

**QUALI-PRO**

PROPICONAZOLE GROUP 3 FUNGICIDE

# PROPICONAZOLE 14.3

Fungicide



Broad spectrum and systemic disease control for turf and ornamentals and a flare root-injected systemic fungicide for control of selected diseases in trees

ACTIVE INGREDIENT:	% BY WT.
Propiconazole: 1-[[2-(2,4-dichlorophenyl)-4-propyl-1,3-dioxolan-2-yl]Methyl]-1H-1,2,4-triazole.....	14.3%
OTHER INGREDIENTS:.....	85.7%
TOTAL:.....	100.0%

Propiconazole 14.3 is an emulsifiable concentrate containing 1.3 lbs. of active ingredient per gallon.

**KEEP OUT OF REACH OF CHILDREN,  
CAUTION – PRECAUCIÓN**

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.  
(If you do not understand the label, find someone to explain it to you in detail.)

For additional precautionary, handling, and use statements, see inside of this booklet.

EPA Reg. No. 53883-363

EPA Est No. 53883-TX-002

**NET CONTENTS:**  
**1 QUART**



13366



ADAMA

Manufactured by:

**Control  
Solutions Inc.**

5903 Genoa-Red Bluff, Pasadena, TX 77507

A member of Adama  
Consumer and Professional Solutions

EPA 041919

<b>FIRST AID</b>	
<b>IF SWALLOWED:</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<b>IF IN EYES:</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. 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>
<b>IF ON SKIN OR CLOTHING:</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15 to 20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF INHALED:</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance; 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>
<p><b>Have the product container or label with you when calling a poison control center or doctor or going for treatment.</b> You may also contact SafetyCall® International for emergency medical treatment at (866) 897-8050.</p> <p><b>NOTE TO PHYSICIAN:</b> There is no specific antidote for this product. Induce emesis or lavage stomach, taking care to avoid aspiration of stomach contents into lungs.</p>	

### **PRECAUTIONARY STATEMENTS**

#### **HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

**CAUTION.** Harmful if swallowed. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

## **PERSONAL PROTECTIVE EQUIPMENT (PPE)**

Some materials that are chemical resistant to this product are listed below.

### **Applicators and other handlers must wear:**

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, polyvinyl chloride (PVC), or Viton
- Shoes plus socks

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

## **ENGINEERING CONTROLS STATEMENT**

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**

#### **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 the gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

### **ENVIRONMENTAL HAZARDS**

This pesticide is toxic to fish and shrimp. Do not apply directly to water, 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 washwater or rinsate.

### **PHYSICAL OR CHEMICAL HAZARDS**

Do not use or store near or use with oxidizing agents.

### **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 can 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**

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 12 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:

- Coveralls
- Chemical-resistant gloves such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, polyvinyl chloride (PVC), or Viton
- Shoes plus socks

### **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.

**Do not enter treated areas without protective clothing until sprays have dried.**

### **FAILURE TO FOLLOW THE DIRECTIONS FOR USE AND PRECAUTIONS ON THIS LABEL MAY RESULT IN PLANT INJURY OR POOR DISEASE CONTROL.**

#### **PRODUCT INFORMATION**

Propiconazole 14.3 is a systemic fungicide for use on turfgrasses for the control of dollar spot (*Sclerotinia homoeocarpa*), brown patch (*Rhizoctonia solani*), anthracnose (*Colletotrichum graminicola*), red thread (*Laetisaria fuciformis*), pink patch (*Limonomyces roseipellis*), rust (*Puccinia graminis*), powdery mildew (*Erysiphe graminis*), stripe smut (*Ustilago striiformis* and *Urocystis agropyri*), summer patch (*Magnaporthe poae*), necrotic ring spot (*Leptosphaeria korrae*), spring dead spot (*Leptosphaeria korrae*, *Leptosphaeria narmari*, *Ophiosphaerella herpotricha*, *Gaeumannomyces graminis*), take-all patch (*Gaeumannomyces graminis*), leafspot (*Bipolaris* spp., *Drechslera* spp.), gray leafspot (*Pyricularia grisea*), pink snowmold (*Microdochium nivale*), Fusarium patch (*Fusarium nivale*), gray snowmold (*Typhula* spp.), yellow patch (*Rhizoctonia cerealis*), and zoysia patch (*Rhizoctonia solani*).

Propiconazole 14.3 also controls numerous diseases on ornamentals and other landscape and nursery plantings. It controls powdery mildews, rusts, leafspots, scabs, and blights. Refer to the appropriate section for specified diseases and plants.

## **RESTRICTIONS**

- Do not apply more than 5.4 gallons per acre (16 fl. oz. per 1000 sq. ft.) of Propiconazole 14.3 per calendar year.
- Maximum application rate is 1.79 lbs. propiconazole per acre and maximum yearly application rate is 7.2 lbs. propiconazole per acre per calendar year.
- Bermudagrass can be sensitive to Propiconazole 14.3. Do not exceed 4 fl. Oz. per 1000 sq. ft. every 30 days on any variety of bermudagrass. In Florida, do not apply Propiconazole 14.3 to bermudagrass golf course greens when temperature exceed 90°F.
- Do not graze animals on treated areas.
- Do not feed clippings from treated areas to livestock or poultry.
- Do not apply this product through any type of irrigation system.

