foliage within 4 hours of application Use a pump bottle handheld pump backpack or similar type of spray equipment

For best results use a spreader-sticker (a product designed to break the surface tension of water and evenly spread it over the surface of the foliage) in conjunction with application Consult your garden center or dealer for specific product suggestions (Examples of spreader-stickers include Weather Shield® Agri-2® Plant Camel® and yucca extract)

LAWN TREATMENT

Use direct watering a Pump-Up Sprayer or Hose-End Sprayer to apply solution until soil is saturated Reapply at maintenance rate every 4-8 weeks For best results use a wetting agent such as yucca extract Coco-Wet® Plant Camel® or Mega Wet® in conjunction with Actinovate® Soluble in order to help move product to the root system of the lawn Consult your garden center or dealer for specific product suggestions

Direct Watering

Mix 10 teaspoons of product in 5 gallons of water and apply to 1 000 sq ft of lawn Thoroughly soak turf so as to move the solution to the root system Avoid excess run-off or leaching

Pump-Up Sprayer

Initial Application Mix 2 teaspoons Actinovate® Soluble per gallon of water to create spray solution

Apply spray solution at 1 gallon per 200 sq ft of lawn Thoroughly soak turf so as to move the solution to the root system Avoid excess run-off or leaching

Maintenance Application Use 0.5 teaspoons Actinovate® Soluble per gallon of water to create spray solution. Apply spray solution at 1 gallon per 200 sq ft of lawn. Thoroughly soak turf so as to move the solution to the root system. Avoid excess run-off or leaching.

HOSE-END SPRAYER SETTINGS FOR LAWNS

Make a liquid concentrate from the Actinovate® Soluble powder as follows

Initial Application

Area Covered	Actinovate®	Water	Hose-end Setting
200 sq ft	2 tsp	4 oz	4 oz
1000 sq ft	9 tsp	20 oz	4 oz

Maintenance Application

Area Covered	Actinovate®	Water	Hose end Setting
200 sq ft	0.5 tsp	4 oz	4 oz
1000 sq ft	3 tsp	20 oz	4 oz

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE Store in a dry, cool area inaccessible to children. Store in original container only.

PESTICIDE DISPOSAL AND CONTAINER HANDLING

If empty Nonrefillable container. Do not reuse or refill this container. Place in trash or offer for recycling if available. **If partly filled** Call your local solid waste agency or 1-800-CLEANUP for disposal instructions. Never place unused product down any indoor or outdoor drain.

LIMITED WARRANTY/DISCLAIMER

To the extent consistent with applicable law, manufacturer warrants that this product is suited for the labeled uses when applied according to label directions. To the extent consistent with applicable law, manufacturer makes no warranty of merchantability. There are no warranties that extend beyond the description on this label and in no event shall manufacturer be liable for any consequential damages.

(Best if Used by) Use By
LOT NUMBER

SUBLABEL D TURF GRASS AND TURF LANDSCAPE PLANTS APPLICATION

(FRONT PANEL)

ACTINOVATE® SOLUBLE
(ALTERNATE BRAND NAMES ACTINOGRO® TURF, ACTINOGROW T & O)

ACTIVE INGREDIENT

<i>Streptomyces lydicus</i> WYEC 108*	00 0371%
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OTHER INGREDIENTS	<u>99 9629%</u>
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TOTAL	100 0000%
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*End-use product contains not less than 1×10^7 colony forming units per gram *Streptomyces lydicus* WYEC 108

Information regarding the contents and levels of metals in this product is available on the Internet at <http://www.aapfco.org/metals.htm>

KEEP OUT OF REACH OF CHILDREN**CAUTION**

See back panel for additional precautionary statements

US Patent Number 5 403 584

EPA Reg No 73314-1

EPA Establishment No 73314 TX-001

Manufactured by

Natural Industries Inc

6223 Theall Road

Houston Texas 77066

Questions? (888) 261-4731

Net Contents

(Back Panel)

PRECAUTIONARY STATEMENTS

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

User Safety Recommendations

- 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 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 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 requirement for early entry to treated areas (that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water) is:

- Coveralls
- Waterproof gloves
- Shoes plus socks

Non-Agricultural Use Requirements

The requirements in this box 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® Soluble is a biological fungicide for the control of plant disease such as root rots, damping-off, brown patches, summer patches, dollar spot, and other fungi, and the suppression of foliar fungal pathogens. When used as a soil drench, soil-borne fungi controlled include *Fusarium*, *Rhizoctonia*, *Pythium*, *Phytophthora*, *Phytophthora*, *Phytophthora*, *Aphanomyces*, *Monosporascus*, *Armillaria*, *Sclerotinia*, *Postia*.

