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/applicators, foresters, grounds maintenance professionals and landscapers.
To be used only with the ArborSystems Direct-Inject Tree Injection System.

Note to Physician: If ingested, induce emesis or lavage stomach; treat symptomatically.

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
WARNING: Causes substantial but temporary eye irritation. Wear goggles or face shield. Causes skin irritation. Do not get in eyes, on skin or on clothing. Harmful if swallowed, inhaled or absorbed through the skin. Avoid breathing vapor. Thoroughly wash with soap and water after handling. Remove and wash 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.
Applicators and other handlers must wear:
• Long-sleeved shirt and long pants
• Chemical-resistant gloves, such as barrier laminate; butyl, nitrile and neoprene rubber; polychlorinated (PVC); or Viton
• 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.

USER SAFETY RECOMMENDATIONS
Users should:
• Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
• Immediately remove clothing if pesticide gets inside; then thoroughly wash and put on clean clothing.

ENVIRONMENTAL HAZARDS
This product 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 wash waters.

PHYSICAL OR CHEMICAL HAZARDS
Do not use or store near heat or open flame.

WARNING
Keep out of reach of children.

NOTICE OF WARRANTY
ArborSystems warrants that this product conforms to the chemical description on the label and is reasonably fit for use when used strictly in accordance with the directions on the labeling. To the extent consistent with applicable law, ArborSystems does not make or authorize any agent or representative to make any other warranty, guarantee or representation, express or implied, concerning this product.

Shepherd® Fungicide, PortaLe® and WedgeLe® are registered trademarks of ArborSystems.

ArborSystems™, Direct-Inject™ and WedgeChek™ are trademarks of ArborSystems.

Direct Inject™ unit is protected by U.S. Patent #5,901,486
WedgeLe® Tip is protected by U.S. Patent #5,239,773
WedgeChek™ is protected by U.S. Patent #5,797,215
PortaLe® Tip is protected by U.S. Patent #7,178,286
SHEPHERD® Fungicide

DIRECTIONS FOR USE

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

Intended for use by professional arborists/applicators, foresters grounds maintenance professionals and landscapers.

PRODUCT INFORMATION

Do Not Inject Food Bearing Plants With The No-Drilling Injection Solution

ARBORSYSTEMS™ DIRECT-INJECT™ TREE INJECTION SYSTEM

The ArborSystems 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 absorption (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 implants are required, you can treat trees year after year, with no threat of long-term or permanent damage to the tree. This system minimizes wounding and promotes long-term tree health and vigor.

INDICATIONS AND TREATMENT TIMING

Shepherd Fungicide is a systemic fungicide for use as an 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) Plane Anthracnose (Apiognomonia veneta) of Sycamores (Platanus spp.)
(4) Leaf diseases (Venturia inaequalis, Gymnosporangium juniper-virginianae, Pucciniastrum peppertianum, etc.) in non-bearing ornamental Crabapple.

OAK WILT AND DUTCH ELM DISEASE

Use Shepherd Fungicide only as a preventative for Oak Wilt and Dutch Elm Disease. These fungi infect the vascular system and cause plugging throughout the tree; treatment of infected trees is rarely successful.

Symptomless trees immediately adjacent to a diseased tree should be considered infected and may not respond to treatment. Symptomless trees separated by a primary plow line from diseased trees may be uninjected and can be treated. Do not use on trees weakened by extreme environmental conditions such as heat, drought, flooding, etc. It is recommended that Shepherd Fungicide be administered by applicators trained in injection techniques and in the identification of Oak Wilt and Dutch Elm Disease.

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. Applications to oaks in other areas and to elms may be made at any time during the growing season, spring through fall, provided the bark is pliable enough to accept the chemical injections. One application provides season-long protection. Reevaluate disease conditions annually, particularly in high disease-risk areas or for high-value trees — retreatment can be made 12-months after initial treatment and annually thereafter. Inject Shepherd Fungicide into the flare, or base of the tree, to ensure even distribution throughout the vascular system.

Note: (1) Accurate diagnosis of Oak Wilt and Dutch Elm disease is important, since Shepherd Fungicide provides only suppression of the diseases listed on this label.
(2) Shepherd Fungicide will be most effective when used in conjunction with other cultural practices recommended for management of Oak Wilt and Dutch Elm disease (removal of dead elm trees, pruning of diseased tree limbs and branches, control of bark beetles, etc.).