## **RESISTANCE MANAGEMENT**

For resistance management, Propiconazole 14.3 contains a Group 3 fungicide. Any fungal population may contain individuals naturally resistant to Propiconazole 14.3 and other Group 3 fungicides. A gradual or total loss of pest control may occur over time if these fungicides are used repeatedly in the same fields. Appropriate resistance-management strategies should be followed.

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

- Rotate the use of Propiconazole 14.3 or other Group 3 fungicides within a growing season sequence with different groups that control the same pathogens.
- Use tank mixtures with fungicide 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 crop rotation, 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/bactericide 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 or certified crop advisor for any additional pesticide resistance-management and/or IPM recommendations for specific crops and pathogens.
- For further information or to report suspected resistance contact your local Control Solutions, Inc. representative. You can also contact your pesticide distributor or university extension specialist to report resistance.

### **MIXING INSTRUCTIONS**

Fill the spray tank 1/2 to 3/4 full with water. Add the proper amount of Propiconazole 14.3 and then add the remainder of the water. Provide sufficient agitation during mixing and application to maintain a uniform emulsion.

If Propiconazole 14.3 is tank mixed with other products, use the following sequence:

1. Always check the compatibility of the tank mix using a jar test with proportionate amounts of Propiconazole 14.3, other chemicals to be used, and the water before mixing in the spray tank.
2. Provide sufficient jet or mechanical agitation during filling and application to keep the tank mix uniformly suspended.
3. Fill tank at least 1/2 full with clean water.
4. Add wettable powders to the tank first, allowing them to completely suspend in the tank before proceeding. Premixing the product in water before adding to the tank will hasten the process.



5. Add flowables or suspensions next.
6. Add Propiconazole 14.3 next.
7. Add emulsifiable concentrates last.
8. Do not leave tank mix combinations in the spray tank for prolonged periods without agitation. Mix and apply them the same day.

### **TANK MIXES**

For broader spectrum control, Propiconazole 14.3 can be tank mixed with other fungicides. Propiconazole 14.3 is also compatible with numerous herbicides and insecticides. Check compatibility before tank mixing. Add Unite® (3 pts. per 100 gals.) to tank mixes which are incompatible. Follow the directions under **MIXING INSTRUCTIONS** for tank mixes. Observe all directions, precautions, and limitations on labeling of all products used in tank mixes. Tank mixtures or other applications of products referenced on this label are permitted only in those states in which the referenced 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 take mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

### **SPRAY DRIFT MANAGEMENT**

A variety of factors including weather conditions (e.g., wind direction, wind speed, temperature, relative humidity) and method of application can influence pesticide drift. The applicator must evaluate all factors and make appropriate adjustments when applying this product. Do not apply at wind speeds greater than 15 mph. Apply as a medium or coarser spray (ASAE Standard 572). If applying at wind speeds less than 3 mph, the applicator must determine if a) conditions of temperature inversion exist, or b) stable

atmospheric conditions exist at or below nozzle height. Do not make applications into areas of temperature inversions or stable atmospheric conditions. Applicators must follow all state and local pesticide drift requirements regarding application of propiconazole. Where states have more stringent regulations, they must be observed. All application equipment must be properly maintained and calibrated using appropriate carriers or surrogates.

#### **TURFGRASS AND DICHONDRA DISEASE CONTROL**

1. Use Propiconazole 14.3 in a preventive disease control program.
2. Apply in sufficient water to ensure thorough coverage.
3. Apply after mowing **OR** allow sprayed area to completely dry before mowing.
4. For control of foliar diseases, allow sprayed area to completely dry before irrigation.
5. For control of soil-borne diseases, Propiconazole 14.3 can be watered in after application.
6. Under conditions optimum for high disease pressure, use the higher rate and the shorter application interval.
7. For optimum turf quality and disease control, use Propiconazole 14.3 in conjunction with turf management practices that promote good plant health and optimum disease control.
8. Evaluate spray additives prior to use. Label directions are based on data obtained with no additives.
9. Before use of any fungicide, proper diagnosis of the organism causing the disease is important. Use of diagnostic kits or other means of identification of the disease organism is essential to determine the best control measures.