Verticillium Geotrichum and *Gaeumannomyces graminis* The active ingredient in Actinovate® Soluble colonizes the root system and protects it from harmful fungi. When used as a preventative spray Actinovate® Soluble effectively suppresses/controls foliar diseases such as Powdery and Downy Mildew *Botrytis Sclerotinia Alternaria* and *Erwinia*

APPLICATION DIRECTIONS

Compatibility

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

Application Timing

Apply Actinovate® Soluble throughout the growing season beginning when soil warms to 45° F or pre-plant or pre-emerge to the crops listed on this label.

Note: Actinovate® Soluble contains live spores of a microbe that should be used prior to disease onset to obtain best results. Actinovate® Soluble 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® Soluble can be applied to sterilized or fumigated soil but it must be applied after sterilization or fumigation active ingredient dissipates.

PRODUCT USES

Actinovate Soluble is a broad-spectrum fungicide for use in the prevention, suppression, and aiding in control of landscape foliar and soil diseases (Powdery and Downy Mildew, *Botrytis Rhizoctonia Fusarium Verticillium Pythium* and *Phytophthora*) and turf grass diseases (Brown Patch, Take-all Patch, *Pythium* blight, Dollar Spot, Powdery Mildew, Rusts, and Molds).

Actinovate® Soluble is also effective against Walnut Blight (*Xanthomonas arboricola pv juglandis*), Bacterial Spot (*Xanthomonas perforans*), Citrus Canker (*Xanthomonas axonopodis pv citri*) and Club Root (*Plasmodiophora brassicae*).

Actinovate Soluble can be applied to turf grass including uses on golf courses, sod farms, home lawns, home landscapes, office buildings, apartment complexes, cemeteries, sports fields, and other such sites.

Actinovate Soluble can also be applied to outdoor ornamental plants used for landscaping around homes buildings golf courses sports fields and cemeteries

APPLICATION INSTRUCTIONS

GOLF COURSE TEES, GREENS AND FAIRWAYS, COMMERCIAL AND RESIDENTIAL LAWNS, SOD FARMS, ATHLETIC FIELDS PARKS, CEMETERIES AND SIMILAR SITES

Soil Drench Application Mix Actinovate® Soluble with appropriate amount of water (2-4 gallons per 1000 sq ft) Water in immediately after application with sprinklers for 3-6 minutes

Apply at a rate of 54-oz of Actinovate® Soluble per acre for initial application or problem areas when soil temperatures are above 45°F

Apply maintenance applications of 18 oz per acre every 4 to 8 weeks through season or until soil temperatures reach 45°F or less

A soil surfactant is recommended to best move the solution to the root zone of the turf Consult manufacturer for product recommendations

Foliar Spray Application Mix Actinovate® Soluble with appropriate amount of water (50-150 gallons per acre) Apply in early morning or evening on wet turf

For smaller quantities For initial application or problem area use 1 25-oz of Actinovate® Soluble in 5 gallons of water per 1 000 sq ft of turf grass For maintenance application use 0 5 oz of Actinovate® Soluble in 5 gallons of water per 1 000 sq ft of turf

See application chart below for more detailed application instructions

APPLICATION CHART FOR GOLF COURSE, (FAIRWAYS ROUGHS GREENS TEES) COMMERCIAL, LAWNS RESIDENTIAL LAWNS, CEMETERIES, PARKS (AND SIMILAR SITES) ATHLETIC FIELDS, SOD FARMS, SEED PRODUCTION, AND OTHER TURF

Actinovate Soluble has no Pre-Harvest Interval Under moderate to severe disease pressure increase rates and reduce spray intervals or use in a tank mix or rotational program with other registered fungicides

