

ACCEPTED

May 30, 2017

New York State Department  
of Environmental Conservation  
Division of Materials Management  
Pesticide Product Registration

Classified for  
"RESTRICTED USE"  
in New York State  
under 6NYCRR Part 326

DOC ID 550526

2 container sizes included with this label

ARBORICULTURE IN MOTION™

# Propizol™

## Systemic Fungicide

### SYSTEMIC FUNGICIDE

A trunk or flare root injected systemic fungicide for control of selected diseases in trees. Systemic broad-spectrum disease control for grasses, shrubs, and flowers in all growing zones applied as a foliar spray.

### KEEP OUT OF REACH OF CHILDREN WARNING AVISO

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

**See inside label booklet for  
PRECAUTIONARY STATEMENTS and  
DIRECTIONS FOR USE.**

Manufactured by: Arborjet, Inc.  
99 Blueberry Hill Road Woburn, MA 01801  
www.arborjet.com



Rev 03/17

#### ACTIVE INGREDIENT:

Propiconazole .....	14.3%
OTHER INGREDIENTS .....	85.7%
TOTAL .....	100.0%

Contains 1.3 lbs. active ingredient per gallon.

EPA Reg No. 74578-8 EPA Est. No. 74578-MA-001

Net Contents: 1 Gallon (128 fl. oz., 3,785 mL)

#### 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.

##### IF INHALED

- Move person to fresh air.
- If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.
- Call a poison control center or doctor for further treatment advice.

##### IF ON SKIN OR CLOTHING

- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15-20 minutes.
- Call a poison control center or doctor for treatment advice.

##### IF SWALLOWED

- Call a poison control center or doctor immediately for treatment advice.
- Have person sip a glass of water if able to swallow.
- Do not induce vomiting unless told to do so by the poison control center or doctor.
- Do not give anything to an unconscious person.

##### 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 (800) 255-3924 for emergency medical treatment information.

##### NOTE TO PHYSICIAN

If ingested, induce emesis or lavage stomach. Treat symptomatically.

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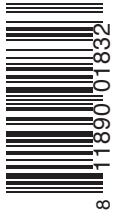
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**For Chemical Spill, Leak, Fire or Exposure Call Chem-Tel (800) 255-3924.**

PROPIZOL (1 GALLON)  
040-6302



Manufactured by:  
Arborjet, Inc.  
99 Blueberry Hill Road  
Woburn, MA 01801



Rev 2/17

**PRECAUTIONARY STATEMENTS  
HAZARDS TO HUMANS AND DOMESTIC  
ANIMALS  
WARNING/AVISO**

Causes substantial but temporary eye injury. Do not get in eyes or on clothing. Harmful if swallowed, inhaled, or absorbed through skin. Avoid contact with eyes, skin or clothing. Avoid breathing vapor or spray mist. Wear goggles or face shield. Wear rubber gloves and a long sleeve shirt when mixing, handling and/or applying the product. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum or using tobacco. Remove and wash contaminated clothing before reuse.

**PERSONAL PROTECTIVE  
EQUIPMENT (PPE)**

Some materials that are chemically 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  $\geq 14$  mils, nitrile rubber  $\geq 14$  mils, neoprene rubber  $\geq 14$  mils, polyvinyl chloride (PVC)  $\geq 14$  mils, or viton  $\geq 14$  mils
  - Shoes plus socks
  - Protective eyewear
- Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. 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.

**ENGINEERING CONTROLS STATEMENT**

When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 70.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

**User Safety Recommendations**

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- If pesticide gets inside, remove clothing immediately, 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 pesticide is toxic to fish. 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 disposing of equipment washwater or rinsate.

**PHYSICAL OR CHEMICAL HAZARDS**

Do not use or store near heat or open flame.

**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.

Note: Do not apply more than 5.4 gals. of this product per acre per calendar year.

Failure to follow the directions for use and precautions on this label may result in plant injury or poor disease control.

**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.

**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), notification to workers, 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 24 hours. 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  $\geq 14$  mils, nitrile rubber  $\sim 14$  mils, neoprene rubber  $\geq 14$  mils, polyvinyl chloride (PVC)  $\geq 14$  mils, or viton  $\geq 14$  mils
- Shoes plus socks
- Protective eyewear

**A TRUNK INJECTED SYSTEMIC FUNGICIDE FOR CONTROL OF SELECTED DISEASES IN TREES USING MICRO-INJECTION & MICRO-INFUSION® METHODS**

**General Information**

This product is a systemic fungicide for use as a trunk injection for prevention and treatment of (1) oak wilt (*Ceratocystis fagacearum*) of oaks (*Quercus* spp.), (2) Dutch elm disease (*Ophiostoma ulmi*) of elms (*Ulmus* spp.), (3) sycamore anthracnose (*Apiognomonia veneta*), and (4) leaf diseases (i.e., *Venturia inaequalis*, *Gymnosporangium juniperi-virginianae*, *Pucciniastrum goeppertianum*, etc.) of crabapple (*Malus* spp.).

Administer this product by trained arborists or others trained in injection techniques and in the identification of tree diseases.

**Notes:** The active ingredient in this product has been shown to be safe on a wide range of plant species. Before using product on plants or for diseases that are not listed in the Directions for Use, test it on a small-scale basis and evaluate for phytotoxicity and disease control prior to widespread use.

**APPLICATION METHOD FOR TRUNK INJECTION USING MICRO-INJECTION OR MICRO-INFUSION®**

Propizol is designed for use with Arborjet Tree Injection Systems. It may be used with other injection devices that inject directly into the sapwood (xylem) and meet the application and label requirements. Propizol can be used with a variety of tree injection devices. For all injection devices, read carefully and follow all manufacturer use directions. Most injection devices may require several minutes or more to empty into tree, however, some may take longer to empty depending on the health of the treated tree and local weather conditions. Do not leave the injection devices unattended. Do not leave empty injection devices on trees. Promptly and safely remove them according to manufacturer's directions. Follow the manufacturer's directions for proper cleaning and storage of the injection device.

**Use:** Use as formulated or dilute with equivalent 1 to 3 volumes of water or more, as necessary. The use of low or high rate is based on the professional judgment of the applicator as to what constitutes a preventative (pre-infection) or therapeutic (post-infection) treatment. Use low rates for preventative treatments and to provide protection in smaller trees. Use higher rates for therapeutic treatments, when disease symptoms have already appeared, and in larger trees.

**Use Rate Table for Micro-Injection and Micro-Infusion®**

Low Rate		High Rate
Amount of Propizol per inch DBH (mls)	Amount of Water to Add per inch DBH (mls)	Amount of Propizol per inch DBH (mls)
10	10	20

**Preparation of Tree Injection Solution:**

1. Measure the tree diameter 4.5 feet off the ground at breast height (DBH) for dosage.
2. Refer to the Use Rate Table for Micro-Injection and Micro-Infusion® to calculate the dose and dilution per tree. You may increase the amount of water by 1 to 3 volumes or more as needed.
3. Pour applicable amount of Propizol into the delivery bottle.
4. Add appropriate amount of water and replace lid.
5. Swirl contents lightly for approximately 15 seconds until mixed.

Example of a low rate application to a 24" DBH tree:  
 1. The low rate application is 10 milliliters per inch DBH.  
 2. Multiply 10 mls x 24" DBH to determine the amount of formulation (10 mls x 24" DBH = 240 mls) to use. Add the concentrate to the delivery bottle.  
 3. Add an equivalent volume of water to the delivery bottle (240 mls).  
 4. Inject a total volume of 480 mls (240 mls formulation + 240 mls water) of solution.

Example of a high rate application to a 24" DBH tree:  
 1. The high rate application is 20 milliliters per inch DBH.  
 2. Multiply 20 mls x 24" DBH to determine the amount of formulation (20 mls x 24" DBH = 480 mls) to use. Add the concentrate to the delivery bottle.  
 3. Add an equivalent volume of water to the delivery bottle (480 mls).  
 4. Inject a total volume of 960 mls (480 mls formulation + 480 mls water) of solution.

Refer to the Tree Dosage Table for Micro-Injection and Micro-Infusion as an example of the amounts of this product and water to use.

**Trunk Injection into Trees:**

Inject at the base of the tree. Apply the entire mixed dose in the trunk flare root or within the first 3 feet of trunk height favoring a height lowest to the ground. Trunk flares are best; avoid flat spots and damaged wood areas. Always inject into healthy portions of the trunk or trunk flare. Inject the tree by placing an Arborplug® or STINGER tip hole every 3-6 inches around the tree using one of the tools below. Do not place injection sites closer than 2" apart. If using an alternate trunk injection tool follow the instruction that best fits your delivery tool.

**Tree Dosage Table for Micro-Injection and Micro-Infusion®**

DBH Inches	Low Dose		High Dose	
	Amount of Propizol per Tree (ml)	Water Volume* (milliliters)	Amount of Propizol per Tree (ml)	Water Volume* (milliliters)
6	60	60	120	120
12	120	120	240	240
18	180	180	360	360
24	240	240	480	480
30	300	300	600	600
36	360	360	720	720
40	400	400	800	800

**Using the STINGER Tip**

Use a sharp, clean 7/32" diameter high speed drill bit. Drill holes into the sapwood a minimum of 3/8" (and typically 5/8") deep. Push STINGER needle into hole and twist right for a snug fit; start application, and remove the STINGER needles upon completion. The STINGER Method requires no Arborplugs. Clean and disinfect needles between trees.

**Using Arborplugs®**

Use a 9/32" diameter high speed drill bit for the #3 Arborplug (or 3/8" diameter high speed drill bit for the #4 Arborplug). Drill bits should be clean and sharp. Drill holes into the sapwood a minimum of 5/8" deep. Insert the Arborplug, countersink to the thickness of the bark using the set tool and hammer. Inject by inserting the VIPER needle, start application, and remove the VIPER needle upon completion. The

Arborplug will remain in the tree. Clean and disinfect needles between trees.

**Retreatment:**

At the initial injection of this product, 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 retreatment with this product. Preventive applications should be considered 12-36 months after the initial injection. Trees in high disease risk areas or high value trees should be evaluated for possible retreatment 12 months after each treatment.

Future injections in the same tree are applied into new holes placed intermediate to the old injection sites. Drill new sites either above or below (by 2" vertically) to the old sites and 2 to 3" horizontally from them. Applied correctly, this will form a triangular pattern with the old sites. Follow application procedures described above for

repeat injections.

[Optional alternate directions for flare root macro infusion.]

**APPLICATION METHOD FOR FLARE ROOT MACRO INFUSION INJECTION**

**Correct Location for Injector Placement**  
The flare root area is the transitional zone between the trunk and the root system. Uptake and distribution of this product 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. Drill hole diameter should be adequate to allow insertion of injection tees and formation of airtight contact between active xylem and the delivery point of the injection tees. Generally, 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 should be adequate to deliver the product into active xylem

tissue. Generally, ¾ inch depth is appropriate, but trees with thick bark require increased drill hole depth to reach the active xylem layer.

Space injectors 3-6 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, and 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 should have inlet and outlet valves.

6. Mix the specified amount of this product 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 4 ½ 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 this product in up to 1 liter of water per inch DBH. Refer to the following table as an example of the amounts of this product and water to use:

**Injection**

For pressurized injections, with the outlet

DBH Inches	Treatment Level (ml)	Water Volume* (liters)
5	50	5
10	100	10
15	150	15
20	200	20
25	250	25
30	300	30
35	350	35
40	400	40

\*Use up to the amount indicated.

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 20-30 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. Soil should be replaced 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.

