

ActinoGrow™ T&O

Application Type

T/O

Turf & Ornamental

ACTIVE INGREDIENT:

Streptomyces lydicus WYEC 108*..... 00.0371%

OTHER INGREDIENTS:..... 99.9629%

TOTAL:..... 100.0000%

*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 inside booklet for precautionary statements.

LOT Number:

US Patent Number: 5,403,584

EPA Reg. No.: 73314-I

EPA Est. No.: 73314-TX-001

Manufactured by:

Natural Industries, Inc.

6223 Theall Road

Houston, Texas 77066

Questions? (888) 261-4731

Distributed by:

SipcamAdvan

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SipcamAdvan

9504255-000-20100222

Net Weight: 18 oz

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:

ActinoGrow® Turf is a biological fungicide for the control of soilborne 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, soilborne fungi controlled include Fusarium, Rhizoctonia, Pythium, Phytophthora, Phytophthora, Phytophthora, Aphanomyces, Monosporascus, Armillaria, Sclerotinia, Postia, Verticillium, Geotrichum, and Gaeumannomyces graminis. The active ingredient in ActinoGrow® Turf colonizes the root system and protects it from harmful fungi. When used as a preventative spray, ActinoGrow® Turf effectively suppresses/controls foliar diseases such as Powdery and Downy Mildew, Botrytis, Sclerotinia, Alternaria, and Erwinia.

APPLICATION DIRECTIONS:

Compatibility:

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

Application Timing:

Apply ActinoGrow® Turf 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: ActinoGrow® Turf contains live spores of a microbe that should be used prior to disease onset to obtain best results. ActinoGrow® Turf becomes active in soil or on the plant foliage when the temperatures are above 45°F and is not effective when temperatures remain cold. ActinoGrow® Turf can be applied to sterilized or fumigated soil but it must be applied after sterilization or fumigation active ingredient dissipates.

PRODUCT USES

ActinoGrow® Turf 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).

ActinoGrow® Turf 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.

ActinoGrow® Turf 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 ActinoGrow® Turf 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 ActinoGrow® Turf 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 ActinoGrow® Turf 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 ActinoGrow® Turf in 5 gallons of water per 1,000 sq. ft. of turf grass. For maintenance application use 0.5 oz of ActinoGrow® Turf in 5 gallons of water per 1,000 sq. ft. of turf.

See application chart below for more detailed application instructions.

ActinoGrow® Turf has no Pre-Harvest Interval.

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

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 Ppatch <i>Rhizoctonia solani</i> Take All Patch <i>Gaeumannomyces graminis</i> Dollar Spot <i>Lanzia</i> spp. <i>Moellerodiscus</i> spp. (formerly <i>Sclerotinia homeocarpa</i>) Powdery Mildew <i>Erysiphe graminis</i> Rust <i>Puccinia</i> spp. Anthracnose <i>Colletotrichum graminicola</i> Grey Leaf Spot <i>Pyricularia grisea</i> Slime Molds <i>Mucilaga</i> and <i>Physarum</i>	18-54 oz/acre (12-36 grams per 1,000 sq. ft.)	<u>Drench Applications:</u> Mix 18-54 oz. ActinoGrow® Turf 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. <i>Initial Application or Problem Areas:</i> Apply at a rate of 54 oz. of ActinoGrow® Turf per acre of turf grass when soil temperatures are above 45°F. <i>Maintenance:</i> Apply at a rate of 18 oz. of ActinoGrow® Turf per acre of turf grass every 7-24 days through season or until soil temperatures reach 45°F or less. <u>Spray Applications:</u> Mix 18-54 oz. of ActinoGrow® Turf with appropriate amount of water (50-150 gallons per acre of turf grass). Apply at <i>initial application</i> or <i>maintenance</i> rates 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. Continue applications at 7-24 day intervals through season or until soil temperatures fall to 45°F or lower. <u>For Smaller Quantities:</u> <i>Initial Application or Problem Areas:</i> Use 1.25 oz (36 grams) of ActinoGrow® Turf in 5 gallons of water per 1,000 sq. ft. of turf grass. <i>Maintenance:</i> Use 0.5 oz (14 grams) of ActinoGrow® Turf in 5 gallons of water per 1,000 sq. ft. of turf grass. 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.

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 plant's 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

ActinoGrow® Turf has no Pre-Harvest Interval.

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

Crops	Foliar Disease	Soil Diseases	Rate	Application Instructions
Interiorscape plants and trees Outdoor landscape ornamental plants, fruit trees, and vegetable gardens	Black spot of rose <i>Diplocarpon rosea</i> Botrytis <i>Botrytis cinerea</i> Downy Mildew <i>Peronospora</i> spp. Leaf spots <i>Alternaria</i> spp. Powdery mildew <i>Erysiphe</i> spp. <i>Oidium</i> spp. <i>Podosphaera</i> spp. <i>Sphaerotheca</i> spp. <i>Phytophthora</i> spp. Rust <i>Puccinia</i> spp. Fireblight <i>Erwinia</i>	<i>Pythium</i> spp. <i>Phytophthora</i> spp. <i>Fusarium</i> spp. <i>Rhizoctonia</i> spp. <i>Theleliopsis</i> <i>Verticillium</i> <i>Sclerotinia</i>	3-12 oz/100 gal (0.1-0.4 oz/2 gal)	Foliar Spray: Apply ActinoGrow® Turf 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. When conditions favor severe disease development shorten the spray interval or use a higher rate. Spray plants thoroughly wet to run off. Soil Application: Apply ActinoGrow® Turf 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.

CHEMIGATION

General Requirements:

- Apply ActinoGrow® Turf at 3-12 oz per 20-200 gallons of water.
- Apply ActinoGrow® Turf 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) 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. 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.

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.