Turf and grass type	Disease	Rate	Application Instructions
Bluegrass Bentgrass Bermuda grass (Common & Hybrid) Dichondra Fescue Orchard grass Poa Annua St Augustine Ryegrass Zoysia Mixtures and other grasses or ornamental turf	Brown patch <i>Rhizoctonia solani</i> Take All Patch <i>Gaeumannomyces graminis</i> Dollar Spot <i>Lanzia spp</i> <i>Moellerodiscus spp</i> (formerly <i>Sclerotinia homeocarpa</i>) Powdery Mildew <i>Erysiphe graminis</i> Rust <i>Puccinia spp</i> Anthracnose <i>Colletotrichum graminicola</i> Grey Leaf Spot <i>Pyricularia grisea</i> Slime Molds <i>Mucilaga and Physarum</i>	18.54 oz/acre (12.36 grams per 1,000 sq ft)	<p><u>Drench Applications</u> Mix 18.54 oz Actinovate® Soluble with appropriate amount of water (100-150 gallons per acre) Consider use of a soil surfactant to best move the solution to the root zone of the turf. Consult manufacturer for product suggestions</p> <p><i>Initial Application or Problem Areas</i> Apply at a rate of 54 oz of Actinovate® Soluble per acre of turf grass when soil temperatures are above 45 F</p> <p><i>Maintenance</i> Apply at a rate of 18 oz of Actinovate® Soluble per acre of turf grass every 7-24 days through season or until soil temperatures reach 45 F or less</p> <p><u>Spray Applications</u> Mix 18.54 oz of Actinovate® Soluble with appropriate amount of water (50-150 gallons per acre of turf grass) Apply at <i>initial application or maintenance rates</i> as above in early morning or evening on wet turf. Water in immediately after application with sprinklers for 3-6 minutes Consider use of a soil surfactant to best move the solution to the root zone of the turf. Consult manufacturer for product suggestions</p> <p>Continue applications at 7-24 day intervals through season or until soil temperatures fall to 45 F or lower</p> <p><u>For Smaller Quantities</u></p> <p><i>Initial Application or Problem Areas</i> Use 1.25 oz (36 grams) of Actinovate® Soluble in 5 gallons of water per 1,000 sq ft of turf grass</p> <p><i>Maintenance</i> Use 0.5 oz (14 grams) of Actinovate® Soluble in 5 gallons of water per 1,000 sq ft of turf grass</p> <p>Consider use of a soil surfactant to best move the solution to the root zone of the turf. Consult manufacturer for product suggestions. Continue applications at 7-24 day intervals through season or until soil temperatures fall to 45 F or lower</p>

LANDSCAPE (ORNAMENTALS, VEGETABLE GARDENS, GARDEN FRUIT TREES) AND INTERIORSCAPES

For Transplants, Installations and Established Plants Dissolve 0.2-0.4 oz per 2 gallons of water to create a solution. Apply solution to soil around plants root system until soil is saturated without creating a run-off. Apply to plant before, during or after transplant.

For foliar spray Dissolve 0.2-0.4 oz per 2 gallons of water and apply in order to acquire thorough uniform coverage. See application chart below for more detailed application instructions.

APPLICATION CHART FOR SOIL DRENCH & FOLIAR SPRAY ON LANDSCAPE & INTERIORSCAPES

Actinovate Soluble has no Pre-Harvest Interval

Under moderate to severe disease pressure, increase rates and reduce spray intervals or use Actinovate Soluble in a tank mix or rotational program with other registered fungicides.