#### Retreatment

At the initial injection of this product, 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 retreatment with this product. Preventive applications should be considered 12-36 months after the initial injection. Trees in high disease risk areas or high value trees should be evaluated for possible retreatment 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 this product in up to 1 liter of water per inch DBH. For very high disease pressure, use 20 ml of this product 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 this product. Preventive application is more effective than therapeutic treatment. Response to treatment will vary with trees in advanced stages of disease development.

Uninfected trees will generally absorb the full amount of product and water solution within 2 hours when injected under pressure. Trees exhibiting specific symptoms or those symptomless trees immediately adjacent to a diseased tree should be considered infected.

Symptomless trees separated by a primary flow line from diseased trees will 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 product and water solution is not absorbed within 24 hours, the tree is considered high risk and has a poor chance of survival.

Refer to the **Retreatment** section for details on retreatment.

#### LEAF DISEASE: CRABAPPLES

##### Preventative Treatment

Use 10 ml of this product in up to 1 liter of water per inch trunk diameter. For trees less than 10 inches trunk diameter, use 6 ml of this product 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 have the potential for not being reduced the year of application. Refer to the **Retreatment** section for details on retreatment.

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

#### ANTHRACNOSE: SYCAMORE

##### Preventive Treatment

Preventive Treatment

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

Refer to the **Retreatment** section for details on retreatment.

#### DUTCH ELM DISEASE IN ELMS

##### Preventive and Therapeutic Treatment

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

**Notes:** (1) Accurate diagnosis of Dutch Elm Disease is important since this product only provides control of Dutch Elm Disease in elms. (2) This product will be most effective when used in conjunction with other cultural practices specified 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 6-10 ml/inch DBH. The 6 ml rate should provide 24 months control and the 10 ml rate should provide 36 months control. (4) Therapeutic treatment in trees showing disease symptoms should be made at 10-20 ml/inch DBH. Retreat every 12-36 months, if needed. Response to treatment will vary with trees in advanced stages of disease development.

For further information on the proper

diagnosis and control of Dutch Elm Disease, consult your local extension agent. Refer to the **Retreatment** section for details on retreatment

### A SYSTEMIC FUNGICIDE FOR USE ON TURF GRASSES FOR CONTROL OF SELECTED DISEASES

#### General Information

This product is a systemic fungicide for use on turfgrasses for the control of:

Anthraxnose (*Colletotrichum graminicola*)

Red thread (*Laetisaria fuciformis*)

Brown patch (*Rhizoctonia solani*)

Rust (*Puccinia graminis*)

Dollar spot (*Sclerotinia homoeocarpa*)

Spring dead spot (*Leptosphaeria korrae*,

*Leptosphaeria narmari*, *Ophiosphaerella*

*herpotricha*, *Gaeumannomyces graminis*)

Fusarium patch (*Fusarium nivale*)

Gray leafspot (*Pyricularia grisea*)

Gray snowmold (*Typhula* spp.)

Leafspot (*Bipolaris* spp., *Drechslera* spp.)

Necrotic ring spot (*Leptosphaeria korrae*)

Pink patch (*Limonomyces roseipellis*)

Pink snowmold (*Microdochium nivale*)

Powdery mildew (*Erysiphe graminis*)

Stripe smut (*Ustilago striiformis* and

*Urocystis agropyri*)

Summer patch (*Magnaporthe poae*)

Take-all patch (*Gaeumannomyces graminis*)

Yellow patch (*Rhizoctonia cerealis*)  
Zoysia patch (*Rhizoctonia solani*)  
This product also controls numerous diseases on ornamentals and other landscape and nursery plantings such as powdery mildews, rusts, leafspots, scabs, and blights. Refer to the appropriate section of this label for specified diseases and plants.  
Do not apply this product through any type of irrigation system.

#### MIXING INSTRUCTIONS

Fill the spray tank ½ - ¾ full with water. Add the proper amount of this product, then add the remaining water. Provide sufficient agitation during mixing and application to maintain a uniform emulsion.

If this product 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 this product, 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 ¼ full of 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 the proper amount of this product
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

This product can be tank mixed with other fungicides for broader spectrum control. This product is also compatible with numerous herbicides and insecticides. Check compatibility before tank mixing. Add Unite® (3 pts./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.

#### TURFGRASS AND DICHONDRA DISEASE CONTROL

1. Use this product in a preventative disease control program.
2. Apply after mowing OR allow sprayed area to completely dry before mowing.
3. For control of soil-borne diseases, this product can be watered in after application.
4. For control of foliar diseases, allow

6. Proper diagnosis of the organism causing the disease is important prior to using any fungicide. Use of diagnostic kits or other means of identification of the disease organism is essential to determine the best control measures.
7. Apply in sufficient water to ensure thorough coverage.
8. Under conditions optimum for high disease pressure, use the higher rate and the shorter interval.
9. Evaluate spray additives prior to use. Label directions are based on data obtained with no additives.
10. Do not apply more than 16 fl. oz./1,000 sq. ft. per calendar year.

Restriction: Bermudagrass can be sensitive to this product. Do not exceed 4 fl. oz./1,000 sq. ft. every 30 days on any variety of bermudagrass. In Florida, do not apply this product to bermudagrass golf course greens when temperatures exceed 90°F.

Do not feed clippings from treated areas to livestock or poultry. Do not graze animals on treated areas.

TURFGRASS - SPECIFIC DISEASES, RATES, AND APPLICATION TIMING

Disease	Fl. Oz. per 1,000 sq. ft.	Fl. Oz. per Acre	Application Interval/ Timing	Instructions
Dollar Spot ( <i>Sclerotinia homoeocarpa</i> )	0.5	22	7 days	Apply when conditions are favorable for disease development
	0.5	22	14 days	Tank mix with low label rate of one of the following fungicides: Daconil 2787 F [Manicure® 6FL] Daconil Ultrex® [Manicure® Ultra]
	1	44	21-28 days	Tank mix with low label rate of one of the following fungicides: Daconil 2787 F [Manicure® 6FL] Daconil Ultrex® [Manicure Ultra] Iprodione 2SE [LESCO® 18 Plus™]
	1-2	44-88	14-28 days	If using the 1-2 fl. oz./1,000 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.

Anthracnose ( <i>Colletotrichum graminicola</i> )	1-2	44-88	14-28 days	Apply when conditions are favorable for disease development. Use higher rates of this product and shorter 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 this product per 1,000 sq. ft. with the label rate of the above mentioned contact fungicides.
Brown Patch ( <i>Rhizoctonia solani</i> )	1-2	44-88	14-21 days	Tank mix with a registered contact fungicide labeled for brown patch control at the label rate. Begin applications in May or June before the disease is present. Use the higher rates of this product and shorter intervals under conditions of high temperatures and high humidity.
Powdery Mildew ( <i>Erysiphe graminis</i> ) Rust ( <i>Puccinia graminis</i> )	1-2	44-88	14-28 days	Make applications when conditions are favorable for disease development. If disease is present, use 2 fl. oz. of this product per 1,000 sq. ft.



Pink Patch ( <i>Limonomyces roseipellis</i> ) Red Thread ( <i>Laetisaria fuciformis</i> )	2	88	14-21 days	Apply when conditions are favorable for disease development.
Stripe Smut ( <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.
Gray Leafspot ( <i>Pyricularia grisea</i> )	1-2	44-88	14 days	Make applications when conditions are favorable for disease development. If using the 1 fl. oz./1,000 sq. ft. rate, tank mix with a registered contact fungicide at the label rate.
Melting Out, Leaf Spot ( <i>Bipolaris</i> spp.) ( <i>Drechslera</i> spp.)	1-4	44-176	14 days	Under light to moderate pressure, apply this product to reduce the severity of leaf spot and melting out caused by <i>Helminthosporium</i> -type pathogens. For broad spectrum disease control, tank mix the 1 fl. oz. product rate with a registered contact fungicide at the label rate. Tank mix the 1-4 fl. oz./1,000 sq. ft. product rate with a registered contact fungicide at the labeled rate.

Summer Patch, Poa Patch ( <i>Magnaporthe poae</i> )	2 4	88 176	14 days 28 days	Apply this product beginning in April. Use the 2 fl. oz./1,000 sq. ft. rate on a 14 day schedule and the 4 fl. oz./1,000 sq. ft. rate on a 28 day schedule.
Take-All Patch ( <i>Gaeumannomyces graminis</i> )	2-4	88-176	Spring and Fall	Apply this product to reduce the severity of take-all patch. Make 1-2 fall applications in September and October or when night temperatures drop to 55°F, and 1-2 spring applications in April and May, depending on local specifications.
Spring Dead Spot ( <i>Leptosphaeria korrae</i> , <i>Leptosphaeria narmari</i> , <i>Ophiosphaerella herpotricha</i> , <i>Gaeumannomyces graminis</i> )	4	176	30 days	Make 1-3 applications of this product. For one application, apply in September or October. For multiple applications, begin sprays in August.
Necrotic Ring Spot ( <i>Leptosphaeria korrae</i> )	4	176	Fall or Spring	Apply in the fall and/or the early spring depending on local specifications.

DICHONDRA-SPECIFIC DISEASE, RATE, AND APPLICATION TIMING

Disease	Fl. Oz. per 1,000 sq. ft.	Fl. Oz. per Acre	Application Interval/ Timing	Instructions
Dichondra Rust ( <i>Puccinia dichondrae</i> )	2	88	14-21 days	Apply when conditions are favorable for disease development.

ESTABLISHMENT OF COOL SEASON TURFGRASS

The primary use of this product is as a fungicide for use against the diseases listed on this label. As an additional benefit, this product will improve the establishment rate when it is applied to cool season grass seedlings or sod.

**New Seedlings:** Apply 1 fl. oz./1,000 sq. ft. at the 2 to 3-leaf stage of growth for faster root development and top growth.

**Sod:** Apply 1 fl. oz./1,000 sq. ft. 2-6 weeks before cutting for increased sod knitting and faster establishment after laying.

DISEASE CONTROL IN NURSERIES (FIELD) AND LANDSCAPE PLANTINGS

1. Use this product in a preventative 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 parenthesis following the plant species refers you to the disease(s) controlled in Table 2. Find the disease in Table 2. The number 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 this product is obtained when used in conjunction with sound disease management practices.

**General Instructions**

Use this product at rates of 2-24 fl. oz./100 gallons of water for control of diseases of ornamental plant species (Refer to Tables 1, 2, and 3).  
 Note: For outdoor uses, apply up to 5.4 gallons of this product /acre/crop/calendar year. For general disease control in landscapes, apply 6-8 fl. oz./100 gallons of water every 21 days. For best control, begin applications of this product before disease development.  
 Note: Plant tolerances to this product have been found to be acceptable for the specific genera and species of plants listed under the Directions for Use section of this label.

Gray Snow-mold ( <i>Typhula</i> spp.), Pink Snowmold ( <i>Microdochium nivale</i> )	2-4	88-176	Late Fall	Make one application of this product in the late fall before snow cover. Do not apply on top of snow. For optimum disease control, the 2 and 3 fl. oz. product rates should be tank mixed with either PCNB or chlorothalonil at label rates.
Fusarium Patch ( <i>Fusarium nivale</i> )	2-4	88-176	Fall-Early Spring	Apply when conditions are favorable for disease development.
Yellow Patch ( <i>Rhizoctonia cerealis</i> )	3-4	130-176	Late Fall	Make one application of this product in the late fall before snow cover. Do not apply on top of snow. If using a 3 fl. oz./1,000 sq. ft. rate, tank mix with a registered contact fungicide at the label rate.
Zoysia Patch, 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.

Other plant species can be sensitive to this product and diseases other than those listed may not be controlled.