TURFGRASS—SPECIFIC DISEASES, RATES, AND APPLICATION TIMING				
Disease	Fl. Oz. Per 1000 Sq. Ft.	Fl. Oz. Per Acre	Application Interval/ Timing	Application Instructions
<b>Dollar Spot</b> ( <i>Sclerotinia homoeocarpa</i> )	0.5	22	14 days	Tank mix with low label rate of one of the following fungicides: Daconil® Weatherstick (or Quali-Pro Chlorothalonil 720 SFT) Daconil Ultrex (or Quali-Pro Chlorothalonil DF)
	1	44	21-28 days	Tank mix with low label rate of one of the following fungicides: Daconil Weatherstick (or Quali-Pro Chlorothalonil 720 SFT) Daconil Ultrex (or Quali-Pro Chlorothalonil DF) Iprodione 2SE or Quali-Pro Ipro 2SE
	1-2	44-88	14-28 days	If using the 1-2 fl. oz. per 1000 sq. ft. rate without tank mixing, make no more than 3 consecutive applications for dollar spot control before rotating to an alternate EPA-registered fungicide having a different mode of action.

(continued)

TURFGRASS—SPECIFIC DISEASES, RATES, AND APPLICATION TIMING				
Disease	Fl. Oz. Per 1000 Sq. Ft.	Fl. Oz. Per Acre	Application Interval/ Timing	Application Instructions
<b>Anthraxnose</b> ( <i>Colletotrichum graminicola</i> )	1-2	44-88	14-28 days	Apply when conditions are favorable for disease development. Use higher rates of Propiconazole 14.3 and shorter application intervals when disease pressure is high. For broad spectrum control, tank mix with a registered contact fungicide at the label rate. If disease is present, mix 2 fl. oz. of Propiconazole 14.3 per 1000 sq. ft. with the label rate of the above mentioned contact fungicides.
<b>Brown Patch</b> ( <i>Rhizoctonia solani</i> )	1-2	44-88	14-21 days	Begin applications in May or June before disease is present. Tank mix with a registered contact fungicide labeled for brown patch control at the label rate.  Under conditions of high temperatures and high humidity, use the higher rates of Propiconazole 14.3 and shorter application intervals.

(continued)

TURFGRASS—SPECIFIC DISEASES, RATES, AND APPLICATION TIMING				
Disease	Fl. Oz. Per 1000 Sq. Ft.	Fl. Oz. Per Acre	Application Interval/ Timing	Application Instructions
<b>Powdery Mildew</b> ( <i>Erysiphe graminis</i> ) <b>Rust</b> ( <i>Puccinia graminis</i> )	1-2	44-88	14-28 days	Apply when conditions are favorable for disease development. If disease is present, use 2 fl. oz. of Propiconazole 14.3 per 1000 sq. ft.
<b>Red Thread</b> ( <i>Laetisaria fuciformis</i> ) <b>Pink Patch</b> ( <i>Limonomyces roseipellis</i> )	2	88	14-21 days	Apply when conditions are favorable for disease development.
<b>Stripe Smut</b> ( <i>Ustilago striiformis</i> ) ( <i>Urocystis agropyri</i> )	1-2	44-88	Fall or Spring	Apply once in the fall after grass becomes dormant or in the early spring before grass starts to grow.

(continued)

TURFGRASS—SPECIFIC DISEASES, RATES, AND APPLICATION TIMING				
Disease	Fl. Oz. Per 1000 Sq. Ft.	Fl. Oz. Per Acre	Application Interval/ Timing	Application Instructions
<b>Gray Leafspot</b> ( <i>Pyricyclaria grisea</i> )	1-2	44-88	14 days	Apply when conditions are favorable for disease development. If using the 1 fl. oz. per 1000 sq. ft. rate, tank mix with a registered contact fungicide at the label rate.
<b>Melting out, Leaf Spot</b> ( <i>Bipolaris</i> spp.) ( <i>Drechslera</i> spp.)	1-2	44- 176	14 days	Under light to moderate pressure, apply Propiconazole 14.3 to reduce the severity of leaf spot and melting out caused by Helminthosporium-type pathogens. For broad spectrum disease control, tank mix the 1 fl. oz. Propiconazole 14.3 rate with a registered contact fungicide at the label rate  Tank mix the 1-2 fl. oz. per 1000 sq. ft. Propiconazole 14.3 rate with a registered contact fungicide at the label rate.
<b>Summer Patch, Poa Patch</b> ( <i>Magnaporthe poeae</i> )	2 4	88 176	14 days 28 days	Apply Propiconazole 14.3 beginning in April. Use the 4 fl. oz. per 1000 sq. ft. rate on a 28-day schedule and the 2 fl. oz. per 1000 sq. ft. rate on a 14-day schedule.

(continued)

TURFGRASS—SPECIFIC DISEASES, RATES, AND APPLICATION TIMING				
Disease	Fl. Oz. Per 1000 Sq. Ft.	Fl. Oz. Per Acre	Application Interval/ Timing	Application Instructions
<b>Take-All Patch</b> ( <i>Gaeumannomyces graminis</i> )	2-4	88- 176	Spring and Fall	Apply Propiconazole 14.3 to reduce the severity of take-all patch. Make 1 to 2 fall applications in September and October or when night temperatures drop to 55°F, and 1 to 2 spring applications in April and May depending on local specifications.
<b>Spring Dead Spot</b> ( <i>Leptosphaera korrae</i> , <i>Leptosphaeria narmari</i> , <i>Ophiosphaerella herpotricha</i> , <i>Gaeumannomyces graminis</i> )	4	176	30 days	Make 1 to 3 applications. For one application, apply in September or October. For multiple applications, begin sprays in August.