Crops	Foliar Disease	Soil Diseases	Rate	Application Instructions
<p>Intiorscape plants and trees</p> <p>Outdoor landscape ornamental plants fruit trees and vegetable gardens</p>	<p>Black spot of rose <i>Diplocarpon rosea</i></p> <p>Botrytis <i>Botrytis cinerea</i></p> <p>Downy Mildew <i>Peronospora</i> spp</p> <p>Leaf spots <i>Alternaria</i> spp</p> <p>Powdery mildew <i>Erysiphe</i> spp</p> <p><i>Oidium</i> spp</p> <p><i>Podosphaera</i> spp</p> <p><i>Sphaerotheca</i> spp</p> <p>Phytophthora spp</p> <p>Rust <i>Puccinia</i> spp</p> <p>Fireblight <i>Erwinia</i></p>	<p><i>Pythium</i> spp</p> <p><i>Phytophthora</i> spp</p> <p><i>Fusarium</i> spp</p> <p><i>Rhizoctonia</i> spp</p> <p><i>Thielaviopsis</i></p> <p><i>Verticillium</i></p> <p><i>Sclerotinia</i></p>	<p>3 12 oz/100 gal (0 1 0 4 oz /2 gal)</p>	<p>Foliar Spray Apply Actinovate Soluble at rates ranging from 3 12 oz of product in 100 gallons of water per acre Make applications on a 3 to 14 day schedule Begin applications when conditions favor disease development prior to the onset of disease</p> <p>When conditions favor severe disease development shorten the spray interval or use a higher rate Spray plants thoroughly wet to run off</p> <p>Soil Application Apply Actinovate Soluble at rates ranging from 4 6 oz of product in 100 gallons of water Apply as a soil drench to base of plant and/or root ball until soil is saturated without run off Reapply every 4 12 weeks depending on disease pressure</p>

CHEMIGATION

General Requirements

- Apply Actinovate® Soluble at 3-12 oz per 10 -200 gallons of water
- Apply Actinovate® Soluble 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

- 1) Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year
- 2) Chemigation systems connected to public water systems must contain a functional reduced-pressure zone back flow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, 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.
- 3) The pesticide injection pipeline must contain a functional automatic quick-closing check valve to prevent the flow of fluid back toward the injection.
- 4) The pesticide injection pipeline must contain a functional normally closed solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 5) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops or in cases where there is no water pump when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 6) Systems must use a metering pump such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- 7) Do not apply when wind speed favors drift beyond the area intended for treatment.
- 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.

Sprinkler 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 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 appropriately 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 or 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 Disposal

Non-refillable container. Do not reuse or refill this container. Clean container promptly after emptying. Then offer for recycling if available or puncture and dispose of in sanitary landfill or by incineration. Do not burn, unless allowed by state and local ordinances

Batch Code _____

LIMITED WARRANTY/DISCLAIMER

To the extent consistent with applicable law, manufacturer warrants that this product is suited for the labeled uses when applied according to label directions. To the extent consistent with applicable law, manufacturer makes no warranty of merchantability. There are no warranties that extend beyond the description on this label and in no event shall manufacturer be liable for any consequential damages

Use By
LOT NUMBER

SUBLABEL E AGRICULTURE PRODUCTION – SELECT MAJOR CROPS

(FRONT PANEL)

**ACTINOVATE® SOLUBLE
(ALTERNATE BRAND NAME ACTINOGRO, ACTINOGROW)**

ACTIVE INGREDIENT

Streptomyces lydicus WYEC 108* 00 0371%

OTHER INGREDIENTS 99 9629%

TOTAL 100 0000%

*End-use product contains not less than 1 X 10⁷ colony forming units per gram *Streptomyces lydicus* WYEC 108

Information regarding the contents and levels of metals in this product is available on the Internet at [http //www aapfco org/metals htm](http://www.aapfco.org/metals.htm)

KEEP OUT OF REACH OF CHILDREN

CAUTION

See back panel for additional precautionary statements

US Patent Number 5 403 584

EPA Reg No 73314-1

EPA Establishment No 73314-TX-001

Manufactured by

Natural Industries Inc

6223 Theall Road

Houston Texas 77066

Questions? (888) 261-4731

Net Contents

(Back Panel)

PRECAUTIONARY STATEMENTS

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 (40 CFR 170 240(d)(4-6)) the handler PPE requirements may be reduced or modified as specified in the WPS

User Safety Recommendations

- 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 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 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 requirement for early entry to treated areas (that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated such as plants soil or water) is