Before using this product on plants or for diseases that are not listed in the Directions for Use section of this label, test this product on a small scale basis first. Apply the specified rates for a particular type of disease, i.e., rust, powdery mildew, etc., and evaluate for

Herbaceous Ornamental	Woody Ornamental	Nonbearing Fruits and Nuts (Nurseries and Landscape Plantings)
Calendula (4a) Carnation (5f) Chrysanthemum (2a) Delphinium (4a) English Ivy (3e) Gomphrena (3a) Impatiens (3a, 3b, 4a) Iris (5d) Marigold (3a) Monarda (4c) Phlox (4c) Snapdragon (5d) Sweet William ( <i>Dianthus barbatus</i> ) (3k) Zinnia (4c)	Amelanchier (4d) Ash (4c) Azalea (2c, 4b) Bayberry (3n) Camellia (3e) Cotoneaster (3i) Crabapple (3c, 3q, 4c, 5a) Crape myrtle (4a) Dogwood (3h, 4c) Douglas fir (5b) Elm (4c) Euonymus (3e, 4c) Hawthorn (5a) Holly (3r) Juniper (1a) Lilac (4c) Linden (3e, 3b, 4b) Magnolia (3e, 4b) Maple (3e, 4f) Oaks (3p) Pines (1b, 1c) Poplars (5b) Pyracantha (3o) Red Tip Photinia (3i) Rhamnus (3e, 3i) Rhododendron (2c, 3n) Roses (3g, 4e, 5c) (Outdoor use only) Shasta fir (5e) Sweetgum (3b, 3c, 3n) Sycamore (3e) Tulip tree (3e, 4a) Wax myrtle (3n)	Apple (3g, 4d, 5a) Bartlett pear (3q, 4c, 5a) Cherry (2b, 3d) Citrus (3m) Nectarine (2b) Peach (2b) Pecan (3b, 3c, 3f, 3i, 3n, 4e) Plum (2b) Walnut (3j)

phytotoxicity and disease control prior to widespread use.

**Restriction:** Do not apply this product to African violets, begonias, Boston fern, or geraniums.

**TABLE 1. ORNAMENTALS - PLANT SPECIES**

Numbers in parenthesis refer to diseases controlled. See Table 2

**TABLE 2. DISEASES**

Numbers in brackets refer to application regimes. Refer to Table 3.

1. Conifer Blights
  - a. *Phomopsis juniperovora* (Phomopsis Blight) [2]
  - b. *Sirococcus strobilinus* (Tip Blight) [4]
  - c. *Sphaeropsis sapinea* (Diplodia Tip Blight) [2]
2. Flower Blight
  - a. *Ascochyta chrysanthemi* (Ray Blight) [3]
  - b. *Monilinia* spp. [1]
  - c. *Ovulinia* spp. [2]
3. Leaf Blights/Spots
  - a. *Alternaria* spp. [2]
  - b. *Cercospora* spp. (Brown Leaf Spot) [3]
  - c. *Cladosporium* spp. (Scab) [3]
  - d. *Coccomyces hiemalis* [1]
  - e. *Colletotrichum* spp. [2]
  - f. *Cristulariella* spp. (Zonate leafspot) [3]
  - g. *Diplocarpon rosae* (Black Spot) [2]
  - h. *Discula* spp. (Anthracnose) [1]
  - i. *Fabraea maculata* (syn. *Entomosporium maculata*) [2]

- j. *Gnomonia leptostyla* (Anthracnose) [3]
- k. *Heterosporium echinulatum* [2]
- l. *Mycosphaerella caryigena* (Downy Spot) [3]
- m. *Mycosphaerella fructicola* (Greasy Spot) [5]
- n. *Septoria* spp. (Leaf Scorch) [3]
- o. *Spilocaea pyracanthae* [2]
- p. *Tubakia dryina* [4]
- q. *Venturia inaequalis* (Scab) [1]
- r. Rhizoctonia web blight\* [2]

4. Powdery Mildew

- a. *Erysiphe* spp. [2]
  - b. *Microsphaera* spp. [3]
  - c. *Oidium* spp. [2]
  - d. *Podosphaera* spp. [2]
  - e. *Sphaerotheca pannosa* [2]
  - f. *Phyllactinia* spp. \* [2]
5. Rust
    - a. *Gymnosporangium juniperi-virginianae* [1]
    - b. *Melampsora occidentalis* [4]
    - c. *Phragmidium* spp. [2]
    - d. *Puccinia* spp. [2]
    - e. *Pucciniastrum goeppertianum* [4]
    - f. *Uromyces dianthi* [2]

\*Not registered for this use in CA

**TABLE 3. APPLICATION REGIMES**

1. Mix 2-4 fl. oz. of this product in 100 gallons 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 this

- product 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 this product every 28 days.
2. Mix 5-8 fl. oz. of this product in 100 gallons of water and apply as a full coverage spray to the point of drip. Begin applying when conditions are favorable for disease development and apply as necessary. For blackspot, apply with a registered contact fungicide labeled for blackspot. For Calendula, apply every 30 days. For diploдия tip blight, make 3 applications every 14 days prior to major period of infection. For juniper phomopsis blight, make the first application as soon as junipers start to grow, and repeat the applications every 14-21 days during periods of active growth.
  3. Mix 8-12 fl. oz. of this product in 100 gallons of water and apply as a full coverage spray to the point of drip. Apply every 30 days, beginning when conditions are favorable for the disease development. For pecans, apply the 12 fl. oz. rate beginning at bud break. Apply 3 times at 14-day intervals. For walnuts, 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, sweetgum and wax myrtle, the maximum use rate is 8 fl. oz.
  4. Mix 16 fl. oz. of this product in 100 gallons of water and apply as a full coverage spray to the point of drip. Apply every 14-28 days, beginning when conditions are favorable for disease development. For Douglas fir needle rust, apply once in May. For tip blight, start applications in mid-late winter and apply 3 times at 2-month intervals.
  5. Mix 20-24 fl. oz. of this product in 100 gallons of water and apply as a full coverage spray to the point of drip. Apply during June to August time period.
- Restrictions: To avoid possible illegal residues, do not apply to apple, cherry, citrus, nectarine, peach, pear, pecan, plum or walnut trees that will bear harvestable fruit within 12 months. Do not apply to maple trees that will be used for maple syrup production within one year.

Refer to the **Retreatment** section for details on retreatment.

## STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE:** Store in original container in a cool area out of the reach of children.

**PESTICIDE DISPOSAL:** Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use 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.

**CONTAINER DISPOSAL:** Nonrefillable container. Do not reuse or refill this container. Triple 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 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 reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration, or, if allowed by State and local authorities, by burning. If burned stay out of smoke.

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#### WARRANTY DISCLAIMER

The directions for use of this product must be followed carefully. To the extent consistent with applicable law, (1) the goods delivered to you are furnished "as is" by manufacturer or seller and (2) manufacturer and seller make no warranties, guarantees, or representations of any kind to buyer or user, either express or implied, or by usage of trade, statutory or otherwise, with regard to the product sold, including, but not limited to merchantability, fitness for a particular purpose, use, or eligibility of the product for any particular trade usage. Unintended consequences, including but not limited to ineffectiveness, may result because of such factors as the presence or absence of other materials used in combination with the goods, or the manner of use or application, including weather, all of which are beyond the control of manufacturer or seller and assumed by buyer or user. This writing contains all of the representations and agreements between buyer, manufacturer and seller, and no person or agent of manufacturer or seller has any authority to make any representation or warranty or agreement relating in any way to these goods.

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#### LIMITATION OF LIABILITY

To the extent consistent with applicable law, in no event shall manufacturer or seller be liable for special, incidental, or consequential damages, or for damages in their nature of penalties relating to the goods sold, including use, application, handling, and disposal. To the extent consistent with applicable law, manufacturer or seller shall not be liable to buyer or user by way of indemnification to buyer or to customers of buyer, if any, or for any damages or sums of money, claims or demands whatsoever, resulting from or by reason of, or rising out of the misuse, or failure to follow label warnings or instructions for use, of the goods sold by manufacturer or seller to buyer. All such risks shall be assumed by the buyer, user, or its customers. To the extent consistent with applicable law, buyer's or user's exclusive remedy, and manufacturer's or seller's total liability shall be for damages not exceeding the cost of the product.

**If you do not agree with or do not accept any of directions for use, the warranty disclaimers, or limitations on liability, do not use the product, and return it unopened to the Seller, and the purchase price will be refunded.**

SMALL CONTAINER LABEL  
FOR  
QUART SIZE

The logo for Propizol, featuring the word "Propizol" in a bold, blue, sans-serif font with a registered trademark symbol. A yellow and blue swoosh graphic is positioned behind the letters "i" and "z".

## SYSTEMIC FUNGICIDE

**A trunk or flare root injected systemic fungicide for control of selected diseases in trees. Systemic broad-spectrum disease control for grasses, shrubs, and flowers in all growing zones applied as a foliar spray.**

**ACTIVE INGREDIENT:**

Propiconazole..... 14.3%

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

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

Contains 1.3 lbs. active ingredient per gallon.

EPA Reg No. 74578-8

EPA Est. No. 74578-MA-001

Net Contents: 1.057 Quarts (1 Liter)

## KEEP OUT OF REACH OF CHILDREN WARNING AVISO

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

**See attached booklet for PRECAUTIONARY STATEMENTS and FIRST AID.**

For Chemical Spill, Leak, Fire or Exposure Call Chem-Tel (800) 255-3924.

Manufactured by: ARBORJET, Inc.  
99 Blueberry Hill Road, Woburn, MA 01801  
781-935-9070

The ARBORJET logo, with "ARBORJET" in a bold, green, sans-serif font. Below it, the tagline "Revolutionary Plant Health Solutions" is written in a smaller, green, sans-serif font. A registered trademark symbol is present.

Folded Booklet = 1.55" x 6.25"

# Propizol®

## 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.

Note: Do not apply more than 5.4 gals. of this product per acre per calendar year.

Failure to follow the directions for use and precautions on this label may result in plant injury or poor disease control.

See booklet for complete Directions for Use.

PROPIZOL (1 LITER)  
040-6300



See attached booklet for  
**STORAGE AND  
DISPOSAL.**

Active ingredient from  
Syngenta.

REV 12/2016

Arborticulture in Motion® is a registered  
trademark of Arborjet, Inc.

6.7144"

3.877"



# Propizol

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See inside label booklet for

### PRECAUTIONARY STATEMENTS and FIRST AID.

For Chemical Spill, Leak, Fire or Exposure Call Chem-Tel (800) 255-3924.



Manufactured by:

ARBORJET, INC.

781-935-9070

99 Blueberry Hill Road

Woburn, MA 01801

Active ingredient from Syngenta.

REV 03/2017

### PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS WARNING/AVISO

Causes substantial but temporary eye injury. Do not get in eyes or on clothing. Harmful if swallowed, inhaled, or absorbed through skin. Avoid contact with eyes, skin or clothing. Avoid breathing vapor or spray mist. Wear goggles or face shield. Wear rubber gloves and a long sleeve shirt when mixing, handling and/or applying the product. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum or using tobacco. Remove and wash contaminated clothing before reuse.

### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemically 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  $\geq 14$  mils, nitrile rubber  $\geq 14$  mils, neoprene rubber  $\geq 14$  mils, polyvinyl chloride (PVC)  $\geq 14$  mils, or viton  $\geq 14$  mils
- Shoes plus socks
- Protective eyewear

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. 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.

### ENGINEERING CONTROLS STATEMENT

When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 70.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

### User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- If pesticide gets inside, remove clothing immediately, 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.

### FIRST AID

If in eyes:	<ul style="list-style-type: none"> <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 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 by mouth-to-mouth, if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>
If on skin or clothing:	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
If swallowed	<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 the poison control center or doctor.</li> <li>• Do not give anything to an unconscious person.</li> </ul>

### 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 (800) 255-3924 for emergency medical treatment information.

### NOTE TO PHYSICIAN

If ingested, induce emesis or lavage stomach. Treat symptomatically.

### ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish. 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 disposing of equipment washwater or rinsate.

### PHYSICAL OR CHEMICAL HAZARDS

Do not use or store near heat or open flame.

### 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.

Note: Do not apply more than 5.4 gals. of this product per acre per calendar year. Failure to follow the directions for use and precautions on this label may result in plant injury or poor disease control.

### 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), notification to workers, 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 24 hours. 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  $\geq 14$  mils, nitrile rubber  $\sim 14$  mils, neoprene rubber  $\geq 14$  mils, polyvinyl chloride (PVC)  $\geq 14$  mils, or viton  $\geq 14$  mils
- Shoes plus socks
- Protective eyewear

### 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.

### A TRUNK INJECTED SYSTEMIC FUNGICIDE FOR CONTROL OF SELECTED DISEASES IN TREES USING MICRO-INJECTION & MICRO-INFUSION® METHODS

#### General Information

This product is a systemic fungicide for use as a trunk injection for prevention

and treatment of (1) oak wilt (*Ceratocystis fagacearum*) of oaks (*Quercus* spp.), (2) Dutch elm disease (*Ophiostoma ulmi*) of elms (*Ulmus* spp.), (3) sycamore anthracnose (*Apiognomonia veneta*), and (4) leaf diseases (i.e., *Venturia inaequalis*, *Gymnosporangium juniper-virginianae*, *Pucciniastrum goeppertianum*, etc.) of crabapple (*Malus* spp.).

Administer this product by trained arborists or others trained in injection techniques and in the identification of tree diseases.

**Notes:** The active ingredient in this product has been shown to be safe on a wide range of plant species. Before using product on plants or for diseases that are not listed in the Directions for Use, test it on a small-scale basis and evaluate for phytotoxicity and disease control prior to widespread use.

#### Use Rate Table for Micro-Injection and Micro-Infusion®

Amount of Propizol per inch DBH (mls)	Low Rate		High Rate	
	Amount of Water to Add per inch DBH (mls)	Amount of Propizol per inch DBH (mls)	Amount of Water to Add per inch DBH (mls)	Amount of Propizol per inch DBH (mls)
10	10	20	20	20

#### APPLICATION METHOD FOR TRUNK INJECTION USING MICRO-INJECTION OR MICRO-INFUSION

Propizol is designed for use with Arborjet Tree Injection Systems. It may be used with other injection devices that inject directly into the sapwood (xylem) and meet the application and label requirements. Propizol can be used with a variety of tree injection devices. For all injection devices, read carefully and follow all manufacturer use directions. Most injection devices may require several minutes or more to empty into tree, however, some may take longer to empty depending on the health of the treated tree and local weather conditions. Do not leave the injection devices unattended. Do not leave empty injection devices on trees. Promptly and safely remove them according to manufacturer's directions. Follow the manufacturer's directions for proper cleaning and storage of the injection device.

**Use:** Use as formulated or dilute with equivalent 1 to 3 volumes of water or more, as necessary. The use of low or high rate is based on the professional judgment of the applicator as to what constitutes a preventative (pre-infection) or therapeutic (post-infection) treatment. Use low rates for preventative treatments and to provide protection in smaller trees. Use higher rates for therapeutic treatments, when disease symptoms have already appeared, and in larger trees.

#### Preparation of Tree Injection Solution:

1. Measure the tree diameter 4.5 feet off the ground at breast height (DBH) for dosage.
2. Refer to the Use Rate Table for Micro-Injection and Micro-Infusion® to calculate the dose and dilution per tree. You may increase the amount of water by 1 to 3 volumes or more as needed.
3. Pour applicable amount of Propizol into the delivery bottle.
4. Add appropriate amount of water and replace lid.
5. Swirl contents lightly for approximately 15 seconds until mixed.

Example of a low rate application to a 24" DBH tree:

1. The low rate application is 10 milliliters per inch DBH.
2. Multiply 10 mls x 24" DBH to determine the amount of formulation (10 mls x 24" DBH = 240 mls) to use. Add the concentrate to the delivery bottle.
3. Add an equivalent volume of water to the delivery bottle (240 mls).
4. Inject a total volume of 480 mls (240 mls formulation + 240 mls water) of solution.

Example of a high rate application to a 24" DBH tree:

1. The high rate application is 20 milliliters per inch DBH.
2. Multiply 20 mls x 24" DBH to determine the amount of formulation (20 mls x 24" DBH = 480 mls) to use. Add the concentrate to the delivery bottle.
3. Add an equivalent volume of water to the delivery bottle (480 mls).
4. Inject a total volume of 960 mls (480 mls formulation + 480 mls water) of solution.

Refer to the Tree Dosage Table for Micro-Injection and Micro-Infusion as an example of the amounts of this product and water to use.

#### Tree Dosage Table for Micro-Injection and Micro-Infusion®

DBH Inches	Low Dose		High Dose	
	Amount of Propizol per Tree (ml)	Water Volume* (milliliters)	Amount of Propizol per Tree (ml)	Water Volume* (milliliters)
6	60	60	120	120
12	120	120	240	240
18	180	180	360	360
24	240	240	480	480
30	300	300	600	600
36	360	360	720	720
40	400	400	800	800

#### Trunk Injection into Trees:

Inject at the base of the tree. Apply the entire mixed dose in the trunk flare root or within the first 3 feet of trunk height favoring a height lowest to the ground.

Trunk flares are best; avoid flat spots and damaged wood areas. Always inject into healthy portions of the trunk or trunk flare.

Inject the tree by placing an Arborplug® or STINGER tip hole every 3-6 inches around the tree using one of the tools below. Do not place injection sites closer than 2" apart. If using an alternate trunk injection tool follow the instruction that best fits your delivery tool.

#### Using the STINGER Tip

Use a sharp, clean 7/32" diameter high speed drill bit. Drill holes into the sapwood a minimum of 3/8" (and typically 5/8") deep. Push STINGER needle into hole and twist right for a snug fit; start application, and remove the STINGER needles upon completion. The STINGER Method requires no Arborplugs. Clean and disinfect needles between trees.

#### Using Arborplugs®

Use a 9/32" diameter high speed drill bit for the #3 Arborplug (or 3/8" diameter high speed drill bit for the #4 Arborplug). Drill bits should be clean and sharp. Drill holes into the sapwood a minimum of 5/8" deep. Insert the Arborplug, countersink to the thickness of the bark using the set tool and hammer. Inject by inserting the VIPER needle, start application, and remove the VIPER needle upon completion. The Arborplug will remain in the tree. Clean and disinfect needles between trees.

#### Retreatment:

At the initial injection of this product, 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 retreatment with this product. Preventive applications should be considered 12-36 months after the initial injection. Trees in high disease risk areas or high value trees should be evaluated for possible retreatment 12 months after each treatment.

Future injections in the same tree are applied into new holes placed intermediate to the old injection sites. Drill new sites either above or below (by 2" vertically) to the old sites and 2 to 3" horizontally from them. Applied correctly, this will form a triangular pattern with the old sites. Follow application procedures described above for repeat injections.

(Optional alternate directions for flare root macro infusion.)

#### APPLICATION METHOD FOR FLARE ROOT MACRO INFUSION INJECTION

#### Correct Location for Injector Placement

The flare root area is the transitional zone between the trunk and the root system. Uptake and distribution of this product 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. Drill hole diameter should be adequate to allow insertion of injection tees and formation of airtight contact between active xylem and the delivery point of the injection tees. Generally, 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.
4. Drill hole depth should be adequate to deliver the product into active xylem tissue. Generally, ¾ inch depth is appropriate, but trees with thick bark require increased drill hole depth to reach the active xylem layer.
5. Space injectors 3-6 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, and then continue again into sound sapwood on the flares.
6. Disinfect the drill bit between trees with household bleach (20% solution), ethanol, or other disinfectant. Rinse bit with clean water after disinfecting. plastic tubing. The tubing should have inlet and outlet valves.
7. Insert into the drilled holes the injection ports ("tees"), which are connected to before beginning the injection treatment.

#### Tree Measurement

Measure the diameter of the tree using a tree diameter-tape (D-tape) at 4 ½ 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 this product in up to 1 liter of water per inch DBH. Refer to the following table as an example of the amounts of this product and water to use:

DBH Inches	Treatment Level (ml)	Water Volume* (liters)
5	50	5
10	100	10
15	150	15
20	200	20
25	250	25
30	300	30
35	350	35
40	400	40

\*Use up to the amount indicated.

#### 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 20-30 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. Soil should be replaced 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.

#### **Retreatment**

At the initial injection of this product, 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 retreatment with this product. Preventive applications should be considered 12-36 months after the initial injection. Trees in high disease risk areas or high value trees should be evaluated for possible retreatment 12 months after each treatment.

Follow application procedures described above for repeat injections; new drill holes will be needed for subsequent treatments.

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#### **OAK WILT: OAKS**

##### **Preventive and Therapeutic Treatment**

Use 10 ml of this product in up to 1 liter of water per inch DBH. For very high disease pressure, use 20 ml of this product 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 this product. Preventive application is more effective than therapeutic treatment. Response to treatment will vary with trees in advanced stages of disease development.

Uninfected trees will generally absorb the full amount of product and water solution within 2 hours when injected under pressure. Trees exhibiting specific symptoms or those symptomless trees immediately adjacent to a diseased tree should be considered infected. Symptomless trees separated by a primary plow line from diseased trees will 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 product and water solution is not absorbed within 24 hours, the tree is considered high risk and has a poor chance of survival.

Refer to the **Retreatment** section for details on retreatment.

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#### **LEAF DISEASE: CRABAPPLES**

##### **Preventative Treatment**

Use 10 ml of this product in up to 1 liter of water per inch trunk diameter. For trees less than 10 inches trunk diameter, use 6 ml of this product 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 have the potential for not being reduced the year of application.

Refer to the **Retreatment** section for details on retreatment.

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

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#### **ANTHRACNOSE: SYCAMORE**

##### **Preventive Treatment**

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

Refer to the **Retreatment** section for details on retreatment

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#### **DUTCH ELM DISEASE IN ELMS**

##### **Preventive and Therapeutic Treatment**

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

Notes: (1) Accurate diagnosis of Dutch Elm Disease is important since this product only provides control of Dutch Elm Disease in elms. (2) This product will be most effective when used in conjunction with other cultural practices specified 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 6-10 ml/inch DBH. The 6 ml rate should provide 24 months control and the 10 ml rate should provide 36 months control. (4) Therapeutic treatment in trees showing disease symptoms should be made at 10-20 ml/inch DBH. Retreat every 12-36 months, if needed. Response to treatment will vary with trees in advanced stages of disease development.

For further information on the proper diagnosis and control of Dutch Elm Disease, consult your local extension agent.

Refer to the **Retreatment** section for details on retreatment

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#### **A SYSTEMIC FUNGICIDE FOR USE ON TURF GRASSES FOR CONTROL OF SELECTED DISEASES**

##### **General Information**

This product is a systemic fungicide for use on turfgrasses for the control of:

Anthrachnose (*Colletotrichum graminicola*)

Red thread (*Laetisaria fuciformis*)

Brown patch (*Rhizoctonia solani*)

Rust (*Puccinia graminis*)

Dollar spot (*Sclerotinia homoeocarpa*)

Spring dead spot (*Leptosphaeria korrae*, *Leptosphaeria narmari*, *Ophiosphaerella herpotricha*, *Gaeumannomyces graminis*)

Fusarium patch (*Fusarium nivale*)

Gray leafspot (*Pyricularia grisea*)

Gray snowmold (*Typhula* spp.)