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<b>TURFGRASS—SPECIFIC DISEASES, RATES, AND APPLICATION TIMING</b>				
<b>Disease</b>	<b>Fl. Oz. Per 1000 Sq. Ft.</b>	<b>Fl. Oz. Per Acre</b>	<b>Application Interval/ Timing</b>	<b>Application Instructions</b>
<b>Necrotic Ring Spot</b> ( <i>Leptosphaeria korrae</i> )	4	176	Fall or Spring	Apply in the fall and/or the early spring depending on local specifications.
<b>Gray Snowmold</b> ( <i>Typhula</i> spp.) <b>Pink Snowmold</b> ( <i>Microdochium nivale</i> )	2-4	88-176	Late Fall	Apply one application in the late fall before snow cover. Do not apply on top of snow. If using rates of 2 and 3 fl. oz., tank mix Propiconazole 14.3 with either PCNB or chlorothalonil at label rates to provide optimum disease control.
<b>Fusarium Patch</b> ( <i>Fusarium nivale</i> )	2-4	88-176	Fall-Early Spring	Apply when conditions are favorable for disease development.
<b>Yellow Patch</b> ( <i>Rhizoctonia cerealis</i> )	3-4	130-176	Late Fall	Apply one application in the late fall before snow cover. Do not apply on top of snow. If using a 3 fl. oz. per 1000 sq. ft. rate, tank mix with a registered contact fungicide at the label rate.

(continued)



**TURFGRASS – SPECIFIC DISEASES, RATES, AND APPLICATION TIMING**

Disease	Fl. Oz. Per 1000 Sq. Ft.	Fl. Oz. Per Acre	Application Interval/ Timing	Application Instructions
<b>Zoysia Patch,</b> large patch of zoysia ( <i>Rhizoctonia solani</i> )	3-4	130- 176	Early Fall	Make one application in the early fall (mid-September to mid-October) prior to development of disease symptoms. Consult local turfgrass extension experts to determine the optimum application timing for your area.

**DICHONDRA – SPECIFIC DISEASE, RATES, AND APPLICATION TIMING**

Disease	Fl. Oz. Per 1000 Sq. Ft.	Fl. Oz. Per Acre	Application Interval/ Timing	Application Instructions
<b>Dichondra Rust</b> ( <i>Puccinia dichondrae</i> )	2	88	14-21 days	Apply when conditions are favorable for disease development.

## **ESTABLISHMENT OF COOL-SEASON TURFGRASS**

Propiconazole 14.3 provides control of many diseases of turf, and its primary use is as a fungicide for use against the diseases listed on this label. As an additional benefit, Propiconazole 14.3 will improve the establishment rate when it is applied to cool-season grass seedlings or sod.

**New Seedlings:** Apply 1 fl. oz. per 1000 sq. ft. at the 2- to 3-leaf stage of growth for faster root development and top growth.

**Sod:** Apply 1 fl. oz. per 1000 sq. ft. 2 to 6 weeks before cutting for increased sod knitting and faster establishment after laying.

## **DISEASE CONTROL IN NURSERIES (FIELD) AND LANDSCAPE PLANTINGS**

1. Use Propiconazole 14.3 in a preventive disease control program. To determine the use directions for controlling a disease on an ornamental plant species, select the plant species in **Table 1**. The number in parentheses following the plant species refers you to the disease(s) controlled in **Table 2**. Find the disease in **Table 2**. The letter in brackets following the disease refers you to the application regime in **Table 3**.
2. Allow spray to dry before overhead irrigation is applied.
3. Optimum benefit of Propiconazole 14.3 is obtained when used in conjunction with sound disease management practices.

### **Application Instructions and Use Rates**

Use Propiconazole 14.3 at rates of 2-24 fl. oz. per 100 gals. of water for control of diseases of ornamental plant species (see **Tables 1, 2, and 3**.)

**Note:** For outdoor uses, you can apply up to 5.4 gals. of Propiconazole 14.3 per acre per crop per calendar year.

For disease control in landscapes, apply 6-8 fl. oz. per 100 gals. of water every 21 days. For best control, begin Propiconazole 14.3 applications before disease development.

**Note On Plant Tolerance:** Plant tolerances to Propiconazole 14.3 have been found acceptable for the specific genera and species of plants listed under the **DIRECTIONS FOR USE** section of this label. Other plant species could be sensitive to Propiconazole 14.3 and diseases other than those listed may not be controlled. Before using Propiconazole 14.3 on ornamental plants, test Propiconazole 14.3 on a small-scale basis first. **Do not apply Propiconazole 14.3 to African violets, begonias, Boston fern, or geraniums.** Apply the specified rates for a particular type of disease, i.e., rust, powdery mildew, etc., and evaluate for phytotoxicity and disease control prior to widespread use.

