

# TurfShield PLUS WP Biological Fungicide

USE IN FIELD APPLICATIONS, LANDSCAPES. USE IN TANK MIXES OR ROTATIONAL ALTERNATING APPLICATION PROGRAMS WITH OTHER CROP PROTECTION PRODUCTS. USE IN RESISTANCE MANAGEMENT PROGRAMS. FOR USE ON ORNAMENTALS, LANDSCAPE PLANTS, TREES, SHRUBS, TURF, LAWNS, SOD, SOD FARMS, ATHLETIC FIELDS, GOLF COURSES (GREENS, TEES, FAIRWAYS AND ROUGHS)

## ACTIVE INGREDIENTS:

*Trichoderma harzianum* Rifai strain T-22\* ..... 1.15%

*Trichoderma virens* strain G-41\*\* ..... 0.61%

**OTHER INGREDIENTS:** ..... 98.24%

**TOTAL:** ..... 100.00%

\*Contains at least  $1.0 \times 10^7$  colony forming units per gram dry weight.

\*\*Contains at least  $5.3 \times 10^6$  colony forming units per gram dry weight.

KEEP OUT OF REACH OF CHILDREN  
**CAUTION**

EPA Reg. No.: 68539-9

EPA Est. No.: 68539-NY-001

## Manufactured by:

BioWorks, Inc.  
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U.S. Patent Pending

## FIRST AID

### If in eyes

- Hold eye open and rinse slowly and gently with water for 15 – 20 minutes.
- Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
- Call a poison control center or doctor for treatment advice.

HOT LINE NUMBER: Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-222-1222 for emergency medical treatment information.

## PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**CAUTION:** Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

## PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear protective eyewear, long-sleeved shirt and long pants, and shoes plus socks. Mixers/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 remove PPE immediately after handling this product. As soon as possible, wash thoroughly and change into clean clothing. Users should remove clothing / PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

## ENVIRONMENTAL HAZARDS

Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters or rinsate.

## 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 workers may be in the area during application. For any requirement specific to your State or Tribe, consult the State or Tribal agency responsible for pesticide regulation.

### AGRICULTURAL USES

For disease control in turf in sod production

#### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted - entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 4 hours.

Exception: If the product is soil injected or soil incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

PPE required for early entry to treated areas (that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water) is protective eyewear, waterproof gloves, coveralls, shoes, and socks.

### NON-AGRICULTURAL USES

For use to control diseases on turf ornamental plants and landscape plants intended for aesthetic purposes and being grown in ornamental gardens or parks, on golf courses, or on public or private lawns or grounds or grown for other than commercial or research purposes.

#### NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are **not** within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses.

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

## PRODUCT INFORMATION

TURFSHIELD PLUS WP Biological Fungicide is a preventative biological fungicide for control of plant diseases. The active ingredients are microbes, *Trichoderma harzianum* Rifai strain T-22 and *Trichoderma virens* strain G-41, which when applied to soil, planting mixes, or turf, grow onto plant roots as they develop and provide protection against plant root pathogens such as *Pythium*, *Phytophthora*, *Rhizoctonia*, *Fusarium*, *Cylindrocladium*, *Thielaviopsis* and *Sclerotinia homeocarpa*.

TURFSHIELD PLUS WP Biological Fungicide can be used alone, in combination with, or in rotation with other fungicides, insecticides, miticides, fertilizers or micronutrients in accordance with the most restrictive of label limitations and precautions. Do not exceed label dosage rates. This product cannot be used with any product containing a label prohibition against such mixing. Consult your BioWorks Representative for more information. **This product must not be tank mixed with chemicals that contain the following active ingredients: imazilil, propiconazole, tebuconazole, and triflumizole.** Do not apply TURFSHIELD PLUS WP Biological Fungicide immediately before these pesticides are used. See specific instructions for tank mixing.

Note: TURFSHIELD PLUS WP Biological Fungicide contains live spores of microbes that must be used prior to disease onset. TURFSHIELD PLUS WP Biological Fungicide becomes active in soil or on plants when temperatures are above 50°F and is not effective while temperatures remain cold. TURFSHIELD PLUS WP Biological Fungicide can be applied to sterilized or fumigated soil but must be applied after sterilization or fumigation.

This biological fungicide is for use in soil applications (drench, soil surface spray, and soil injection) on turf, food plants, ornamentals, landscape plants, and ornamental trees. This biological fungicide is also for use in foliar applications (foliar spray) on turf.