Leafspot (*Bipolaris* spp., *Drechslera* spp.)

Necrotic ring spot (*Leptosphaeria korrae*)

Pink patch (*Limonomyces roseipellis*)

Pink snowmold (*Microdochium nivale*)

Powdery mildew (*Erysiphe graminis*)

Stripe smut (*Ustilago striiformis* and *Urocystis agropyri*)

Summer patch (*Magnaporthe poae*)

Take-all patch (*Gaeumannomyces graminis*)

Yellow patch (*Rhizoctonia cerealis*)

Zoysia patch (*Rhizoctonia solani*)

This product also controls numerous diseases on ornamentals and other landscape and nursery plantings such as powdery mildews, rusts, leafspots, scabs, and blights. Refer to the appropriate section of this label for specified diseases and plants.

Do not apply this product through any type of irrigation system.

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#### **MIXING INSTRUCTIONS**

Fill the spray tank  $\frac{1}{2}$  -  $\frac{3}{4}$  full with water. Add the proper amount of this product, then add the remaining water. Provide sufficient agitation during mixing and application to maintain a uniform emulsion.

If this product 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 this product, 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  $\frac{1}{2}$  full of 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 the proper amount of this product
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.

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#### **TANK MIXES**

This product can be tank mixed with other fungicides for broader spectrum control. This product is also compatible with numerous herbicides and insecticides. Check compatibility before tank mixing. Add Unite® (3 pts./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.

**TURFGRASS AND DICHONDRA DISEASE CONTROL**

1. Use this product in a preventative disease control program.
  2. Apply after mowing OR allow sprayed area to completely dry before mowing.
  3. For control of soil-borne diseases, this product can be watered in after application.
  4. For control of foliar diseases, allow sprayed area to completely dry before irrigation.
  5. For optimum turf quality and disease control, use this product in conjunction with turf management practices that promote good plant health and optimum disease control.
  6. Proper diagnosis of the organism causing the disease is important prior to using any fungicide. Use of diagnostic kits or other means of identification of the disease organism is essential to determine the best control measures.
  7. Apply in sufficient water to ensure thorough coverage.
  8. Under conditions optimum for high disease pressure, use the higher rate and the shorter interval.
  9. Evaluate spray additives prior to use. Label directions are based on data obtained with no additives.
  10. Do not apply more than 16 fl. oz./1,000 sq. ft. per calendar year.
- Restrictions: Bermudagrass can be sensitive to this product. Do not exceed 4 fl. oz./1,000 sq. ft. every 30 days on any variety of bermudagrass. In Florida, do not apply this product to bermudagrass golf course greens when temperatures exceed 90°F.
- Do not feed clippings from treated areas to livestock or poultry. Do not graze animals on treated areas.

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

Disease	Fl. Oz. per 1,000 sq. ft.	Fl. Oz. per Acre	Application Interval/Timing	Instructions
Dollar Spot ( <i>Sclerotinia homoeocarpa</i> )	0.5	22	7 days	Apply when conditions are favorable for disease development
	0.5	22	14 days	Tank mix with low label rate of one of the following fungicides: Daconil 2787 F [Manicure® 6FL] Daconil Ultrex® [Manicure® Ultra]
	1	44	21-28 days	Tank mix with low label rate of one of the following fungicides: Daconil 2787 F [Manicure® 6FL] Daconil Ultrex® [Manicure Ultra] Iprodione ZSE [LESCO® 18 Plus™]
	1-2	44-88	14-28 days	If using the 1-2 fl. oz./1,000 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.

Anthraxnose ( <i>Colletotrichum graminicola</i> )	1-2	44-88	14-28 days	Apply when conditions are favorable for disease development. Use higher rates of this product and shorter 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 this product per 1,000 sq. ft. with the label rate of the above mentioned contact fungicides.
Brown Patch ( <i>Rhizoctonia solani</i> )	1-2	44-88	14-21 days	Tank mix with a registered contact fungicide labeled for brown patch control at the label rate. Begin applications in May or June before the disease is present. Use the higher rates of this product and shorter intervals under conditions of high temperatures and high humidity.
Powdery Mildew ( <i>Erysiphe graminis</i> ) Rust ( <i>Puccinia graminis</i> )	1-2	44-88	14-28 days	Make applications when conditions are favorable for disease development. If disease is present, use 2 fl. oz. of this product per 1,000 sq. ft.
Pink Patch ( <i>Limonomyces roseipellis</i> ) Red Thread ( <i>Laetisaria fuciformis</i> )	2	88	14-21 days	Apply when conditions are favorable for disease development.
Stripe Smut ( <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.
Gray Leafspot ( <i>Pyricularia grisea</i> )	1-2	44-88	14 days	Make applications when conditions are favorable for disease development. If using the 1 fl. oz./1,000 sq. ft. rate, tank mix with a registered contact fungicide at the label rate.
Melting Out, Leaf Spot ( <i>Bipolaris</i> spp.) ( <i>Drechslera</i> spp.)	1-4	44-176	14 days	Under light to moderate pressure, apply this product to reduce the severity of leaf spot and melting out caused by <i>Helminthosporium</i> -type pathogens. For broad spectrum disease control, tank mix the 1 fl. oz. product rate with a registered contact fungicide at the label rate. Tank mix the 1-4 fl. oz./1,000 sq. ft. product rate with a registered contact fungicide at the labeled rate.

Summer Patch, Poa Patch ( <i>Magorhynchus poae</i> )	2-4	88-176	14 days 28 days	Apply this product beginning in April. Use the 2 fl. oz./1,000 sq. ft. rate on a 14 day schedule and the 4 fl. oz./1,000 sq. ft. rate on a 28 day schedule.
Take-All Patch ( <i>Gaeumannomyces graminis</i> )	2-4	88-176	Spring and Fall	Apply this product to reduce the severity of take-all patch. Make 1-2 fall applications in September and October or when night temperatures drop to 55°F, and 1-2 spring applications in April and May, depending on local specifications.
Spring Dead Spot ( <i>Leptosphaeria korrae</i> , <i>Leptosphaeria narmari</i> , <i>Ophiostoma herpotricha</i> , <i>Gaeumannomyces graminis</i> )	4	176	30 days	Make 1-3 applications of this product. For one application, apply in September or October. For multiple applications, begin sprays in August.
Necrotic Ring Spot ( <i>Leptosphaeria korrae</i> )	4	176	Fall or Spring	Apply in the fall and/or the early spring depending on local specifications.
Gray Snowmold ( <i>Typhula</i> spp.) Pink Snowmold ( <i>Microdochium nivale</i> )	2-4	88-176	Late Fall	Make one application of this product in the late fall before snow cover. Do not apply on top of snow. For optimum disease control, the 2 and 3 fl. oz. product rates should be tank mixed with either PCNB or chlorothalonil at label rates.
Fusarium Patch ( <i>Fusarium nivale</i> )	2-4	88-176	Fall- Early Spring	Apply when conditions are favorable for disease development.
Yellow Patch ( <i>Rhizoctonia cerealis</i> )	3-4	130-176	Late Fall	Make one application of this product in the late fall before snow cover. Do not apply on top of snow. If using a 3 fl. oz./1,000 sq. ft. rate, tank mix with a registered contact fungicide at the label rate.
Zoysia Patch, 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, RATE, AND APPLICATION TIMING

Disease	Fl. Oz. per 1,000 sq. ft.	Fl. Oz. per Acre	Application Interval/ Timing	Instructions
Dichondra Rust ( <i>Puccinia dichondrae</i> )	2	88	14-21 days	Apply when conditions are favorable for disease development.

ESTABLISHMENT OF COOL SEASON TURFGRASS

The primary use of this product is as a fungicide for use against the diseases listed on this label. As an additional benefit, this product will improve the establishment rate when it is applied to cool season grass seedlings or sod. **New Seedlings:** Apply 1 fl. oz./1,000 sq. ft. at the 2 to 3-leaf stage of growth for faster root development and top growth.

**Sod:** Apply 1 fl. oz./1,000 sq. ft. 2-6 weeks before cutting for increased sod knitting and faster establishment after laying.

DISEASE CONTROL IN NURSERIES (FIELD) AND LANDSCAPE PLANTINGS

1. Use this product in a preventative 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 parenthesis following the plant species refers you to the disease(s) controlled in Table 2. Find the disease in Table 2. The number 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 this product is obtained when used in conjunction with sound disease management practices.

General Instructions

Use this product at rates of 2-24 fl. oz./100 gallons of water for control of diseases of ornamental plant species (Refer to Tables 1, 2, and 3).

Note: For outdoor uses, apply up to 5.4 gallons of this product/acre/crop/calendar year.

For general disease control in landscapes, apply 6-8 fl. oz./100 gallons of water every 21 days. For best control, begin applications of this product before disease development.

Note: Plant tolerances to this product have been found to be acceptable for the specific genera and species of plants listed under the Directions for Use section of this label. Other plant species can be sensitive to this product and diseases other than those listed may not be controlled. Before using this product on plants or for diseases that are not listed in the Directions for Use section of this label, test this product on a small scale basis first. 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.

**Restrictions:** Do not apply this product to African violets, begonias, Boston fern, or geraniums.

TABLE 1. ORNAMENTALS - PLANT SPECIES

Numbers in parenthesis refer to diseases controlled. See Table 2

Herbaceous Ornamental	Woody Ornamental	Nonbearing Fruits and Nuts (Nurseries and Landscape Plantings)
Calendula (4a) Carnation (5f) Chrysanthemum (2a) Delphinium (4a) English Ivy (3e) Camellia (3e) Gomphrena (3a) Impatiens (3a, 3b, 4a) Iris (5d) Marigold (3a) Monarda (4c) Phlox (4c) Sweet William (Dianthus barbatus) (3k) Zinnia (4c)	Amelanchier (4d) Ash (4c) Azalea (2c, 4b) Bayberry (3n) Camellia (3e) Catalpa (3i) Crabapple (3c, 3q, 4c, 5a) Crepe myrtle (4a) Dogwood (3h, 4c) Douglas fir (5b) Elm (4c) Eustoma (3e, 4c) Hawthorn (5a) Holly (3f) Juniper (1a) Lilac (4c) Linden (3e, 3b, 4b) Magnolia (3e, 4b) Maple (3e, 4f) Oaks (3p) Pines (1b, 1c) Poplars (5b) Pyracantha (3c) Red Tip Photinia (3i) Rhaphiolepis (3e, 3i) Rhododendron (2c, 3n) Roses (3g, 4e, 5c) (Outdoor use only) Shasta fir (5e) Sweetgum (3b, 3c, 3n) Sycamore (3e) Tulip tree (3e, 4a) Wax myrtle (3n)	Apple (3g, 4d, 5a) Bartlett pear (3g, 4c, 5a) Cherry (2b, 3d) Citrus (3m) Nectarine (2b) Peach (2b) Pecan (3b, 3c, 3f, 3i, 3n, 4e) Plum (2b) Walnut (3j)

TABLE 2. DISEASES

Numbers in brackets refer to application regimens. Refer to Table 3.

