

# PROTHIOCONAZOLE 4L SELECT

#### **ACTIVE INGREDIENTS:**

Contains 4 lbs/gal of prothioconazole

# CAUTION CAUTION

See label booklet for complete First Aid, Precautionary Statements, Directions For Use, and Storage and Disposal.

Manufactured By:
Prime Source, a division
of Albaugh, LLC
1525 NE 36th Street,
Ankeny, IA 50021



EPA Reg. No. 89442-61

AD010623N

FIRST AID				
IF SWALLOWED:	<ul> <li>Immediately call a poison control center or doctor for treatment advice.</li> <li>Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>Have person sup a glass of water if able to swallow.</li> <li>Do not give anything by mouth to an unconscious person.</li> </ul>			
<ul> <li>Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>				
IF INHALED:	<ul> <li>Move person to fresh air.</li> <li>If person is not breathing, call 911 or an ambulance, and then give artificial respiration, preferably mouth-to-mouth if possible.</li> <li>Call a poison control center or doctor for further treatment advice.</li> </ul>			
Have the product container or label with you when calling a poison control center (1-800-222-1222) or doctor or going for treatment. For non-emergency exposure information on this product, call 1-888-347-6732 (7 days/week, 24-hr). For medical emergencies, dial 911.				
NOTE TO PHYSICIAN: No specific antidote. Treat symptomatically.				

# PRECAUTIONARY STATEMENTS HAZARD TO HUMANS AND DOMESTIC ANIMALS CAUTION

Harmful if swallowed or inhaled. Avoid breathing spray mist. Causes moderate eye irritation. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Avoid contact with eyes or clothing. Wear long-sleeved shirt and long pants, socks and shoes. Remove and wash contaminated clothing before reuse.

#### PERSONAL PROTECTIVE EQUIPMENT

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical resistant gloves made of polyvinyl chloride (PVC) ≥14 mils, nitrile rubber ≥14 mils, or butyl rubber ≥14 mils
- Shoes plus socks

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

#### **USER SAFETY RECOMMEDATIONS**

Users should:

- Remove clothing/PPE immediately if pesticide gets inside. Then, wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

#### **ENVIRONMENTAL HAZARDS**

This product is toxic to estuarine/marine invertebrates, and freshwater/estuaries/marine aquatic plants. **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 washwater or rinsate.

**Ground Water Advisory:** Prothioconazole-desthio (a degradate of prothioconazole) is known to leach through soil into ground water under certain conditions as a result of label use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in ground-water contamination.

**Surface Water Advisory:** Drift and runoff are hazardous to aquatic organisms in water adjacent to treated areas. This product has a high potential for runoff for several months or more after application. Poorly draining soils and soils with shallow watertables are more prone to produce runoff that contains this product. A level, well maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential for contamination of water from rainfall-runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours.

#### **PHYSICAL-CHEMICAL HAZARDS**

**DO NOT** mix or allow coming in contact with oxidizing agents. Hazardous chemical reaction may occur.

# **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 agency responsible for pesticide regulation.

# **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 (WPS) 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. Golf courses are not within the scope of the Worker Protection Standard.

**DO NOT** enter or allow others to enter treated areas until sprays have dried.

# STORAGE AND DISPOSAL

**DO NOT** contaminate water, food, or feed by storage or disposal.

PESTICIDE STORAGE: Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.

Handle and open container in a manner as to prevent spillage. If container is leaking, invert to prevent leakage. If the container is leaking or material is spilled for any reason or cause, carefully dam up spilled material to prevent runoff. Refer to Precautionary Statements on label for hazards associated with the handling of this material. **DO NOT** walk through spilled material. Absorb spilled material with absorbing type compounds and dispose of as directed for pesticides below. In spill or leak incidents, keep unauthorized people away.

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

CONTAINER HANDLING: (See the Net Contents section on the container to determine if it non-refillable or refillable.) APPROPRIATE BOX MUST BE CHECKED.

Non-refillable rigid plastic containers (≤5 gallon): **DO NOT** reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ 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.

Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

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# **STORAGE AND DISPOSAL** (cont.)

Non-refillable rigid plastic containers (>5 gallon): **DO NOT** reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

#### PRODUCT INFORMATION

PROTHIOCONAZOLE 4L SELECT™ is a suspension concentrate. The active ingredient, prothioconazole, belongs to the demethylation inhibitor (DMI) class of fungicides. The mode of action of this DMI belongs to the group of triazolinthiones, classified as a FRAC Group 3 fungicide. To maximize disease control, apply PROTHIOCONAZOLE 4L SELECT™ in a regularly scheduled spray program and use in a rotation with other fungicides.

PROTHIOCONAZOLE 4L SELECT™ is a broad-spectrum systemic fungicide for the control of Ascomycetes, Basidiomycetes and Deuteromycetes diseases in golf course turf grass.