**Table 1. Ornamentals—Plant Species**

Numbers in parentheses refer to diseases controlled. See **Table 2**.

<b>Herbaceous Ornamentals</b>	<b>Woody Ornamentals</b>	<b>Nonbearing Fruits and Nuts (Nurseries and Landscape Plantings)</b>
Ajuga (6)	Amelanchier (4d)	Apple (3q, 4d, 5a)
Calendula (4a)	Ash (4c)	Bartlett Pear (3q, 4c, 5a)
Carnation (5f)	Azalea (2c, 4b)	Cherry (2b, 3d)
Chrysanthemum (2a)	Bayberry (3n)	Citrus (3m)
Delphinium (4a)	Camelia (3e)	Nectarine (2b)
English Ivy (3e)	Candytuft (6)	Peach (2b)
German statice (6)	Cotoneaster (3i)	Pecan (3b, 3c, 3f, 3l, 3n, 4e)
Gomphrena (3a)	Crabapple (3c, 3q, 4c, 5a)	Plum (2b)
Hollyhock (6)	Grape Myrtle (4a)	Walnut (3j)
Impatiens (3a, 3b, 4a)	Dogwood (3h, 4c)	
Iris (5d)	Douglas Fir (5b)	
Liriope (6)	Elm (4c)	
Marigold (3a)	Euonymus (3e, 4c)	
Monarda (4c)	Hawthorn (5a)	
Peony (6)	Holly (3r)	
Phlox (4c)	Juniper (1a)	
Snapdragon (5d)	Lilac (4c)	

**Herbaceous  
Ornamentals**

Sweet William  
(*Dianthus barbatus*) (3k)  
Vinca (6)  
Zinnia (4c)

**Woody  
Ornamentals**

Linden (3e, 3b, 4b)  
  
Magnolia (3e, 4b)  
Maple (3e, 4f)  
Oaks (3p)  
Pines (1b, 1c)  
Poplars (5b)  
Privet (6)  
Pyracantha (3o)  
Redbud (6)  
Red Tip Photinia (3i)  
Raphiolepis (3e, 3i)  
Rhododendron (2c, 3n)  
Roses (3g, 4e, 5c)  
(Outdoor Use Only)  
Shasta Fir (5e)  
Sweet Gum (3b, 3c, 3n)  
Sycamore (3e)  
Tulip tree (3e, 4a)  
Wax myrtle (3n)

**Nonbearing Fruits and Nuts (Nurseries  
and Landscape Plantings)**

## Table 2. Diseases

Letters in brackets refer to application regimes. See **Table 3**.

1. Conifer Blights
  - a. *Phomopsis juniperovora* (Phomopsis Blight) [B]
  - b. *Sirococcus strobolinus* (Tip Blight) [D]
  - c. *Sphaeropsis sapinea* (Diplodia Tip Blight) [B]
2. Flower Blight
  - a. *Ascochyta chrysanthemi* (Ray Blight) [C]
  - b. *Monilinia* spp. [A]
  - c. *Ovulinia* spp. [B]
3. Leaf Blights/Spots
  - a. *Alternaria* spp. [B]
  - b. *Cercospora* spp. (Brown Leaf Spot) [C]
  - c. *Cladosporium* spp. (Scab) [C]
  - d. *Coccomyces hiemalis* [A]
  - e. *Colletotrichum* spp. [B]
  - f. *Cristulariella* spp. (Zonate Leafspot) [C]
  - g. *Diplocarpon rosae* (Blackspot) [B]
  - h. *Discula* spp. (Anthracnose) [A]
  - i. *Fabraea maculata* (syn. *Entomosporium maculata*) [B]
  - j. *Gnomonia leptostyla* (Anthracnose) [C]
  - k. *Heterosporium echinulatum* [B]
  - l. *Mycosphaerella caryigena* (Downy Spot) [C]
  - m. *Mycosphaerella fructicola* (Greasy Spot) [E]
  - n. *Septoria* spp. (Leaf Scorch) [C]
  - o. *Spilocaea pyracanthae* [B]
  - p. *Tubakia dryina* [D]
  - q. *Venturia inaequalis* (Scab) [A]
  - r. *Rhizoctonia* Web Blight [B]\*

4. Powdery Mildew
  - a. *Erysiphe* spp. [B]
  - b. *Microsphaera* spp. [C]
  - c. *Oidium* spp. [B]
  - d. *Podosphaera* spp. [B]
  - e. *Sphaerotheca pannosa* [B]
  - f. *Phyllactinia* spp. [B]\*
5. Rust
  - a. *Gymnosporangium juniperi-virginianae* [A]
  - b. *Melampsora occidentalis* [D]
  - c. *Phragmidium* spp. [B]
  - d. *Puccinia* spp. [B]
  - e. *Pucciniastrum goeppertianum* [D]
  - f. *Uromyces dianthi* [B]
6. Rust, Powdery Mildew, etc. [F]\*

\*Not registered for use in California.