- Coveralls
- Waterproof gloves
- Shoes plus socks

Non-Agricultural Use Requirements

The requirements in this box 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® Soluble 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 seed treatment soil borne fungi suppressed/controlled include *Fusarium Rhizoctonia Pythium Phytophthora Aphanomyces Monosporascus Armillaria Sclerotinia Gaeumannomyces Postia Verticillium and Geotrichum* The

active ingredient in Actinovate® Soluble colonizes the root system and protects it from harmful fungi. When used as a foliar spray Actinovate® Soluble effectively suppresses/controls foliar diseases such as Powdery and Downy Mildew *Botrytis* *Monilinia* *Anthraco* Greasy Spot *Sclerotinia* *Alternaria* and *Erwinia*

Actinovate® Soluble is also effective against Walnut Blight (*Xanthomonas arboricola pv juglandis*) Bacterial Spot (*Xanthomonas perforans*) Citrus Canker (*Xanthomonas axonopodis pv citri*) and Club Root (*Plasmodiophora brassicae*)

When applied to the soil Actinovate® Soluble also breaks down minerals and micronutrients making them more available to plants resulting in increased size and vitality. Plants treated with Actinovate® Soluble as a soil application will become hardier, more vigorous and will have a robust and protected root system.

INTEGRATED PEST MANAGEMENT (IPM)

Integrate Actinovate® Soluble 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® Soluble 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. Maintaining moist soil after application will enable the product to perform as expected. Prepare only the amount of spray or soil drench solution to treat the measured area in the same day the product is prepared. Accurate spray equipment calibration is essential prior to use.

PREHARVEST INTERVAL

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

APPLICATION DIRECTIONS

Compatibility

Actinovate® Soluble is completely soluble and does not require agitation to keep suspended in a solution. Actinovate® Soluble 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® Soluble can be tank mixed and dry mixed with most chemical fungicides, insecticides, and fertilizers unless otherwise restricted. Do not apply soil fumigants to the areas treated with Actinovate® Soluble. If fumigants are applied to the soil, all fumigant active ingredient must be completely dissipated prior to applying Actinovate® Soluble. Consult manufacturer for compatibility questions.

Application Timing

Apply Actinovate® Soluble throughout the growing season from early spring to late fall from pre-plant and pre-emerge beginning when soil warms to 45° F to the production agriculture crops listed in the Crops on Which Actinovate® Soluble May Be Used section.

Note: Since Actinovate® Soluble contains live spores of a microbe, best results will be obtained if the product is used prior to disease onset. Actinovate® Soluble 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® Soluble can be applied to sterilized or fumigated soil, but it must be applied after sterilization or fumigation active ingredient is completely dissipated.

Application Uses

Actinovate® Soluble 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® Soluble May Be Used section.

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*, Anthracnose, Greasy Spot, *Sclerotinia*, *Alternaria*, and *Erwinia*.

Soil Treatment At Planting

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

Soil Treatment Through Irrigation

Actinovate® Soluble 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® Soluble in 10-200 gallons of water per acre See Chemigation section for additional information

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® Soluble in 4-oz of water and spray directly on 100 lbs of seed
Hopper Box Dry Coating Apply directly to seed as a dry coating at a rate of 2-18 oz per 100 lbs 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 1-6 oz of Actinovate® Soluble 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® Soluble 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 determine the potential for spray drift The applicator and grower/treatment coordinator are responsible for considering all of these factors when making decisions

If aerial application is desired mix appropriate amount of Actinovate® Soluble and water in tank Apply as a normal spray

Crops On Which Actinovate® Soluble May Be Used

CROPS	Foliar Spray Rate	Soil Drench Rate	Seed Treatment Rate
Agronomic Field and Row Crops Buckwheat canola flax safflower sunflower succulent and dry peas peanuts soybeans and sugarbeets Alfalfa Hay and Forage Alfalfa clover vetch trefoil and all forage grasses Legume Crops Snap and dry beans lentils edamame succulent and dry peas peanuts and soybeans Cereal Grains Wheat barley oat rye millet quinoa buckwheat rice wild rice triticale sorghum Potatoes All types of Irish potatoes and sweet potatoes Corn Field corn white corn popcorn seed corn and other corn crops	1 6 oz of Actinovate® Soluble /acre Reapply every 7 14 days or as needed For best results use with spreader sticker	1 12oz of Actinovate® Soluble/acre Apply in furrow directly on seed piece when planting or through irrigation	Seed Spray/Slurry 2 18 ounces of product dissolved in 4 oz of water/100 lbs of seed Hopper Box Dry Coating 2 18 oz of product/100 lbs of seed