**ATTENTION: DO NOT APPLY to sugarcane, pechay (bok choy), rice, mushrooms, kiwi, tobacco, barley, oats, lemon, apple, and chickpea. Not for use on aquatic crops. DO NOT APPLY this product through any type of irrigation system.**

### TURF USES

TURF	USE	APPLICATION RATE OF TURFSHIELD PLUS WP BIOLOGICAL FUNGICIDE
Turf: Golf Courses, Sports fields, Seedbed preparation of golf course tees, greens fairways and roughs, Seed production, Sod production	Soil surface spray Foliar spray	0.5 – 1.5 oz / 1,000 sq ft turf 0.5 – 1.5 oz / 1,000 sq ft turf

**TURF APPLICATION:** Begin application of TURFSHIELD PLUS WP **Biological Fungicide** when soil temperature reaches 46° – 48° F or when turf begins to grow. Reapply at 30 day intervals at the application rates given directly below until turf becomes dormant. The first two applications of the season must be thoroughly watered into the soil with at least ½ inch of rainfall or irrigation to ensure adequate root colonization.

First and second applications:

1.5 ounces of TurfShield PLUS WP per 1,000 square feet of turf

Subsequent monthly applications on greens:

1.0 ounce of TurfShield PLUS WP per 1,000 square feet of turf

Subsequent monthly applications on turf other than greens:

0.5 ounce of TurfShield PLUS WP per 1,000 square feet of turf

Mix the above application rates in a minimum of 1 – 5 gallons of water per 1,000 sq ft of turf. TURFSHIELD PLUS WP Biological Fungicide is fully compatible with fertilizers and can be tank mixed and applied when making fertilizer applications. Apply tank mixes containing TURFSHIELD PLUS WP Biological Fungicide and fertilizers within 4 hours of mixing. Constant agitation of the spray tank is required.

For new turf seedings apply TURFSHIELD PLUS WP Biological Fungicide at 1.5 oz per 1000 square feet just after seeding. Follow application with at least 1/8" of irrigation water.

Apply TurfShield PLUS WP directly to turf through low pressure watering nozzles such as fan nozzles, other drench watering systems, handheld sprayers or backpack sprayers.

### LANDSCAPE USES

#### PLANTS ON WHICH TURFSHIELD PLUS WP BIOLOGICAL FUNGICIDE MAY BE USED:

**For plants that could bear food commodities: Do not apply product when above-ground harvestable food commodities are present.**

TURFSHIELD PLUS WP Biological Fungicide has a 0-Day PreHarvest Interval (PHI) for all crops contained on this label.

PLANT	USE	APPLICATION RATE OF TURFSHIELD PLUS WP BIOLOGICAL FUNGICIDE
<b>Berries and Small Fruits:</b> Blackberries, Blueberries, Currants, Elderberries, Gooseberries, Huckleberries, Loganberries, Raspberries, Strawberries, Grapes	Landscape soil drench Soil injection	3 – 8 oz / 1,000 sq ft landscape plantings 3 – 8 oz / 1,000 sq ft shrubs
<b>Ornamental Bulbs</b>	Landscape soil drench	3 – 8 oz / 1,000 sq ft landscape plantings
<b>Citrus Fruits:</b> Citrus Hybrids, Grapefruit, Kumquat, Limes, Oranges, Pummelos	Landscape soil drench Soil injection	3 – 8 oz / 1,000 sq ft landscape plantings 3 – 8 oz / 1,000 sq ft trees
<b>Conifer Trees</b>	Landscape soil drench Soil injection	3 – 8 oz / 1,000 sq ft landscape plantings 3 – 8 oz / 1,000 sq ft trees
<b>Flowers, Bedding Plants, and Ornamentals</b>	Landscape soil drench Soil injection	3 – 8 oz / 1,000 sq ft landscape plantings 3 – 8 oz / 1,000 sq ft shrubs
<b>Herbs, Spices, and Mints</b>	Landscape soil drench Soil injection	3 – 8 oz / 1,000 sq ft landscape plantings 3 – 8 oz / 1,000 sq ft shrubs
<b>Pome Fruits:</b> Pears, Quince	Landscape soil drench Soil injection	3 – 8 oz / 1,000 sq ft landscape plantings 3 – 8 oz / 1,000 sq ft trees
<b>Trees and shrubs:</b> Deciduous Trees (Maple, Oak, etc.), Ornamentals, Grapes, Citrus, Pine	Landscape soil drench Soil injection	3 – 8 oz / 1,000 sq ft landscape plantings 3 – 8 oz / 1,000 sq ft trees and shrubs
<b>Stone Fruits:</b> Apricots, Cherries, Nectarines, Peaches, Plums, Prunes	Landscape soil drench Soil injection	3 – 8 oz / 1,000 sq ft landscape plantings 3 – 8 oz / 1,000 sq ft trees
<b>Tree Nuts:</b> Almonds, Beech Nuts, Brazil Nuts, Butternuts, Cashews, Chestnuts, Filberts, Hickory Nuts, Macadamia Nuts, Pecans, Pistachios, Walnuts	Landscape soil drench Soil injection	3 – 8 oz / 1,000 sq ft landscape plantings 3 – 8 oz / 1,000 sq ft trees