### **Table 3. Application Regimes**

- [A] Mix 2-4 fl. oz. of Propiconazole 14.3 in 100 gals. of water and apply as a full coverage spray to the point of drip. Apply every 14-21 days during the period of primary infection. If disease is present, tank mix with an EPA-registered contact fungicide. For flower blight, apply Propiconazole 14.3 when there is 5-10% bloom and again at 70-100% bloom. For dogwoods, apply the 2-4 fl. oz. rate every 14 days or apply 8 fl. oz. of Propiconazole 14.3 every 28 days.
- [B] Mix 5-8 fl. oz. of Propiconazole 14.3 in 100 gals. of water and apply as a full coverage spray to the point of drip. Apply as needed, beginning when conditions are favorable for disease development. For blackspot, apply with a registered contact fungicide labeled for black spot. For calendula, apply every 30 days. For diplodia tip blight, make 3 applications every 14 days prior to major period of infection. For juniper phomopsis

blight, make first application as soon as junipers start to grow, and repeat the applications every 14-21 days during periods of active growth.

- [C] Mix 8-12 fl. oz. of Propiconazole 14.3 in 100 gals. of water and apply as a full coverage spray to the point of drip. Apply every 30 days beginning when conditions are favorable for disease development. For pecans, apply the 12 fl. oz. rate beginning at bud break. Apply 3 times at 14-day intervals. For walnut, apply 8.5 fl. oz. at 14- to 21-day intervals. For ray blight, apply 12 fl. oz. at 7-day intervals or 20 fl. oz. at 14-day intervals. For impatiens, bayberry, linden, magnolia, sweet gum, and wax myrtle, the maximum use rate is 8 fl. oz. per 100 gals. of water.
- [D] Mix 16 fl. oz. of Propiconazole 14.3 in 100 gals. of water and apply as a full coverage spray to the point of drip. Apply every 14 to 28 days, beginning when conditions are favorable for disease development. For Douglas fir needle rust, apply once in May. For tip blight, initiate applications in mid to late winter and apply 3 times at 2-month intervals.
- [E] Mix 20-24 fl. oz. of Propiconazole 14.3 in 100 gals. of water and apply as a full coverage spray to the point of drip. Apply during June to August time period.
- [F] Apply 6-8 fl. oz. per 100 gals. Crop tolerance has been demonstrated on these ornamental plants at this rate; however, you must follow the **Note On Plant Tolerance** section of the label above for phytotoxicity and disease control precautions.

**Restriction:** To avoid possible illegal residues, do not apply to apple, Bartlett pear, cherry, citrus, nectarine, peach, pecan, plum, or walnut trees that will bear harvestable fruit within 12 months.



**A FLARE ROOT-INJECTED SYSTEMIC FUNGICIDE FOR  
CONTROL OF SELECTED DISEASES IN TREES  
NOT REGISTERED FOR THIS USE IN CALIFORNIA.**

**Product Information**

Propiconazole 14.3 is a systemic fungicide for use as a flare root injection for prevention and treatment of (1) oak wilt (*Ceratocystis fagacearum*) of oaks (*Quercus* spp.); (2) Dutch elm disease (*Ophiostroma ulmi*) of elms (*Ulmus* spp.); (3) sycamore anthracnose (*Apiognomonia veneta*); (4) leaf diseases (i.e., *Venturia inaequalis*, *Gymnosporangium juniperi-virginianae*, *Pucciniastrum goeppertianum*, etc.) of crabapple (*Malus* spp.); and (5) laurel wilt, redbay, and other lauraceae species (excluding avocado). It is advised that Propiconazole 14.3 be administered by trained arborists or others trained in injection techniques and in the identification of tree diseases.

**Restrictions:**

- Do not exceed 0.0069 lbs. ai/DBH.
- Do not exceed one application per crop cycle/year.

**Note:** The active ingredient in Propiconazole 14.3 has been shown to be safe on a wide range of plant species. Before using Propiconazole 14.3 on ornamental plants, test Propiconazole 14.3 on a small-scale basis and evaluate for phytotoxicity and disease control prior to widespread use.

**Correct Location for Injector Placement**

The flare root area is the transitional zone between the trunk and the root system. Uptake and distribution of Propiconazole 14.3 is more effective when injections are made into the flare roots. In addition, wounds created in the flare root area close more rapidly in comparison to wounds above the flare root area.

### **Tree Preparation**

1. Carefully shave heavy, thick, or loose outer bark to form a smoother injection point and to ensure the operator that the drill hole penetrates through the bark to the xylem.
2. If the flare roots are not clearly exposed, carefully remove 2 to 4 inches of soil from the base of the tree to uncover the top of the flare roots. Brush away loose soil.
3. Drill holes through the bark, into sapwood, using a clean sharp drill bit. Allow adequate drill hole diameter for insertion of injection tees and formation of air tight contact between active xylem and the delivery point of the injection tees. A drill hole diameter of 7/32–5/16 inch for elms, sycamores, and crabapples and 5/16 inch for oaks is appropriate. Follow manufacturer's instructions for the particular injection device used in the treatment.