PROTHIOCONAZOLE 4L SELECT™ is intended for use by professional applicators.

#### **TURFGRASS TOLERANCE**

Due to the variability within turfgrass species and cultivars, along with possible tank-mix combinations, including additives and other pesticides, neither the seller not the manufacturer has determined whether or not all turfgrasses or combinations are tolerant to PROTHIOCONAZOLE 4L SELECT<sup>TM</sup> under all conditions.

Before applying any mixture not specifically recommended on this label, it is advised to confirm biological compatibility testing with the combination. To confirm biological compatibility, mix the products in accordance to labeled rates and spray a small area of target turf under similar conditions to target area and monitor for any phytotoxic response or other adverse effect before applying PROTHIOCONAZOLE 4L SELECT<sup>TM</sup> to targeted area.

#### RESISTANCE MANAGEMENT

PROTHIOCONAZOLE GROUP 3 FUNGICIDE
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For resistance management, PROTHIOCONAZOLE 4L SELECT<sup>TM</sup> contains a Group 3 fungicide. Any fungal population may contain individuals naturally resistant to PROTHIOCONAZOLE 4L SELECT<sup>TM</sup> and other Group 3 fungicides. A gradual or total loss of pest control may occur over time if these fungicides/bactericides are used repeatedly in the same turf areas. Appropriate resistance-management strategies should be followed.

To delay fungicide resistance, take one or more of the following steps:

- Rotate the use of PROTHIOCONAZOLE 4L SELECT™ or other Group 3 fungicides within a growing season sequence with different groups that control the same pathogens.
- Use tank mixtures with fungicides from a different group that are equally effective on the target pest when such use is permitted. Use at least the minimum application rate as labeled by the manufacturer.
- Adopt an integrated disease management program for fungicide use that includes scouting, uses historical
  information related to pesticide use, and turf renovation, and which considers host plant resistance, impact of
  environmental conditions on disease development, disease thresholds, as well as cultural, biological and other
  chemical control practices.
- Where possible, make use of predictive disease models to effectively time fungicide applications. Note that using predictive models alone is not sufficient to manage resistance.
- Monitor treated fungal populations for resistance development.
- Contact your local extension specialist for any additional pesticide resistance-management and/or IPM recommendations for specific pathogens.
- For further information or to report suspected resistance contact your local Prime Source, LLC sales representative. You can also contact your pesticide distributor or university extension specialist to report resistance.

#### **APPLICATION PROCEDURES**

Apply PROTHIOCONAZOLE 4L SELECT<sup>TM</sup> through ground application equipment with boom below and behind the operator to target soil or foliar turfgrass diseases. See 'Turf Use Directions' for application rates and use information. Turfgrass injury and/or inferior disease control may result upon failure to follow label directions.

**GROUND APPLICATION EQUIPMENT AND NOZZLES:** Before use, ensure equipment is properly calibrated. Use nozzles that are accurate, and provide uniform coverage to the turfgrass foliage and/or the soil surface. Use the same size nozzles, uniformly distributed across the boom, and operate nozzles within the spray pressure directions suggested by the nozzle manufacturer.

**SPRAY EQUIPMENT PREPARATION AND MIXING INSTRUCTIONS:** Prepare no more spray mixture than is necessary for the immediate application. Start with clean spray equipment before using this product. While preparing the mixture, and throughout the entire spray operation, maintain agitation. Do not let the spray mixture stand overnight in the spray tank. Following use, flush the spray equipment thoroughly. Rinsate may be applied to the previously treated areas, or disposed of according to local regulations.

MIXING PROCEDURES FOR PROTHIOCONAZOLE 4L SELECT<sup>TM</sup> ALONE: Add ½ of the required amount of water to the mix tank. With the agitator running, add the product to the mix tank. Continue agitation while adding the remainder of the water. Begin application of the solution after the product has completely and uniformly dispersed into the mix water. Maintain agitation until all of the mixture has been applied.

**Application Volume:** Apply PROTHIOCONAZOLE 4L SELECT<sup>TM</sup> in a minimum of 40 gallons of spray solution per acre. Complete coverage and uniform applications are essential for most effective results, especially when lower spray volumes are applied. If necessary, increase spray volume for uniform and complete coverage.

**Tank Mixture Precautions:** If using PROTHIOCONAZOLE 4L SELECT™ in a tank mixture, observe all directions for use, sites, rates, dilution ratios, precautions, and limitations, which appear on the tank-mix product label. This product must not be mixed with any product that prohibits such mixing. Tank mixtures or other applications of products are permitted only in those states in which the products are registered.