**LANDSCAPE SOIL DRENCH:** Apply 3 – 8 ounces TURFSHIELD PLUS WP Biological Fungicide per 1,000 square feet of landscape plantings. Mix required dosage in sufficient water (50 – 75 gallons of water/1,000 sq ft) and apply prepared suspension as a soil drench to landscape plantings. Apply TURFSHIELD PLUS WP Biological Fungicide directly to the soil through low pressure watering nozzles such as fan nozzles, other drench watering systems, or hydraulic, handheld or backpack sprayers. Constant agitation of the spray tank is required. After application, lightly irrigate landscape plantings with 1/8 – 1/4 inch of water to move product below soil surface.

**SOIL INJECTION FOR TREES AND SHRUBS:** Apply 3.0 to 8.0 oz TURFSHIELD PLUS WP Biological Fungicide per 1,000 sq ft of trees and shrubs. Mix required dosage in sufficient water (50 – 75 gallons of water/1,000 sq ft) to inject an equal amount of solution in each hole. Constant agitation of the spray tank is required. Use a grid system for soil injection of TURFSHIELD PLUS WP Biological Fungicide by spacing holes on 2.0 to 3.0 foot centers, in a grid pattern, extending at least to the drip line of the tree. Inject prepared solution into the soil at least 3” deep for shrubs and 6” deep for trees.

#### TANK MIXING

TURFSHIELD PLUS WP Biological Fungicide can be tank mixed and is compatible with many commonly used fungicides, liquid fertilizers, herbicides, insecticides and biological control products. If tank mixes are desired, observe the most restrictive of labeling limitations and precautions of all products used in mixtures. Consult your BioWorks representative for more information. **This product must not be tank mixed with chemicals that contain the following active ingredients: imazilil, propiconazole, tebuconazole, and triflumizole.** Do not apply TURFSHIELD PLUS WP Biological Fungicide immediately before these pesticides are used.

Do not combine TURFSHIELD PLUS WP Biological Fungicide in the spray tank with pesticides, surfactants, adjuvants, or fertilizers if there has been no previous experience or use of the combination to show it is physically compatible, effective and non-injurious under your use conditions.

TURFSHIELD PLUS WP Biological Fungicide is compatible with many commonly used pesticides, fertilizers, adjuvants and surfactants but has not been fully evaluated with all of these. To ensure compatibility of tank-mix combinations, evaluate them prior to use as follows: Using a suitable container, add proportional amounts of products to water. Add wettable powders first, followed by water dispersible granules, then by liquid flowables and lastly, emulsifiable concentrates. Mix thoroughly and let stand for at least five minutes. If the combination stays mixed or can be remixed, it is physically compatible. Do not exceed label dosage rates.

This product cannot be mixed with any product containing a label prohibition against such mixing.

#### PLANT SAFETY

TURFSHIELD PLUS WP Biological Fungicide has been tested on numerous plant varieties with no phytotoxic effects. However, since TURFSHIELD PLUS WP Biological Fungicide has not been tested on all plant varieties or in combination with all available tank mixes, the manufacturer recommends testing TURFSHIELD PLUS WP Biological Fungicide on a small number of plants to check for adverse plant effects before applying to a larger number of plants.

#### STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE:** Store in original container under refrigerated conditions. Short periods at room temperatures below 75°F will not affect performance. Keep container tightly closed when not in use.

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

**CONTAINER HANDLING:** Nonrefillable container. Do not reuse or refill this container. Completely empty bag by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application equipment. Then offer for recycling if available, or dispose of empty bag in a sanitary landfill or by incineration. Do not burn, unless allowed by state and local ordinances. If burned, stay out of smoke. If outer box is contaminated, dispose of it in the same manner as required for the bag.

**NOTICE TO BUYER AND SELLER:** Seller warrants that this product conforms to the description on this label and is reasonably fit for the purposes stated on this label when used and stored in accordance with the directions for use. This warranty does not extend to use of this product contrary to label directions or under conditions not reasonably foreseeable by the Seller, and Buyer and User assume the risk of any such use. To the extent consistent with applicable law, Seller disclaims all other warranties, express or implied, including any warranty of fitness or merchantability. To the extent consistent with applicable law, Seller shall not be liable for consequential, special or indirect damages resulting from use or handling of this product, and Seller's sole liability and Buyer's and User's exclusive remedy shall be limited to refund of the purchase price. This product is sold only for uses stated on its label. No express or implied license is granted to use or sell this product under any patent in any country except as specified.

**In Case of Emergency: Call CHEMTREC: (800) 424-9300**

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