ANTHRACNOSE AND LEAF DISEASES

For these diseases, preventative applications of Shepherd Fungicide are most effective when applied in the late summer, around one month prior to the typical first frost. This allows the 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. Annual treatments are required for prevention.

Note: Before using on trees or diseases which are not listed, test on a small scale basis. Apply the recommended rate for a particular type of disease and evaluate for phytotoxicity and disease control prior to widespread use.

TREATMENTS

Treatment of Oak Wilt disease for an untreated Live Oak (not including Red Oak).
Dosage: 3-5 ml per injection site.*

Treatment of Dutch Elm disease for an untreated Elm or Oak (other than Live Oak).
Dosage: 5-10 ml per injection site.*

Treatment of leaf diseases in non-bearing ornamental Crabapple.
Dosage: 1-2 ml per injection site.*

Treatment of Anthracnose in Sycamore.
Dosage: 2 ml per injection site.*

* The number of injection sites is based on 1 injection for every 3" to 5" of trunk circumference.

HOW TO USE THE ARBORSYSTEMS DIRECT-INJECT CHEMICALS WITH ARBORSYSTEMS 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 make 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 tissue (valley) of the tree bark. Inject thin-barked trees in the thicker part of the tree bark. Thick-barked trees require a longer injection tip.
6. Make injections working around the circumference of the tree. Make Wedgie® Tip injections within 6" to 12" of the ground. Use the Porte® Tip for injecting Sycamores 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 pre-measured 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 Direct-Inject unit to prevent clogging.

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 Disposal: 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.
SHEPHERD® Fungicide

An ArborSystems™ Direct-Inject™ Chemical
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 0.5 oz (14 grams) active ingredient per 4 fl oz (120 ml) pack.

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 Disposal: 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.
SHEPHERD® Fungicide
An ArborSystems™ Direct-Inject™ Chemical

SHEPHERD® Fungicide
For systemic fungicide suppression of selected diseases in ornamental trees.

ACTIVE INGREDIENT:
Propiconazole (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.

Keep Out of Reach of Children
WARNING
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.
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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 Disposal: 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: 4 fl oz (120 ml)
EPA Reg. No. 69117-3
EPA Est. 69117-NE-1
SH_PXL_11-1

ArborSystems™
The No-Drill Injection Solution
800-698-4641 • Fax: 402-339-5011
P.O. Box 34645 • Omaha, NE 68134
SHEPHERD® Fungicide
An ArborSystems™ Direct-Inject™ Chemical

SHEPHERD® Fungicide

For systemic fungicide suppression of selected diseases in ornamental trees.

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
WARNING
See box label 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-warrantied 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 Disposal: 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. 69117-NE-1

ArborSystems
The No-Drill Injection Solution
800-698-4641 • Fax: 402-339-5011
P.O. Box 34645 • Omaha, NE 68134
SHEPHERD® Fungicide

DIRECTIONS FOR USE
It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

PRODUCT INFORMATION
Do Not Inject Food Bearing Plants With The No-Drilling Injection Solution

ARGORSYSTEMS® DIRECT-INJECT™ TREE INJECTION SYSTEM
The ArborSystems 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 absorption (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 chiseling or spraying is required, you can treat trees year after year with no threat of long-term or permanent damage to the tree. This system minimizes wounding and promotes long-term tree health and vigor.

INDICATIONS AND TREATMENT TIMING
Shepherd Fungicide is a systemic fungicide for use as an 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) Plane Anthracnose (Aphanomyces venetum) of Sycamores (Platanus spp.), (4) leaf diseases (Venturia sp., Gymnosporangium fagacearum, Phomopsis quercusphas, etc.) in non-freezing ornamental Crapaudale.

OAK WILT AND DUTCH ELM DISEASE
Use ShepherDFungicide only as a preventative for Oak Wilt and Dutch Elm Disease. These fungi infect the vascular system and cause plugging throughout the tree; treatment of infected trees is rarely successful. Symptomatic trees immediately adjacent to a diseased tree should be considered infected and may not respond to treatment. Symptomatic trees separated by a primary growth line from diseased trees may be unaffected and can be treated. Do not treat trees wormecked by extreme environmental conditions such as heat, drought, flooding, etc. It is recommended that Shepherd Fungicidebe administered by applicators trained in injection techniques and in the identification of Oak Wilt and Dutch Elm Disease.