1. Conifer Blights

- a. *Phomopsis juniperovora* (Phomopsis Blight) [2]
- b. *Sirococcus strobilinus* (Tip Blight) [4]
- c. *Sphaeropsis sapinea* (Diplodia Tip Blight) [2]

2. Flower Blight

- a. *Ascochyta chrysanthemi* (Ray Blight) [3]
- b. *Monilinia* spp. [1]
- c. *Ovulinia* spp. [2]

3. Leaf Blights/Spots

- a. *Alternaria* spp. [2]
- b. *Cercospora* spp. (Brown Leaf Spot) [3]
- c. *Cladosporium* spp. (Scab) [3]
- d. *Coccomyces hiemalis* [1]
- e. *Colletotrichum* spp. [2]
- f. *Cristulariella* spp. (Zonate leafspot) [3]
- g. *Diplocarpon rosae* (Black Spot) [2]
- h. *Discula* spp. (Anthracnose) [1]
- i. *Fabraea maculate* (syn. *Entomosporium maculate*) [2]
- j. *Gnomonia leptostyla* (Anthracnose) [3]

- k. *Heterosporium echinulatum* [2]
- l. *Mycosphaerella caryigena* (Downy Spot) [3]
- m. *Mycosphaerella fructicola* (Greasy Spot) [5]
- n. *Septoria* spp. (Leaf Scorch) [3]
- o. *Spilocaea pyracanthae* [2]
- p. *Tubakia thyma* [4]
- q. *Venturia inaequalis* (Scab) [1]
- r. Rhizoctonia web blight [2]

4. Powdery Mildew

- a. *Erysiphe* spp. [2]
- b. *Microsphaera* spp. [3]
- c. *Oidium* spp. [2]
- d. *Podosphaera* spp. [2]
- e. *Sphaerotheca pannosa* [2]
- f. *Phyllactinia* spp. [2]

5. Rust

- a. *Gymnosporangium juniperi-virginianae* [1]
- b. *Melampsora occidentalis* [4]
- c. *Phragmidium* spp. [2]
- d. *Puccinia* spp. [2]
- e. *Pucciniastrum goeppertianum* [4]
- f. *Uromyces dianthi* [2]

\*Not registered for this use in CA

TABLE 3. APPLICATION REGIMENS

1. Mix 2-4 fl. oz. of this product in 100 gallons 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 this product 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 this product every 28 days.
2. Mix 5-8 fl. oz. of this product in 100 gallons of water and apply as a full coverage spray to the point of drip. Begin applying when conditions are favorable for disease development and apply as necessary. For blackspot, apply with a registered contact fungicide labeled for blackspot. 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 the first application as soon as junipers start to grow, and repeat the applications every 14-21 days during periods of active growth.
3. Mix 8-12 fl. oz. of this product in 100 gallons of water and apply as a full coverage spray to the point of drip. Apply every 30 days, beginning when conditions are favorable for the disease development. For pecans, apply the 12 fl. oz. rate beginning at bud break. Apply 3 times at 14-day intervals. For walnuts, 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, sweetgum and wax myrtle, the maximum use rate is 8 fl. oz.
4. Mix 16 fl. oz. of this product in 100 gallons of water and apply as a full coverage spray to the point of drip. Apply every 14-28 days, beginning when conditions are favorable for disease development. For Douglas fir, needle rust, apply once in May. For tip blight, start applications in mid-late winter and apply 3 times at 2-month intervals.
5. Mix 20-24 fl. oz. of this product in 100 gallons of water and apply as a full coverage spray to the point of drip. Apply during June to August time period.

Restrictions: To avoid possible illegal residues, do not apply to apple, cherry, citrus, nectarine, peach, pear, pecan, plum or walnut trees that will bear harvestable fruit within 12 months. Do not apply to maple trees that will be used for maple syrup production within one year.

Refer to the **Retreatment** section for details on retreatment.

## STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE:** Store in original container in a cool area out of the reach of children.

**PESTICIDE DISPOSAL:** Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use 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.

**CONTAINER DISPOSAL:** Nonrefillable container. Do not reuse or refill this container. Triple 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 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 reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration, or, if allowed by State and local authorities, by burning. If burned stay out of smoke.

## WARRANTY DISCLAIMER

The directions for use of this product must be followed carefully. To the extent consistent with applicable law, (1) the goods delivered to you are furnished "as is" by manufacturer or seller and (2) manufacturer and seller make no warranties, guarantees, or representations of any kind to buyer or user, either express or implied, or by usage of trade, statutory or otherwise, with regard to the product sold, including, but not limited to merchantability, fitness for a particular purpose, use, or eligibility of the product for any particular trade usage. Unintended consequences, including but not limited to ineffectiveness, may result because of such factors as the presence or absence of other materials used in combination with the goods, or the manner of use or application, including weather, all of which are beyond the control of manufacturer or seller and assumed by buyer or user. This writing contains all of the representations and agreements between buyer, manufacturer and seller, and no person or agent of manufacturer or seller has any authority to make any representation or warranty or agreement relating in any way to these goods.

## LIMITATION OF LIABILITY

To the extent consistent with applicable law, in no event shall manufacturer or seller be liable for special, incidental, or consequential damages, or for damages in their nature of penalties relating to the goods sold, including use, application, handling, and disposal. To the extent consistent with applicable law, manufacturer or seller shall not be liable to buyer or user by way of indemnification to buyer or to customers of buyer, if any, or for any damages or sums of money, claims or demands whatsoever, resulting from or by reason of, or rising out of the misuse, or failure to follow label warnings or instructions for use, of the goods sold by manufacturer or seller to buyer. All such risks shall be assumed by the buyer, user, or its customers. To the extent consistent with applicable law, buyer's or user's exclusive remedy, and manufacturer's or seller's total liability shall be for damages not exceeding the cost of the product.

**If you do not agree with or do not accept any of directions for use, the warranty disclaimers, or limitations on liability, do not use the product, and return it unopened to the Seller, and the purchase price will be refunded.**



## SYSTEMIC FUNGICIDE

A trunk or flare root injected systemic fungicide for control of selected diseases in trees. Systemic broad-spectrum disease control for grasses, shrubs, and flowers in all growing zones applied as a foliar spray.

ACTIVE INGREDIENT:	
Propiconazole .....	14.3%
OTHER INGREDIENTS .....	85.7%
TOTAL .....	100.0%

Contains 1.3 lbs. active ingredient per gallon.  
EPA Reg No. 74578-8 • EPA Est. No. 74578-MA-001  
Net Contents: 1.057 Quarts (1 Liter)

# KEEP OUT OF REACH OF CHILDREN WARNING AVISO

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

Manufactured by: ARBORJET, Inc., 99 Blueberry Hill Road, Woburn, MA 01801 781-935-9070

For Chemical Spill, Leak, Fire or Exposure Call Chem-Tel (800) 255-3924.

### PRECAUTIONARY STATEMENTS

#### HAZARDS TO HUMANS AND DOMESTIC ANIMALS - WARNING/AVISO

Causes substantial but temporary eye injury. Do not get in eyes or on clothing. Harmful if swallowed, inhaled, or absorbed through skin. Avoid contact with eyes, skin or clothing. Avoid breathing vapor or spray mist. Wear goggles or face shield. Wear rubber gloves and a long sleeve shirt when mixing, handling and/or applying the product. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum or using tobacco. Remove and wash contaminated clothing before reuse.

### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemically 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 ≥14 mils, nitrile rubber ≥14 mils, neoprene rubber ≥14 mils, polyvinyl chloride (PVC) ≥14 mils, or viton ≥14 mils
- Shoes plus socks
- Protective eyewear

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. 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.

### ENGINEERING CONTROLS STATEMENT

When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 70.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

#### User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- If pesticide gets inside, remove clothing immediately, 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.

### 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.

#### IF INHALED:

- Move person to fresh air.
- If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.
- Call a poison control center or doctor for further treatment advice.

#### IF ON SKIN OR CLOTHING:

- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15-20 minutes.
- Call a poison control center or doctor for treatment advice.

#### IF SWALLOWED:

- Call a poison control center or doctor immediately for treatment advice.
- Have person sip a glass of water if able to swallow.
- Do not induce vomiting unless told to do so by the poison control center or doctor.
- Do not give anything to an unconscious person.

#### 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 (800) 255-3924 for emergency medical treatment information.

#### NOTE TO PHYSICIAN

If ingested, induce emesis or lavage stomach. Treat symptomatically.

### ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish. 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 disposing of equipment washwater or rinsate.

### PHYSICAL OR CHEMICAL HAZARDS

Do not use or store near heat or open flame.

### 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.

Note: Do not apply more than 5.4 gals. of this product per acre per calendar year.

Failure to follow the directions for use and precautions on this label may result in plant injury or poor disease control.

#### 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), notification to workers, 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 24 hours. 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 ≥14 mils, nitrile rubber ~14 mils, neoprene rubber ≥14 mils, polyvinyl chloride (PVC) ≥14 mils, or viton ≥14 mils
- Shoes plus socks
- Protective eyewear

#### 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.

## A TRUNK INJECTED SYSTEMIC FUNGICIDE FOR CONTROL OF SELECTED DISEASES IN TREES USING MICRO-INJECTION & MICRO-INFUSION® METHODS

#### General Information

This product is a systemic fungicide for use as a trunk 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*), and (4) leaf diseases (i.e., *Venturia inaequalis*, *Gymnosporangium juniperi-virginianae*, *Pucciniastrum goeppertianum*, etc.) of crabapple (*Malus* spp.).

Administer this product by trained arborists or others trained in injection techniques and in the identification of tree diseases.

**Notes:** The active ingredient in this product has been shown to be safe on a wide range of plant species. Before using product on plants or for diseases that are not listed in the Directions for Use, test it on a small-scale basis and evaluate for phytotoxicity and disease control prior to widespread use.

### USE RATE TABLE FOR MICRO-INJECTION AND MICRO-INFUSION®

Low Rate		High Rate	
Amount of Propizol per inch DBH (mls)	Amount of Water to Add per inch DBH (mls)	Amount of Propizol per inch DBH (mls)	Amount of Water to Add per inch DBH (mls)
10	10	20	20

### APPLICATION METHOD FOR TRUNK INJECTION USING MICRO-INJECTION OR MICRO-INFUSION

Propizol is designed for use with Arborjet Tree Injection Systems. It may be used with other injection devices that inject directly into the sapwood (xylem) and meet the application and label requirements. Propizol can be used with a variety of tree injection devices. For all injection devices, read carefully and follow all manufacturer use directions. Most injection devices may require several minutes or more to empty into tree, however, some may take longer to empty depending on the health of the treated tree and local weather conditions. Do not leave the injection devices unattended. Do not leave empty injection devices on trees. Promptly and safely remove them according to manufacturer's directions. Follow the manufacturer's directions for proper cleaning and storage of the injection device.

**Use:** Use as formulated or dilute with equivalent 1 to 3 volumes of water or more, as necessary. The use of low or high rate is based on the professional judgment of the applicator as to what constitutes a preventative (pre-infection) or therapeutic (post-infection) treatment. Use low rates for preventative treatments and to provide protection in smaller trees. Use higher rates for therapeutic treatments, when disease symptoms have already appeared, and in larger trees.

#### Preparation of Tree Injection Solution:

1. Measure the tree diameter 4.5 feet off the ground at breast height (DBH) for dosage.
2. Refer to the Use Rate Table for Micro-Injection and Micro-Infusion® to calculate the dose and dilution per tree. You may increase the amount of water by 1 to 3 volumes or more as needed.
3. Pour applicable amount of Propizol into the delivery bottle.
4. Add appropriate amount of water and replace lid.
5. Swirl contents lightly for approximately 15 seconds until mixed.

Example of a low rate application to a 24" DBH tree:

1. The low rate application is 10 milliliters per inch DBH.
2. Multiply 10 mls x 24" DBH to determine the amount of formulation (10 mls x 24" DBH = 240 mls) to use. Add the concentrate to the delivery bottle.
3. Add an equivalent volume of water to the delivery bottle (240 mls).
4. Inject a total volume of 480 mls (240 mls formulation + 240 mls water) of solution.