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

**Tank Mixture Compatibility Test:** When mixing PROTHIOCONAZOLE 4L SELECT™ with new or unknown tank mix partners including pesticides, fertilizers, spray adjuvants and micronutrients, perform a compatibility test to determine potential for incompatibility during mixing. The recommended compatibility test is as follows:

- Use a clear jar with a secure water-tight lid.
- Add a small amount of source water (e.g. 1 quart), followed by each mixture partner at planned labelled use rates, using mixing order as described below.
- With all mixture partners added, securely cap jar and invert 10 to 15 times to mix each component. Let stand for 15-20 minutes.
- Observe solution for any signs of incompatibility or instability. Mixed solution should be free from formed precipitates, gels, heavy free oil films, or separations of mixture components, including distinct layering.
- If incompatibility is noted, repeat steps above by removing individual components to determine a compatible mixture, if desired. Additionally, if mixture is readily re-mixable, then mixture can be used so long as agitation is maintained.
- If incompatibility is not resolved, do not use this tank mix combination.

Once compatibility has been proven, use the same procedure for adding required ingredients to the spray tank. For further information, contact your local Prime Source representative.

#### Mixing Order of PROTHIOCONAZOLE 4L SELECT™ + Tank Mixture Partners:

- Add ½ of the required amount of water to the mix tank. Start the agitator running before adding any of the tank mixture partners.
- All products in water-soluble packaging should be added to the tank before any other tank-mix partner, including PROTHIOCONAZOLE 4L SELECT™.
- Allow water soluble packaging to completely disperse before adding any other tank mixture partners to the tank. In general, tank mixture partners should be added in this order:
  - 1. Products packaged in water-soluble packaging
  - 2. Wettable powders
  - 3. Wettable granules (dry flowables)
  - 4. Liquid flowables
  - 5. Liquids
  - 6. Emulsifiable concentrates
- Always allow each tank mixture partner to become fully and uniformly dispersed before adding the next product.
- Continue agitation while adding the remainder of the water.
- Begin application of the solution after all products have completely, and uniformly dispersed into the mix water. Maintain agitation until all of the mixture has been applied.

#### **USE RESTRICTIONS**

- For use only on golf course turfgrass (greens, tees, fairways and roughs).
- Not for residential use. Do not use on home lawns and turf sites associated with apartment buildings, daycare centers, playgrounds, playfields, recreational park, athletic fields, schools, campgrounds, churches, and theme parks.
- Do not use clippings for animal feed.
- Do not apply by aerial application.
- Do not apply through any type of irrigation equipment (chemigation).
- For ground application equipment only. Do not use with handheld application equipment, including mechanically pressurized spray gun, backpack or tank pressurized spray gun, spray hawk or handheld boom applicators.

#### **USE PRECAUTIONS**

- After application, allow foliage to dry prior to mowing.
- Use of skirted spray booms will further reduce spray drift.

#### **SPRAY DRIFT MANAGEMENT**

#### **Ground Boom Applications:**

- Apply with the nozzle height recommended by the manufacturer, but no more than 4 feet above the ground or plant canopy.
- Applicators are required to use a medium or coarser droplet size (ASABE S572.1).
- Do not apply when wind speeds exceed 15 miles per hour at the application site.
- Do not apply during temperature inversions.

#### **SPRAY DRIFT ADVISORIES**

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT. BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.

#### **IMPORTANCE OF DROPLET SIZE**

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift with be greater if applications are made improperly or under unfavorable environmental conditions.

#### **Controlling Droplet Size**

- Volume Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- Pressure Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- Spray Nozzle Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

#### **BOOM HEIGHT**

For ground equipment, the boom should remain level with the target plants and have minimal bounce.

#### **RELEASE HEIGHT**

Higher release heights increase the potential for spray drift.

#### **SHEILDED SPRAYERS**

Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

#### TEMPERATURE AND HUMIDITY

When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

#### **TEMPERATURE INVERSIONS**

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Avoid applications during temperature inversions.

#### **WIND**

Drift potential generally increases with wind speed. AVOID APPLCATIONS DURING GUSTY WIND CONDITIONS. Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

## **TURF USE DIRECTIONS**

PROTHIOCONAZOLE 4L SELECT<sup>TM</sup> controls a range of turf diseases. Refer to the table below for disease, rate structure, and specific use information. Apply PROTHIOCONAZOLE 4L SELECT<sup>TM</sup> prior to turf disease development or in the early stages of turf disease development. See 'Application Directions' for further information on equipment, nozzles, spray volumes and mixing instructions.