CHEMIGATION

General Requirements

- Apply Actinovate® Soluble at 1-6 oz per 10 -200 gallons of water
- Apply Actinovate® Soluble 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

- 1) Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year
- 2) Chemigation systems connected to public water systems must contain a functional reduced-pressure zone back flow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ 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
- 3) The pesticide injection pipeline must contain a functional automatic quick-closing check valve to prevent the flow of fluid back toward the injection
- 4) The pesticide injection pipeline must contain a functional normally closed solenoid operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down
- 5) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops or in cases where there is no water pump when the water pressure decreases to the point where pesticide distribution is adversely affected
- 6) Systems must use a metering pump such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock
- 7) Do not apply when wind speed favors drift beyond the area intended for treatment
- 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

Sprinkler 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 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 appropriately 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 or 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 Disposal

Non-refillable container. Do not reuse or refill this container. Clean container promptly after emptying. Then offer for recycling if available or puncture and dispose of in sanitary landfill or by incineration. Do not burn, unless allowed by state and local ordinances

Batch Code _____

LIMITED WARRANTY/DISCLAIMER

To the extent consistent with applicable law, manufacturer warrants that this product is suited for the labeled uses when applied according to label directions. To the extent consistent with applicable law, manufacturer makes no warranty of merchantability. There are no warranties that extend beyond the description on this label and in no event shall manufacturer be liable for any consequential damages

Use By

LOT NUMBER

OPTIONAL LABEL CLAIMS

- Biological Fungus Control
- For Use In Organic Farming
- For Organic Production
- For Organic Gardening
- For Organic Lawn Care
- For Use in Organic Production
- Biological Fungicide
- Controls soil-borne plant diseases such as *Pythium Rhizoctonia Phytophthora Verticillium and Fusarium*
- 100% Soluble Will not clog machinery
- Enhances plant vitality
- Encourages larger root systems
- For Greenhouse Nursery Interiorscapes Agriculture and Turf
- For turf diseases such as Brown Patch Dollar Spot and Take-all Patch
- Use on Roses Vegetables Fruits Flowering Plants Trees and Shrubs
- Fungicide that attacks harmful garden diseases
- Controls/Suppresses foliar diseases such as Powdery Mildew Rust Grey Mold and Black Spot
- Controls Damping Off and Root Rot
- Aids in Turf Recovery
- For Home Garden and Lawn Care Use
- Concentrated Formula
- Treats Up to 5 000 sq ft of lawn or 550 6 potted plants
- Easy To Use
- Easy tear opening
- Concentrated Powder
- Re-Sealable [pouch] [bag]
- For use with [hose-end] [sprayer] [pump up sprayer] [water can]
- Fight lawn & garden diseases such as Summer patch dollar spot damping off and root rot
- For use on turfgrass and outdoor ornamental plants interiorscapes and gardens on or around sites such as golf courses residential & commercial lawns athletic fields parks cemeteries sod farms and similar locations
- Controls/suppresses soil-borne plant diseases such as root rots Damping Off Brown Patch Summer Patch and Dollar Spot

- For use on all major agricultural crops including alfalfa (hay forage) bean (all types) cereals corn (all types) oilseeds (canola sunflower safflower peanut etc) peanut peas (dry fresh sweet) potato soybean and sugarbeet
- Controls/suppresses soil-borne plant diseases damping-off and root diseases caused by *Pythium Rhizoctonia Phytophthora Sclerotinia Verticillium Fusarium* when applied according to label directions
- Controls/Suppresses Foliar Disease such as Powdery Mildew Downy Mildew *Botrytis Sclerotinia Monilinia Alternaria Erwinia* when applied according to label directions
- 100% water soluble formula
- For Suppression of Walnut Blight (*Xanthomonas arboricola pv Juglandis*) Bacterial Spot (*Xanthomonas perforans*) Citrus Canker (*Xanthomonas axonopodis pv citri*) Club Root (*Plasmodiophora brassicae*)