Drill hole depth adequately to deliver the product into active xylem tissue. Generally, 3/4 inch depth is appropriate, but trees with thick bark could require increased drill hole depth to reach the active xylem layer. Space injectors 3 to 6 inches apart around the base of the tree. Do not drill in the valleys between the flare roots or into cankered areas. Drill above these areas into the trunk; then continue again into sound sapwood on the flares.

4. Disinfect the drill bit between trees with household bleach (20% solution), ethanol, or other disinfectant. Rinse bit with clean water after disinfecting.
5. Insert into the drilled holes the injection ports ("tees") which are connected to plastic tubing. The tubing must have inlet and outlet valves.
6. Mix the specified amount of Propiconazole 14.3 and water thoroughly in the tank before beginning the injection treatment.

**Tree measurement**

Measure the diameter of the tree using a tree diameter-tape (D-tape) at 4½ feet above the ground. This is the diameter at breast height (DBH). If only a regular tape is available, measure the tree circumference and divide that number by 3.14. For crabapples, measure the diameter at the point where the tree begins to branch.

**Preparation of Injection Solution**

Dilute 10 ml of Propiconazole 14.3 in up to 1 liter of water per inch DBH. Refer to the following table as an example of the amounts of Propiconazole 14.3 and water to use:

<b>DBH inches</b>	<b>Treatment Level (ml)</b>	<b>Water Volume (liters)</b>
5	50	5
10	100	10
15	150	15
20	200	20
25	250	25
30	300	30
35	350	35
40	400	40

## **Injection**

For pressurized injections, with the outlet valve open, connect the tank to the inlet valve and begin pumping solution until all air bubbles come out of the outlet valve. Direct the solution into a container and return the solution to the tank. Shut off the outlet valve. Pressurize tank to 20 to 30 psi. Check for leaks and gently tap in tees if necessary. Maintain continuous pressure on the injection system until the full amount of solution is in the tree.

After injection is complete, remove injection tees and leave drill holes unplugged. A water flush to cleanse the hole will assist with wound closure. Replace soil around the tree. It is not necessary to treat the drill holes with wound paint or other sealing compounds.

Contact your local extension agent for more details on tree injection. The injection system described is meant as an example; please refer to manufacturer's instructions when using other types of tree injection systems.

## **Re-treatment**

At the initial injection of Propiconazole 14.3, take notes on the level of disease in each tree. Reevaluate disease level in trees at 12-month intervals after treatment for the potential need for re-treatment with Propiconazole 14.3. Consider preventive applications 12 to 36 months after the initial injection. Evaluate trees in high disease risk areas or high value trees for possible re-treatment 12 months after each treatment. Follow application procedures described above for repeat injections; new drill holes will be needed for subsequent treatments.

## **OAK WILT: OAKS**

### **Preventive and Therapeutic Treatment**

Use 10 ml of Propiconazole 14.3 in up to 1 liter of water per inch DBH. For very high disease pressure, use 20 ml of Propiconazole 14.3 per inch DBH.

In the upper Midwest, treat oaks after June 15. Wounds in oaks in the upper Midwest between May 15 and June 15 attract insects that transmit the oak wilt pathogen.

Oak trees exhibiting less than 20% crown loss from oak wilt have the best chance of responding to treatment by Propiconazole 14.3. Preventive application is more effective than therapeutic treatment. Trees in advanced stages of disease development may not respond to treatment.

Uninfected trees will generally absorb the full amount of Propiconazole 14.3 water solution within 2 hours when injected under pressure. Consider trees exhibiting specific symptoms or those symptomless trees immediately adjacent to a diseased tree infected. Symptomless trees separated by a primary plow line from diseased trees may be at less risk of infection. Infected trees will absorb the material more slowly due to the vascular plugging caused by the disease. If the Propiconazole 14.3 water solution is not absorbed within 24 hours, the tree is considered high risk and has a poor chance of survival.

See the **PRODUCT INFORMATION** section for details on re-treatment.

## **ANTHRACNOSE: SYCAMORE**

### **Preventive Treatment**

Use 10 ml of Propiconazole 14.3 in up to 1 liter of water per inch DBH. For trees less than 10 inches DBH, use 6 ml of Propiconazole 14.3 per inch DBH. Make applications when the trees are in full leaf and actively growing for control of the next season's anthracnose development.

See the **Product Information** section of this label for details on re-treatment.

## **LEAF DISEASES; CRABAPPLES**

### **Preventive Treatment**

Use 10 ml of Propiconazole 14.3 in up to 1 liter of water per inch trunk diameter. For trees less than 10 inches in trunk diameter, use 6 ml per inch trunk diameter. Make applications when the trees are in full leaf and actively growing for control of the next season's leaf disease development. Disease symptoms may not be reduced the year of application.

See the **Product Information** section of this label for details on re-treatment.

Note: Do not use fruit from treated trees for feed or food purposes.