[CONTINUED]

Example of a high rate application to a 24" DBH tree:

1. The high rate application is 20 milliliters per inch DBH.
2. Multiply 20 mls x 24" DBH to determine the amount of formulation (20 mls x 24" DBH = 480 mls) to use. Add the concentrate to the delivery bottle.
3. Add an equivalent volume of water to the delivery bottle (480 mls).
4. Inject a total volume of 960 mls (480 mls formulation + 480 mls water) of solution.

Refer to the Tree Dosage Table for Micro-Injection and Micro-Infusion as an example of the amounts of this product and water to use.

TREE DOSAGE TABLE FOR MICRO-INJECTION AND MICRO-INFUSION*				
DBH Inches	Low Dose		High Dose	
	Amount of Propizol per Tree (ml)	Water Volume* (milliliters)	Amount of Propizol per Tree (ml)	Water Volume* (milliliters)
6	60	60	120	120
12	120	120	240	240
18	180	180	360	360
24	240	240	480	480
30	300	300	600	600
36	360	360	720	720
40	400	400	800	800

#### Trunk Injection into Trees:

Inject at the base of the tree. Apply the entire mixed dose in the trunk flare root or within the first 3 feet of trunk height favoring a height lowest to the ground.

Trunk flares are best; avoid flat spots and damaged wood areas. Always inject into healthy portions of the trunk or trunk flare.

Inject the tree by placing an Arborplug® or STINGER tip hole every 3-6 inches around the tree using one of the tools below. Do not place injection sites closer than 2" apart. If using an alternate trunk injection tool follow the instruction that best fits your delivery tool.

#### Using the STINGER Tip

Use a sharp, clean 7/32" diameter high speed drill bit. Drill holes into the sapwood a minimum of 3/8" (and typically 5/8") deep. Insert the STINGER needle into hole and twist right for a snug fit; start application, and remove the STINGER needles upon completion. The STINGER Method requires no Arborplugs. Clean and disinfect needles between trees.

#### Using Arborplugs®

Use a 9/32" diameter high speed drill bit for the #3 Arborplug (or 3/8" diameter high speed drill bit for the #4 Arborplug). Drill bits should be clean and sharp. Drill holes into the sapwood a minimum of 5/8" deep. Insert the Arborplug, countersink to the thickness of the bark using the set tool and hammer. Inject by inserting the VIPER needle, start application, and remove the VIPER needle upon completion. The Arborplug will remain in the tree. Clean and disinfect needles between trees.

#### Retreatment:

At the initial injection of this product, 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 retreatment with this product. Preventive applications should be considered 12-36 months after the initial injection. Trees in high disease risk areas or high value trees should be evaluated for possible retreatment 12 months after each treatment.

Future injections in the same tree are applied into new holes placed intermediate to the old injection sites. Drill new sites either above or below (by 2" vertically) to the old sites and 2 to 3" horizontally from them. Applied correctly, this will form a triangular pattern with the old sites. Follow application procedures described above for repeat injections.

[Optional alternate directions for flare root macro infusion:]

### APPLICATION METHOD FOR FLARE ROOT MACRO INFUSION INJECTION

#### Correct Location for Injector Placement

The flare root area is the transitional zone between the trunk and the root system. Uptake and distribution of this product 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. Drill hole diameter should be adequate to allow insertion of injection tees and formation of airtight contact between active xylem and the delivery point of the injection tees. Generally, 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 should be adequate to deliver the product into active xylem tissue. Generally, ¾ inch depth is appropriate, but trees with thick bark require increased drill hole depth to reach the active xylem layer.

Space injectors 3-6 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, and 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 should have inlet and outlet valves.
6. Mix the specified amount of this product 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 4 ½ 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 this product in up to 1 liter of water per inch DBH. Refer to the following table as an example of the amounts of this product and water to use:

DBH Inches	Treatment Level (ml)	Water Volume* (liters)
5	50	5
10	100	10
15	150	15
20	200	20
25	250	25
30	300	30
35	350	35
40	400	40

\*Use up to the amount indicated.

#### 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 20-30 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. Soil should be replaced 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.

#### Retreatment

At the initial injection of this product, 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 retreatment with this product. Preventive applications should be considered 12-36 months after the initial injection. Trees in high disease risk areas or high value trees should be evaluated for possible retreatment 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 this product in up to 1 liter of water per inch DBH. For very high disease pressure, use 20 ml of this product 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 this product. Preventive application is more effective than therapeutic treatment. Response to treatment will vary with trees in advanced stages of disease development.

Uninfected trees will generally absorb the full amount of product and water solution within 2 hours when injected under pressure. Trees exhibiting specific symptoms or those symptomless trees immediately adjacent to a diseased tree should be considered infected. Symptomless trees separated by a primary plow line from diseased trees will 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 product and water solution is not absorbed within 24 hours, the tree is considered high risk and has a poor chance of survival.

Refer to the **Retreatment** section for details on retreatment.

### LEAF DISEASE: CRABAPPLES

#### Preventive Treatment

Use 10 ml of this product in up to 1 liter of water per inch trunk diameter. For trees less than 10 inches trunk diameter, use 6 ml of this product 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 have the potential for not being reduced the year of application.

Refer to the **Retreatment** section for details on retreatment.

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

### ANTHRACNOSE: SYCAMORE

#### Preventive Treatment

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

Refer to the **Retreatment** section for details on retreatment.

### DUTCH ELM DISEASE IN ELMS

#### Preventive and Therapeutic Treatment

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

Notes: (1) Accurate diagnosis of Dutch Elm Disease is important since this product only provides control of Dutch Elm Disease in elms. (2) This product will be most effective when used in conjunction with other cultural practices specified 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 6-10 ml/inch DBH. The 6 ml rate should provide 24 months control and the 10 ml rate should provide 36 months control. (4) Therapeutic treatment in trees showing disease symptoms should be made at 10-20 ml/inch DBH. Retreat every 12-36 months, if needed. Response to treatment will vary with trees in advanced stages of disease development.

For further information on the proper diagnosis and control of Dutch Elm Disease, consult your local extension agent.

Refer to the **Retreatment** section for details on retreatment



**A SYSTEMIC FUNGICIDE FOR USE ON TURF GRASSES FOR CONTROL OF SELECTED DISEASES**

**General Information**

This product is a systemic fungicide for use on turfgrasses for the control of:

Anthraxnose ( <i>Colletotrichum graminicola</i> )	Leafspot ( <i>Bipolaris</i> spp., <i>Drechslera</i> spp.)
Red thread ( <i>Laetisaria fuciformis</i> )	Necrotic ring spot ( <i>Leptosphaeria korrae</i> )
Brown patch ( <i>Rhizoctonia solani</i> )	Pink patch ( <i>Limonomycetes roseipellis</i> )
Rust ( <i>Puccinia graminis</i> )	Pink snowmold ( <i>Microdochium nivale</i> )
Dollar spot ( <i>Sclerotinia homoeocarpa</i> )	Powdery mildew ( <i>Erysiphe graminis</i> )
Spring dead spot ( <i>Leptosphaeria korrae</i> , <i>Leptosphaeria narmari</i> , <i>Ophiosphaerella herpotricha</i> , <i>Gaeumannomyces graminis</i> )	Stripe smut ( <i>Ustilago striiformis</i> and <i>Urocystis agropyri</i> )
Fusarium patch ( <i>Fusarium nivale</i> )	Summer patch ( <i>Magnaporthe poae</i> )
Gray leafspot ( <i>Pyricularia grisea</i> )	Take-all patch ( <i>Gaeumannomyces graminis</i> )
Gray snowmold ( <i>Typhula</i> spp.)	Yellow patch ( <i>Rhizoctonia cerealis</i> )
	Zoysia patch ( <i>Rhizoctonia solani</i> )

This product also controls numerous diseases on ornamentals and other landscape and nursery plantings such as powdery mildews, rusts, leafspots, scabs, and blights. Refer to the appropriate section of this label for specified diseases and plants.

Do not apply this product through any type of irrigation system.

**MIXING INSTRUCTIONS**

Fill the spray tank 1/2 - 3/4 full with water. Add the proper amount of this product, then add the remaining water. Provide sufficient agitation during mixing and application to maintain a uniform emulsion.

If this product 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 this product, 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 of 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 the proper amount of this product
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**

This product can be tank mixed with other fungicides for broader spectrum control. This product is also compatible with numerous herbicides and insecticides. Check compatibility before tank mixing. Add Unite® (3 pts./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.

**TURFGRASS AND DICHONDRA DISEASE CONTROL**

1. Use this product in a preventative disease control program.
2. Apply after mowing OR allow sprayed area to completely dry before mowing.
3. For control of soil-borne diseases, this product can be watered in after application.
4. For control of foliar diseases, allow sprayed area to completely dry before irrigation.
5. For optimum turf quality and disease control, use this product in conjunction with turf management practices that promote good plant health and optimum disease control.
6. Proper diagnosis of the organism causing the disease is important prior to using any fungicide. Use of diagnostic kits or other means of identification of the disease organism is essential to determine the best control measures.
7. Apply in sufficient water to ensure thorough coverage.
8. Under conditions optimum for high disease pressure, use the higher rate and the shorter interval.
9. Evaluate spray additives prior to use. Label directions are based on data obtained with no additives.
10. Do not apply more than 16 fl. oz./1,000 sq. ft. per calendar year.

Restriction: Bermudagrass can be sensitive to this product. Do not exceed 4 fl. oz./1,000 sq. ft. every 30 days on any variety of bermudagrass. In Florida, do not apply this product to bermudagrass golf course greens when temperatures exceed 90°F.

Restriction: Do not feed clippings from treated areas to livestock or poultry. Do not graze animals on treated areas.

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

Disease	Fl. Oz. per 1,000 sq. ft.	Fl. Oz. per Acre	Application Interval/Timing	Instructions
Dollar Spot ( <i>Sclerotinia homoeocarpa</i> )	0.5	22	7 days	Apply when conditions are favorable for disease development
	0.5	22	14 days	Tank mix with low label rate of one of the following fungicides: Daconil 2787 F [Manicure® 6FL] Daconil Ultrex® [Manicure® Ultra]
	1	44	21-28 days	Tank mix with low label rate of one of the following fungicides: Daconil 2787 F [Manicure® 6FL] Daconil Ultrex® [Manicure® Ultra] Iprodione 2SE [LESCO® 18 Plus™]
	1-2	44-88	14-28 days	If using the 1-2 fl. oz./1,000 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.