Disease	Application Rate (fl oz Product/A) <sup>1</sup>	Retreatment Interval (days) <sup>2</sup>	Use Information
Anthracnose (Collectotrichum graminicola)	8.5	14-21	
Brown Patch (Rhizoctonia solani)	8.5	14-21	For best results, apply preventatively before conditions favorable for infection occur.
Brown Ring (Waitea) Patch (Waitea circinate var. circinata)	8.5	14-21	For best results, apply preventatively before conditions favorable for infection occur.
<b>Dollar Spot</b> (Sclerotinia homoeocarpa syn. Clarireedia homoeocarpa)	8.5	14-21	

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# **TURF USE DIRECTIONS (cont.)**

Disease	Application Rate (fl oz Product/A) <sup>1</sup>	Retreatment Interval (days) <sup>2</sup>	Use Information			
Fairy Ring (caused by Basidiomycete fungi)	8.5	14-28	Before the spray dries, adequately water-in to move the fungicide into the thatch/soil where the fungus is active.			
<b>Gray Leaf Spot</b> ( <i>Pyricularia</i> grisea)	8.5	14-21				
Gray Snow Mold ( <i>Typhula incarnata</i> ) (Typhula incamata, T. ishikariensis)	8.5	14-28	Make 1-2 preventative applications before conditions favorable for infection occur. Do not apply over snow cover.			
Pink Snow Mold (Microdochium nivale)						
Large Patch (Rhizoctonia solani)	8.5	14-28	Lightly water-in applications to move fungicide into crown area and root zone.			
Microdochium Patch (Microdochium nivale)	8.5	14-21	Begin preventative applications when conditions are conducive to disease development and without lasting snowfall.			
Mini Ring (Rhizoctonia zeae)	8.5	14-21	Apply preventatively before conditions favorable for infection occur.			
Spring Dead Spot (Ophiosphaerella korrae, O. herpotricha, Leptosphaeiia korrea, L. namari)	8.5	14-28	Lightly water-in applications to move fungicide into crown area and root zone.			

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## **TURF USE DIRECTIONS (cont.)**

Disease	Application Rate (fl oz Product/A) <sup>1</sup>	Retreatment Interval (days) <sup>2</sup>	Use Information
Summer Patch (Magnaporthe poae)	8.5	14-28	Use adequate spray-volume or water-in applications to crowns and upper roots for maximum effectiveness. If there is prior disease history, use the higher rate and shorter interval.
Take-All Patch (Gaeumannomyces graminis var. avenae)	8.5	14-28	Treat preventatively for the disease. Water-in applications into the upper root zone.
Take-all Root Rot (Gaeumannomyces graminis var. graminis)	8.5	14-28	Apply fungicide in adequate water volume or water-in applications to upper root zone.

<sup>&</sup>lt;sup>1</sup>4.3, 5.7, and 8.5 fl oz product/A equate to 0.098, 0.131, and 0.196 fl oz product/1,000 ft<sup>2</sup> or 0.134, 0.178, and 0.267 lbs a.i./A, respectively.

#### **RATE RESTRICTIONS**

- 1. **Maximum Single Application Rate:** Do not exceed 8.5 fl oz product/A per application (0.196 fl oz product/1000ft²), equivalent to 0.267 lbs a.i./A.
- 2. **Maximum Annual Rate:** Do not exceed 25.6 fl oz product/A per year (0.588 fl oz product/1000ft²), equivalent to 0.801 lbs a.i./A/year.
- 3. **DO NOT** exceed 3 applications per year using the maximum single application rate.

<sup>&</sup>lt;sup>2</sup>Use the shorter specified application interval and/or the higher specified rate when prolonged favorable turf disease conditions exist.

#### **WARRANTY LIMITATIONS AND DISCLAIMER**

Seller warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the Directions for Use when used under normal conditions. This is the only warranty made on this product. To the extent consistent with applicable law, no other express and no implied warranty of merchantability or fitness for a particular purpose is made outside of this label. Therefore, neither this warranty nor any other warranty of merchantability or fitness for a particular purpose, express or implied, extends to the use of this product contrary to label instructions (including conditions noted on the label, such as unfavorable temperatures, soil conditions, etc.), under abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes, etc.) or under conditions not reasonably foreseeable to or beyond the control of seller.

When buyer or user suffers losses or damages resulting from the use or handling of this product (including claims based on contract, negligence, strict liability, or other legal theories), buyer or user must promptly notify seller, in writing, of any claims to be eligible to receive either remedy given below. To the extent consistent with applicable law, the exclusive remedy of the buyer or user and the limit of liability of seller will be one of the following, at the election of the seller:

- 1. Refund of purchase price paid by buyer or user for product bought or
- 2. Replacement of amount of product used.

To the extent consistent with applicable law, the seller will not be liable for consequential or incidental damages or losses.

The terms of this Warranty Limitations and Disclaimer cannot be varied by any written or verbal statements or agreements. Any employee or sales agent of the seller is not authorized to vary or exceed the terms of this Warranty Limitations and Disclaimer in any manner.

All product names, trademarks, and registered trademarks are the property of their respective owners.