## **DUTCH ELM DISEASE IN ELMS**

### **Preventive and Therapeutic Treatment**

Use 6-10 ml of Propiconazole 14.3 in up to 1 liter of water per inch DBH. For very high disease pressure, use 20 ml of Propiconazole 14.3 per inch DBH.

**Notes:** (1) Accurate diagnosis of Dutch elm disease is important since Propiconazole 14.3 only provides control of Dutch elm disease in elms. (2) Propiconazole 14.3 will be most effective when used in conjunction with other cultural practices for management of Dutch elm disease (removal of dead elm trees, pruning of diseased tree limbs and branches, control of bark beetles, etc.) (3) Preventive applications can be made at 6 to 10 ml/inch DBH. The 6 ml rate provides 24 months control and the 10 ml rate provides 36 months control. (4) Make therapeutic treatment in trees showing disease symptoms at 10-20 ml/inch DBH. Re-treatment may be needed every 12 to 36 months. Trees in advanced stages of disease development may not respond to treatment. For further information on the proper diagnosis and control of Dutch elm disease, consult your local extension agent.

See the **Product Information** section of this label for details on re-treatment.

**LAUREL WILT: RED BAY AND OTHER LAURACEAE SPECIES (EXCLUDING AVOCADO)**

Do not apply Propiconazole 14.3 to any plant in the Lauraceae family that produces fruit or other plant parts that may be used for human or animal consumption.

Do not apply Propiconazole 14.3 to bearing or nonbearing avocados.

**Preventive Treatment**

Use 20 ml of Propiconazole 14.3 in up to 0.3 liter of water per inch DBH. Make applications to healthy trees when the trees are in full leaf and actively growing and prior to disease symptoms. Propiconazole 14.3 will be most effective when used in conjunction with control of ambrosia beetle, the laurel wilt insect vector.

See the **Product Information** section of this label for details on re-treatment.

## **STORAGE AND DISPOSAL**

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

**STORAGE:** Store in a cool, dry area out of reach of children.

**PESTICIDE DISPOSAL:** Pesticide wastes are toxic. Improper disposal of unused pesticide, spray mixture, or rinse water is a violation of Federal law. If these wastes cannot be used according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance in proper disposal methods.

### **CONTAINER HANDLING:**

#### **Nonrefillable Container (five gallons or less):**

Nonrefillable 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 and drain for 10 seconds after the flow begins to drip. 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 a sanitary landfill, or by puncture and dispose of in a sanitary landfill, or by incineration.

For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. For final disposal, offer for recycling or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.



## **LIMITATION OF WARRANTY AND LIABILITY**

Read the entire direction for use, conditions of warranties and limitations of liability before using this product. If terms are not acceptable, return the unopened product container at once. By using this product, user or buyer accepts the following **CONDITIONS, DISCLAIMER OF WARRANTIES, and LIMITATIONS OF LIABILITY.**

**CONDITIONS:** The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risk associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Makhteshim Agan of North America, Inc., Inc. All such risks shall be assumed by the user or buyer.

**DISCLAIMER OF WARRANTIES:** To the extent consistent with applicable law, Makhteshim Agan of North America, Inc., Inc. makes no other warranties, express or implied, of merchantability or of fitness for a particular purpose or otherwise, that extend beyond the statements made on this label. No agent of Makhteshim Agan of North America, Inc., Inc. is authorized to make any warranties beyond those contained herein or to modify the warranties contained herein. To the extent consistent with applicable law, Makhteshim Agan of North America, Inc., Inc. disclaims any liability whatsoever for special, incidental or consequential damages resulting from the use or handling of this product.

**LIMITATIONS OF LIABILITY:** To the extent consistent with applicable law, the exclusive remedy of the user or buyer for any and all losses, injuries or damages resulting from the use or handling of this product, whether in contract, warranty, tort, negligence, strict liability or otherwise, shall not exceed the purchase price paid or at Makhteshim Agan of North America, Inc., Inc. election, the replacement of product.

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## NOTES

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**QUAL-PRO**

PROPICONAZOLE GROUP 3 FUNGICIDE



# PROPICONAZOLE 14.3

Fungicide

Broad spectrum and systemic disease control for turf and ornamentals and a flare root-injected systemic fungicide for control of selected diseases in trees

**ACTIVE INGREDIENT:** % BY WT.

Propiconazole: 1-[[2-(2,4-dichlorophenyl)-4-propyl-1,3-dioxolan-2-yl]

Methyl]-1H-1,2,4-triazole.....14.3%

**OTHER INGREDIENTS:**.....85.7%

**TOTAL:**.....100.0%

Propiconazole 14.3 is an emulsifiable concentrate containing 1.3 lbs. of active ingredient per gallon.

**KEEP OUT OF REACH OF CHILDREN,  
CAUTION – PRECAUCIÓN**

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.  
(If you do not understand the label, find someone to explain it to you in detail.)

For additional precautionary, handling, and use statements, see inside of this booklet.

EPA Reg. No. 53883-363

EPA Est No. 53883-TX-002

**NET CONTENTS:**  
1 QUART



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**Control  
Solutions Inc.**

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