Anthraxnose ( <i>Colletotrichum graminicola</i> )	1-2	44-88	14-28 days	Apply when conditions are favorable for disease development. Use higher rates of this product and shorter 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 this product per 1,000 sq. ft. with the label rate of the above mentioned contact fungicides.
Brown Patch ( <i>Rhizoctonia solani</i> )	1-2	44-88	14-21 days	Tank mix with a registered contact fungicide labeled for brown patch control at the label rate. Begin applications in May or June before the disease is present. Use the higher rates of this product and shorter intervals under conditions of high temperatures and high humidity.
Powdery Mildew ( <i>Erysiphe graminis</i> ) Rust ( <i>Puccinia graminis</i> )	1-2	44-88	14-28 days	Make applications when conditions are favorable for disease development. If disease is present, use 2 fl. oz. of this product per 1,000 sq. ft.
Pink Patch ( <i>Limonomycetes roseipellis</i> ) Red Thread ( <i>Laetisaria fuciformis</i> )	2	88	14-21 days	Apply when conditions are favorable for disease development.
Stripe Smut ( <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.
Gray Leafspot ( <i>Pyricularia grisea</i> )	1-2	44-88	14 days	Make applications when conditions are favorable for disease development. If using the 1 fl. oz./1,000 sq. ft. rate, tank mix with a registered contact fungicide at the label rate.
Melting Out, Leaf Spot ( <i>Bipolaris</i> spp.) ( <i>Drechslera</i> spp.)	1-4	44-176	14 days	Under light to moderate pressure, apply this product 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. product rate with a registered contact fungicide at the label rate. Tank mix the 1-4 fl. oz./1,000 sq. ft. product rate with a registered contact fungicide at the labeled rate.
Summer Patch, Poa Patch ( <i>Magnaporthe poae</i> )	2 4	88 176	14 days 28 days	Apply this product beginning in April. Use the 2 fl. oz./1,000 sq. ft. rate on a 14 day schedule and the 4 fl. oz./1,000 sq. ft. rate on a 28 day schedule.
Take-All Patch ( <i>Gaeumannomyces graminis</i> )	2-4	88-176	Spring and Fall	Apply this product to reduce the severity of take-all patch. Make 1-2 fall applications in September and October or when night temperatures drop to 55°F, and 1-2 spring applications in April and May, depending on local specifications.
Spring Dead Spot ( <i>Leptosphaeria korrae</i> , <i>Leptosphaeria narmari</i> , <i>Ophiosphaerella herpotricha</i> , <i>Gaeumannomyces graminis</i> )	4	176	30 days	Make 1-3 applications of this product. For one application, apply in September or October. For multiple applications, begin sprays in August.
Necrotic Ring Spot ( <i>Leptosphaeria korrae</i> )	4	176	Fall or Spring	Apply in the fall and/or the early spring depending on local specifications.
Gray Snowmold ( <i>Typhula</i> spp.), Pink Snowmold ( <i>Microdochium nivale</i> )	2-4	88-176	Late Fall	Make one application of this product in the late fall before snow cover. Do not apply on top of snow. For optimum disease control, the 2 and 3 fl. oz. product rates should be tank mixed with either PCNB or chlorothalonil at label rates.
Fusarium Patch ( <i>Fusarium nivale</i> )	2-4	88-176	Fall-Early Spring	Apply when conditions are favorable for disease development.
Yellow Patch ( <i>Rhizoctonia cerealis</i> )	3-4	130-176	Late Fall	Make one application of this product in the late fall before snow cover. Do not apply on top of snow. If using a 3 fl. oz./1,000 sq. ft. rate, tank mix with a registered contact fungicide at the label rate.
Zoysia Patch, 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, RATE, AND APPLICATION TIMING**

Disease	Fl. Oz. per 1,000 sq. ft.	Fl. Oz. per Acre	Application Interval/Timing	Instructions
Dichondra Rust ( <i>Puccinia dichondrae</i> )	2	88	14-21 days	Apply when conditions are favorable for disease development.

**ESTABLISHMENT OF COOL SEASON TURFGRASS**

The primary use of this product is as a fungicide for use against the diseases listed on this label. As an additional benefit, this product will improve the establishment rate when it is applied to cool season grass seedlings or sod.

**New Seedlings:** Apply 1 fl. oz./1,000 sq. ft. at the 2 to 3-leaf stage of growth for faster root development and top growth.

**Sod:** Apply 1 fl. oz./1,000 sq. ft. 2-6 weeks before cutting for increased sod knitting and faster establishment after laying.

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

- Use this product in a preventative 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 parenthesis following the plant species refers you to the disease(s) controlled in Table 2. Find the disease in Table 2. The number in brackets following the disease refers you to the application regime in Table 3.
- Allow spray to dry before overhead irrigation is applied.
- Optimum benefit of this product is obtained when used in conjunction with sound disease management practices.

### General Instructions

Use this product at rates of 2-24 fl. oz./100 gallons of water for control of diseases of ornamental plant species (Refer to Tables 1, 2, and 3).

Note: For outdoor uses, apply up to 5.4 gallons of this product /acre/crop/calendar year.

For general disease control in landscapes, apply 6-8 fl. oz./100 gallons of water every 21 days. For best control, begin applications of this product before disease development.

Note: Plant tolerances to this product have been found to be acceptable for the specific genera and species of plants listed under the Directions for Use section of this label. Other plant species can be sensitive to this product and diseases other than those listed may not be controlled. Before using this product on plants or for diseases that are not listed in the Directions for Use section of this label, test this product on a small scale basis first. 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.

Restriction: Do not apply this product to African violets, begonias, Boston fern, or geraniums.

**TABLE 1. ORNAMENTALS - PLANT SPECIES**

Numbers in parenthesis refer to diseases controlled. See Table 2

Herbaceous Ornamental	Woody Ornamental	Nonbearing Fruits and Nuts (Nurseries and Landscape Plantings)
Calendula (4a) Carnation (5f) Chrysanthemum (2a) Delphinium (4a) English Ivy (3e) Gomphrena (3a) Impatiens (3a, 3b, 4a) Iris (5d) Marigold (3a) Monarda (4c) Phlox (4c) Snapdragon (5d) Sweet William ( <i>Dianthus barbatus</i> ) (3k) Zinnia (4c)	Amelanchier (4d) Ash (4c) Azalea (2c, 4b) Bayberry (3n) Camellia (3e) Cotoneaster (3i) Crabapple (3c, 3q, 4c, Sa) Crape myrtle (4a) Dogwood (3h, 4c) Douglas fir (5b) Elm (4c) Euonymus (3e, 4c) Hawthorn (5a) Holly (3r) Juniper (1a) Lilac (4c) Linden (3e, 3b, 4b) Magnolia (3e, 4b) Maple (3e, 4f) Oaks (3p) Pines (1b, 1c) Poplars (5b) Pyracantha (3o) Red Tip Photinia (3i) Raphiolepis (3e, 3i) Rhododendron (2c, 3n) Roses (3g, 4e, 5c) (Outdoor use only) Shasta fir (5e) Sweetgum (3b, 3c, 3n) Sycamore (3e) Tulip tree (3e, 4a) Wax myrtle (3n)	Apple (3g, 4d, 5a) Bartlett pear (3q, 4c, 5a) Cherry (2b, 3d) Citrus (3m) Nectarine (2b) Peach (2b) Pecan (3b, 3c, 3f, 3l, 3n, 4e) Plum (2b) Walnut (3j)

**TABLE 2. DISEASES**

Numbers in brackets refer to application regimens. Refer to Table 3.

### 1. Conifer Blights

- Phomopsis juniperovora* (Phomopsis Blight) [2]
- Sirococcus strobilinus* (Tip Blight) [4]
- Sphaeropsis sapinea* (Diplodia Tip Blight) [2]

### 2. Flower Blight

- Ascochyta chrysanthemi* (Ray Blight) [3]
- Monilinia* spp. [1]
- Ovulinia* spp. [2]

### 3. Leaf Blights/Spots

- Alternaria* spp. [2]
- Cercospora* spp. (Brown Leaf Spot) [3]
- Cladosporium* spp. (Scab) [3]
- Coccomyces hiemalis* [1]
- Colletotrichum* spp. [2]
- Cristulariella* spp. (Zonate leafspot) [3]
- Diplocarpon rosae* (Black Spot) [2]
- Discula* spp. (Anthracnose) [1]
- Fabraea maculate* (syn. *Entomosporium maculate*) [2]
- Gnomonia leptostyla* (Anthracnose) [3]
- Heterosporium echinulatum* [2]
- Mycosphaerella caryigena* (Downy Spot) [3]
- Mycosphaerella fructicola* (Greasy Spot) [5]
- Septoria* spp. (Leaf Scorch) [3]
- Spilocaea pyracanthae* [2]
- Tubakia dryina* [4]
- Venturia inaequalis* (Scab) [1]
- Rhizoctonia web blight\* [2]

### 4. Powdery Mildew

- Erysiphe* spp. [2]
- Microsphaera* spp. [3]
- Oidium* spp. [2]
- Podosphaera* spp. [2]
- Sphaerotheca pannosa* [2]
- Phyllactinia* spp. \* [2]

### 5. Rust

- Gymnosporangium juniperi-virginianae* [1]
- Melampsora occidentalis* [4]
- Phragmidium* spp. [2]
- Puccinia* spp. [2]
- Pucciniastrum goeppertianum* [4]
- Uromyces dianthi* [2]

\*Not registered for this use in CA

**TABLE 3. APPLICATION REGIMES**

- Mix 2-4 fl. oz. of this product in 100 gallons 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 this product 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 this product every 28 days.
- Mix 5-8 fl. oz. of this product in 100 gallons of water and apply as a full coverage spray to the point of drip. Begin applying when conditions are favorable for disease development and apply as necessary. For blackspot, apply with a registered contact fungicide labeled for blackspot. 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 the first application as soon as junipers start to grow, and repeat the applications every 14-21 days during periods of active growth.
- Mix 8-12 fl. oz. of this product in 100 gallons of water and apply as a full coverage spray to the point of drip. Apply every 30 days, beginning when conditions are favorable for the disease development. For pecans, apply the 12 fl. oz. rate beginning at bud break. Apply 3 times at 14-day intervals. For walnuts, 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, sweetgum and wax myrtle, the maximum use rate is 8 fl. oz.
- Mix 16 fl. oz. of this product in 100 gallons of water and apply as a full coverage spray to the point of drip. Apply every 14-28 days, beginning when conditions are favorable for disease development. For Douglas fir needle rust, apply once in May. For tip blight, start applications in mid-late winter and apply 3 times at 2-month intervals.
- Mix 20-24 fl. oz. of this product in 100 gallons of water and apply as a full coverage spray to the point of drip. Apply during June to August time period.

**Restriction:** To avoid possible illegal residues, do not apply to apple, cherry, citrus, nectarine, peach, pear, pecan, plum or walnut trees that will bear harvestable fruit within 12 months. Do not apply to maple trees that will be used for maple syrup production within one year.

Refer to the **Retreatment** section for details on retreatment.

## STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE:** Store in original container in a cool area out of the reach of children.

**PESTICIDE DISPOSAL:** Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use 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.

**CONTAINER DISPOSAL:** Nonrefillable container. Do not reuse or refill this container. Triple 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 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 reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration, or, if allowed by State and local authorities, by burning. If burned stay out of smoke.

## WARRANTY DISCLAIMER

The directions for use of this product must be followed carefully. To the extent consistent with applicable law, (1) the goods delivered to you are furnished "as is" by manufacturer or seller and (2) manufacturer and seller make no warranties, guarantees, or representations of any kind to buyer or user, either express or implied, or by usage of trade, statutory or otherwise, with regard to the product sold, including, but not limited to merchantability, fitness for a particular purpose, use, or eligibility of the product for any particular trade usage. Unintended consequences, including but not limited to ineffectiveness, may result because of such factors as the presence or absence of other materials used in combination with the goods, or the manner of use or application, including weather, all of which are beyond the control of manufacturer or seller and assumed by buyer or user. This writing contains all of the representations and agreements between buyer, manufacturer and seller, and no person or agent of manufacturer or seller has any authority to make any representation or warranty or agreement relating in any way to these goods.

## LIMITATION OF LIABILITY

To the extent consistent with applicable law, in no event shall manufacturer or seller be liable for special, incidental, or consequential damages, or for damages in their nature of penalties relating to the goods sold, including use, application, handling, and disposal. To the extent consistent with applicable law, manufacturer or seller shall not be liable to buyer or user by way of indemnification to buyer or to customers of buyer, if any, or for any damages or sums of money, claims or demands whatsoever, resulting from or by reason of, or rising out of the misuse, or failure to follow label warnings or instructions for use, of the goods sold by manufacturer or seller to buyer. All such risks shall be assumed by the buyer, user, or its customers. To the extent consistent with applicable law, buyer's or user's exclusive remedy, and manufacturer's or seller's total liability shall be for damages not exceeding the cost of the product.

**If you do not agree with or do not accept any of directions for use, the warranty disclaimers, or limitations on liability, do not use the product, and return it unopened to the Seller, and the purchase price will be refunded.**