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. Applications to oaks in other areas and to elms may be made at any time during the growing season, spring through all, provided the bark is pliable enough to accept the chemical injection. The application provides season-long protection. Preventive disease conditions annually, particularly in high disease-risk areas or for high-value trees — retrofitting can be made 12-months after initial treatment and annually thereafter. Inject Shepherd Fungicide into the flare, or base of the tree, to ensure even distribution throughout the vascular system.

Note: (1) Accurate diagnosis of Oak Wilt and Dutch Elm disease is important, since Shepherd Fungicide provides only suppression of the diseases listed on this label. (2) Shepherd Fungicide will be most effective when used in conjunction with other cultural practices recommended for management of Oak Wilt and Dutch Elm disease (removal of dead limb trunks, pruning of diseased limb limbs and branches, control of bark beetles, etc.).

ANTHRACNOSE AND LEAF DISEASES
For these diseases, preventative applications of Shepherd Fungicide are most effective when applied in the late summer, around one month prior to the typical first frost. This allows the chemical to translocate into the bud before leaf drop. New spring when the tree’s leaves unfurl, the chemical will be in place to protect the leaf. Annual treatments are required for prevention.

Note: Before using on trees or diseases which are not listed, test on a small scale basis. Apply the recommended rate for a particular type of disease and evaluate for phytoxicity and disease control prior to widespread use.

TREATMENTS
Treatment of Oak Wilt disease for a uninected live Oak (not including Red Oak). Dosage: 3.5 ml per injection site.*

Treatment of Dutch Elm disease for an uninected Elm or Oak (other than Live Oak). Dosage: 5-10 ml per injection site.*


Treatment of Anthracnose in Sycamores. Dosage: 2 ml per injection site.*

Note: *The number of injection sites is based on 1 injection for every 3” to 5” of trunk circumference.

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 in an approved waste disposal facility.

Container Disposal: 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.

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 horticulturists.

To be used only with the ArborSystems Direct-Inject™ Tree Injection System.

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

Contains 4.25 oz (117 grams) active ingredient per 1 q. (2 lb) (1000 ml) pack.

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

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
WARNING: Causes substantial but temporary eye injury. Wear goggles or face shield. Causes skin irritation. Do not get in eyes, on skin or on clothing. Harmful if swallowed, inhaled or absorbed through the skin. Avoid breathing vapor. Thoroughly wash with soap and water after handling. Remove and wash 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. Applicators and other handlers must wear:
• Long-sleeved shirt and long pants
• Chemical-resistant gloves, such as barrier laminate, butyl, neoprene and neoprene rubber; polyvinyl chloride (PVC), or Viton
• 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.

USER SAFETY RECOMMENDATIONS
Users should:
• Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
• Immediately remove clothing if pesticide gets inside; then thoroughly wash and put on clean clothing.

ENVIRONMENTAL HAZARDS
This product is basic to fish. Do not apply directly to water, to areas where surface water is present, or to intermittent areas before the mean high water mark. Do not contaminate water when disposing of equipment wash water.

PHYSICAL OR CHEMICAL HAZARDS
Do not use or store near heat or open flame.

NOTICE OF WARRANTY
ArborSystems warrants that this product conforms to the chemical description on the label and is reasonably fit for use when used strictly in accordance with the directions on the labeling. To the extent consistent with applicable law, ArborSystems does not make or authorize any agent or representative to make any other warranty, guarantee, or representation, express or implied, concerning this product.

ShepherdFungicide, PorteR and WedgeR are registered trademarks of ArborSystems.

The No-Drill Injection Solution
800-658-4541 • Fax: 402-338-2501
P.O. Box 36465 • Omaha, NE 68134

Net Contents: 1 g of 2 oz (1000 ml) EPA Reg. No. 60117-3 EPA Est. 60117-M-1

SHEPHERD® Fungicide

HOW TO USE THE ARBORSYSTEMS DIRECT-INJECT CHEMICALS WITH ARBORSYSTEMS 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 make 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 thicker part of the tree bark. Thick-barked trees require a longer injection tip.
6. Make injections working around the circumference of the tree. Use the PorteR Tip for injecting Sycamores 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 pre-measured 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 Direct-Inject unit to prevent clogging.