SHEPHERD® Fungicide
An ArborSystems™ Direct-Inject™ Chemical

SHEPHERD® Fungicide
For Systemic Fungicide Suppression of Selected Diseases in Ornamental Trees
Intended for use by professional arborists/applicators, foresters, grounds maintenance professionals and landscapers.

ACTIVE INGREDIENT:
Propiconazole (CAS No. 60207-90-1) .......................... 14.3%
OTHER INGREDIENTS ...................................... 85.7%
Total 100.0%
Contains 4.25 oz (117 grams) active ingredient per 1 qt 2 fl oz (1000 ml) pack.

Keep Out of Reach of Children
CAUTION
See booklet for First Aid, additional Precautionary Statements and complete Directions for Use.

DIRECTIONS FOR USE
It is a violation of Federal law to use this product in a manner inconsistent with its labeling.
The ArborSystems Direct-Inject units are designed to be used only with ArborSystems pre-packed chemicals. Tampering with packs or contents may cause non-warranted damage to your injection system.

STORAGE AND DISPOSAL
Do not contaminate water, food or feed by storage or disposal.
Pesticide Storage: Store in original container in a cool, dry place.
Pesticide Disposal: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.
Container Handling: Non-refillable container; do not reuse or refill this container. Completely empty pack into application equipment, then offer for recycling, if available, or dispose of empty pack in a sanitary landfill or by incineration.

Net Contents: 1 qt 2 fl oz (1000 ml)
EPA Reg. No. 69117-3
EPA Est. 80117-NE-1

660-608-4641 • Fax 660-339-0011
P.O. Box 34645 • Omaha, NE 68134

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SHEPHERD® Fungicide

An ArborSystems™ Direct-Inject™ Chemical
For Systemic Fungicide Suppression of Selected Diseases in Ornamental Trees

ACTIVE INGREDIENT:
Prothioconazole (CAS No. 60207-90-1) ........... 14.3%
OTHER INGREDIENTS ....... 85.7%
Total 100.0%

Contains 0.5 oz (14 grams) active ingredient per 4 fl oz (120 mL) pack.

DIRECTIONS FOR USE

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STORAGE AND DISPOSAL

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Pesticide Storage: Store in original container in a cool, dry place. Pesticide Disposal: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Container Handling: Non-refillable container; do not reuse or refill this container. Completely empty pack into application equipment. Then offer for recycling, if available, or dispose of empty pack in a sanitary landfill or by incineration.

EPA Reg. No. 69117-3
EPA Label No. 69117-NE-1

Keep Out of Reach of Children
CAUTION
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Net Contents: 4 fl oz (120 mL)
EPA Reg. No. 69117-3
EPA Label No. 69117-NE-1

800-698-4641 • Fax: 402-339-5011
P.O. Box 34645 • Omaha, NE 68134

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.
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STORAGE AND DISPOSAL

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

Diplodia Tip Blight affects a variety of pines and kills current-year shoots, major branches, and, ultimately, entire trees. The most conspicuous symptom of diplodia blight is brown, stunted new shoots with short, brown needles. Needles on infected new shoots often become discolored (tan, brown) while still encased in fascicle sheaths. Presence of resin droplets and one or a few very short needles are usually the first indications that a new shoot is infected. Entire new shoots are killed rapidly by the fungus. Trees repeatedly infected have some branches killed back to the main stem. Repeated infections reduce growth, deform trees, and ultimately kill them.

Treatment will not cure already affected areas of the tree but will prevent the spread of infection. Removal of dead branches, cones and fallen debris will reduce the amount of fungal spores available to cause new infections. Wait for dry fall weather to prune to avoid spreading spores on pruning equipment. Between cuts, sanitize tools by dipping in 70% alcohol or a 10% solution of household bleach in water.

HOW TO USE THE ARBORSYSTEMS DIRECT-INJECT CHEMICALS WITH ARBORSYSTEMS WEDGE® DIRECT-INJECT TREE INJECTION SYSTEM

1. Use only ArborSystems Direct-Inject chemicals with your unit as they have been formulated specifically for the Direct-Inject system.
2. Attach the chemical pack to the Direct-Inject unit and prepare the unit to injections.
3. Set the delivery volume on the unit.
4. Follow the label directions in this booklet to determine the amount of chemical and number of injection sites.
5. Determine where to make injections in the bark. Generally, the injection tip is inserted into the fissure (valley) of the tree bark. Inject thin-barked trees in the thinner part of the tree bark. Thick-barked trees require a longer injection tip.
6. Make injections working around the circumference of the tree. Make Wedge® Tip injections within 6” to 12” off the ground. Use the Porter® Tip for injecting Sympomes or thick-barked hardwoods such as elms at the base or flare of the tree.
7. With a smooth motion, firmly squeeze the injection unit handles. This releases a premeasured chemical dose to the tree.
8. Continue making injections moving around the tree until the entire tree trunk has been treated.
9. During use, periodically clean the Wedge® Direct-Inject unit to prevent clogging.

STORAGE AND DISPOSAL

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

Container Handling: Non-refillable container; do not reuse or refill this container. Completely empty pack into application equipment, then for recycling, if available, or dispose of empty pack in a sanitary landfill or by incineration.
SHEPHERD™ Fungicide
An ArborSystems™ Direct-Inject™ Chemical
• Easy • No Drilling • Saves Time and Money
For Systemic Fungicide Suppression of Selected Diseases in Ornamental Trees
Intended for use by professional arborists/applicants, foresters, grounds maintenance professionals and landscapers.
To be used only with the ArborSystems Wedge® Direct-Inject Tree Injection System.

DISEASES

To
For

then give artificial respiration, told to do so by the poison center, if any, before reusing contaminated clothing before reuse.

> Personal Protective Equipment (PPE)

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for Category C on an EPA chemical-resistance category selection chart.

All handlers must wear:
• Long-sleeved shirt and long pants
• Chemical-resistant gloves, such as: Teflon, nylon, nylon-polyethylene, or polyethylene; nitrile rubber; polyvinyl chloride (PVC); or Viton
• Shoes plus socks

In addition, all handlers (mixers, loaders and applicators or individuals performing one or more of these tasks), who are applying this pesticide using hand-held equipment must wear:
• Protective eyewear

• Chemical-resistant gloves.

USER SAFETY REQUIREMENTS

Users should:
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.

• Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

• Immediately remove PPE after handling this product. Wash the outside of gloves before removing. As soon as possible thoroughly wash and change into clean clothing.

ENVIRONMENTAL HAZARDS

This product is toxic to fish and shrimp. Do not apply directly to water. To areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washer or rinse.

PHYSICAL OR CHEMICAL HAZARDS

Do not use or store near heat or open flame.

DIRECT-JECT

Note:
Apply the specified rate for a particular type of disease and evaluate for phytotoxicity and disease control prior to widespread use.

Before using on trees or diseases which are not listed, test on a small scale basis.

INDICATIONS AND TREATMENT TIMING

Table 1. Overview of Diseases and Treatments

Note: Apply the specified rate for a particular type of disease and evaluate for phytotoxicity and disease control prior to widespread use.

Before using on trees or diseases which are not listed, test on a small scale basis.

<table>
<thead>
<tr>
<th>Treatments</th>
<th>Dosage per injection site</th>
<th>Treatment timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conifer Blights (See additional notes below)</td>
<td>2-4 ml</td>
<td>Use for curative or preventive treatment.</td>
</tr>
<tr>
<td>Oak Wilt Disease for an uninfected Oak (not including Red Oak)</td>
<td>3-5 ml</td>
<td>Apply only to uninfected trees. Wilt diseases can only be prevented, not cured.</td>
</tr>
<tr>
<td>Dutch Elm Disease for an uninfected Elm</td>
<td>5-10 ml</td>
<td>Applications should be made only during the growing season; spring through late summer, providing a minimum of 12-month protection.</td>
</tr>
<tr>
<td>Anthraxcesis and Leaf Diseases in Hardwoods</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anthracnisis in Sycamore</td>
<td>2 ml</td>
<td>For these diseases, use for prevention only. Applications are most effective when applied in late summer, around one month prior to the typical first frost, to suppress/prevent leaf disease in the following year.</td>
</tr>
<tr>
<td>Leaf diseases in Oaks, Crabapple, and non-bearing ornamentals including Cherry, Citrus, Pecan, Pynacantha and Walnut</td>
<td>1-2 ml</td>
<td>Late summer applications allow chemical to translocate into the bud before leaf drop. Next spring when the tree leaves out, the chemical will be in place to protect the leaf.</td>
</tr>
<tr>
<td>Powdery Mildew in Ash, Dogwood, Lilac, and non-bearing ornamental Crabapple and Pecan</td>
<td>1-2 ml</td>
<td>Trees with leaf disease symptoms can be treated to prevent recurrence for the following year. Annual treatments are required for prevention.</td>
</tr>
<tr>
<td>Flower Blight of non-bearing ornamental Cherry, Peach, Plum</td>
<td>1-2 ml</td>
<td></td>
</tr>
<tr>
<td>Rust on Douglas Fir, Hawthorn, Poplars, Shafts Fir, and non-bearing ornamental Crabapple</td>
<td>1-2 ml</td>
<td></td>
</tr>
</tbody>
</table>

Note:
Because some treatments require large amounts of chemical per site, there may be occasions when it is difficult to keep all of the chemical dose in the injection site. If this is experienced, several options are possible:

1) Use the Portafill or Wedge® Reservoir; which have a check valve in the hub of each tip which keeps chemical in the tree until it is absorbed.
2) Reduce dosage volume by half and double the number of injection sites.

Do Not Inject Food-Bearing Plants

PRODUCT INFORMATION

ABORSYSTEMS™ WEDGE® DIRECT-JECT™ TREE INJECTION SYSTEM

The ArborSystems/Wedge® Direct-Inject Tree Injection System is a no-drill trunk injection method and is easy to use. Most trees are treated in as little as five minutes or less, allowing applicators to treat trees quickly. There is no need to wait for abscission (translocation). Chemical is injected into the cambial area (the active vascular system) of the tree. Because the chemical is placed right where the tree can use it, effectiveness of the chemical is increased. Use in sunny or overcast conditions, rainy or dry, at any time of day. As no drilling or irrigation are required, you can treat trees year after year, without threat of long-term or permanent damage to the tree. This system minimizes wounding and promotes long-term tree health and vigor.

DIRECTIONS FOR USE

1) Use the Portafill or Wedge® Reservoir; which have a check valve in the hub of each tip which keeps chemical in the tree until it is absorbed.
2) Reduce dosage volume by half and double the number of injection sites.

3) Inject half the dose at each site, mark the tree, continue treating other trees, then return to the marked tree and inject remaining dosage in each site.

Table 2 and Table 3 for additional information