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| GROU<br>P | 3 | FUNGICIDE |
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**ALAMO<sup>®</sup>**

FUNGICIDE

COMMERCIAL

A trunk-injected systemic fungicide for control of Dutch elm disease of elms.

**GUARANTEE:**

Propiconazole ..... 14.3%

**READ THE LABEL AND PAMPHLET BEFORE USING  
KEEP OUT OF REACH OF CHILDREN**

CAUTION



POISON

**WARNING: EYE IRRITANT**

REGISTRATION NO.: **25798**  
PEST CONTROL PRODUCTS ACT

***For use only by a trained arborist or others trained in tree injection techniques and in the identification of Dutch Elm Disease.***

**Syngenta Crop Protection Canada, Inc.,**  
140 Research Lane  
Research Park, University of Guelph  
Guelph, ON, N1G 4Z3

PAMPHLET

## NOTICE TO BUYER

Seller's guarantee shall be limited to the terms set out on the label and subject thereto, the buyer assumes the risk to persons or property arising from the use or handling of this product and accepts the product on that condition.

## NOTICE TO USER

This control product is to be used only in accordance with the directions on this label. It is an offense under the Pest Control Products Act to use a control product under unsafe conditions.

## FIRST AID

**IN CASE OF POISONING**, contact a physician or a poison control centre **IMMEDIATELY**. Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

**In case of contact with eyes**, flush with water for at least 15 minutes. Get medical attention or contact a poison control centre if irritation occurs.

**In case of contact with skin**, wash with soap and water. If irritation occurs get medical attention.

**If swallowed**, promptly drink a large quantity of milk or gelatin solution; if these are not available, drink large quantities of water. **DO NOT** induce vomiting. Call a physician **IMMEDIATELY** or contact a poison control centre.

**In case of inhalation exposure**, remove from contaminated area.

## TOXICOLOGICAL INFORMATION

If ingested, lavage stomach to avoid aspiration. A slurry of activated charcoal in water can be left in the stomach. Give a saline laxative and supportive therapy.

## PRECAUTIONS

**KEEP OUT OF THE REACH OF CHILDREN AND DOMESTIC ANIMALS.** Do not get in eyes, on skin or on clothing. Avoid breathing vapors. Harmful if swallowed, inhaled or absorbed through the skin. Causes eye and skin irritation. This product may cause skin sensitization reactions in certain individuals. Wear neoprene gloves, long sleeved and long-legged overalls when handling the product and during equipment cleanup and repairs. Wear protective goggles or faceshield when applying the product. Do not eat, drink or smoke during work; wash face and hands thoroughly before doing so. Immediately wash off accidental splashes of the concentrate from the skin, clothing and out of eyes. After work, wash clothing and wash entire body thoroughly.

Wash contaminated working clothes separately from other laundry before re-use. Do not contaminate food or feed.

## ENVIRONMENTAL HAZARDS

Alamo should only be applied during rain free days. This product is toxic to fish and other aquatic organisms. Do not apply directly to any water bodies (ponds, streams, rivers, estuaries). Do not contaminate these aquatic systems when cleaning and rinsing the application equipment or disposing of waste. Do not burn treated wood in the year of treatment.

## PHYSICAL OR CHEMICAL HAZARDS

Do not store near heat or open flame.

## DISPOSAL OF USED AND UN-USED MICROINJECTOR UNITS

Do not re-use empty microinjection units. Used and unused microinjection units should be returned freight pre-paid to Engage Agro Corp., 315 Woodlawn Road West, Guelph, Ontario, Canada N1H 7K8. Used units should be sealed in the supplied plastic bag before shipment. For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean up of spills.

**IN CASE OF EMERGENCY INVOLVING A MAJOR SPILL, FIRE OR POISONING  
CALL 1-800-327-8633 (FASTMED)**

## DIRECTIONS FOR USE

General Information:

Ensure all infected branches are removed from the tree prior to treatment. Destroy all infected material in accordance with local requirements.

Alamo is a systemic fungicide for use as a root flare injection for prevention and treatment of Dutch elm disease, *Ophiostoma ulmi*, (formerly *Ceratocystis ulmi*), of elms (*Ulmus* spp.) This fungus infects the vascular system and causes plugging throughout the tree. It is recommended that Alamo be administered by trained arborists or others trained in injection techniques and in the identification of Dutch elm disease. Alamo should be injected into flare roots to ensure distribution throughout the vascular system of the tree. Preventative application is more effective than therapeutic treatment of trees showing disease symptoms. Diseased trees should be treated in the early stages of disease development since trees in advanced stages of disease development may not respond to treatment. Uninfected trees will generally absorb the full amount of Alamo within 1 hour. Trees exhibiting specific symptoms or symptomless trees immediately adjacent to a diseased tree should be considered infected. Symptomless trees separated by a primary plow line from diseased trees may be at less risk of infection. Infected trees will absorb the material more slowly due to the vascular plugging caused by the disease. If the Alamo is not absorbed within 24 hours, the tree is considered high risk and has a poor chance of survival.

**Correct Location For Microinjection Placement:**

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

**Tree Measurement:**

Measure the diameter of the tree at 137 cm. (4.5 ft.) above the ground using a tree diameter tape (D tape). This is the diameter at breast height (DBH). Use the DBH measurement to determine the number of microinjection units to inject into each tree.

**Tree Preparation:**

1. Heavy, thick, or loose outer bark may be carefully shaved 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 root flares are not clearly exposed, carefully remove 5 - 10 cm (2-4 inches) of soil from the base of the tree to uncover the top of the root flares. Brush away loose soil.
3. Do not space microinjection units further than 12.5 cm (5 inches) apart. A slight downward angle hole is recommended for more complete drainage of the microinjection unit.

**Microinjection Procedure:**

1. Using an electric drill at 600 to 800 rpm with a sharp clean 0.4 cm (11/64 inch) drill bit, the installer should drill evenly spaced holes to a depth of 0.9-1.3 cm (3/8 - 1/2 inch) through the bark into the xylem.
2. After reaching the proper depth range, the drill bit should be withdrawn carefully to avoid dislodging bark fragments around the exterior opening of the hole.
3. Disinfect the drill bit between trees with Lysol or a 20% solution of household bleach. Rinse bit with clean water after treatment with Lysol or the bleach solution.
4. Each hole should be drilled and a microinjection unit installed as soon as possible after the hole is drilled. A small amount of water squirted into the hole will help form a tight seal.
5. While wearing the appropriate protective clothing and eye wear, manually insert the dispenser tube portion of the microinjection unit into the hole.
6. Placing the plastic installation cap over the rear barrel end, strike the cap with a plastic hammer to seat the microinjection unit firmly in the hole.
7. When the microinjection unit is positioned correctly in the tree, remove the cap and position the rear barrel portion of the unit downward until it is flush with the locking mechanism. This pressurizes the microinjection unit and assists in the movement of Alamo into the vascular system of the tree.
8. When properly installed, the microinjection unit generates internal pressure resulting in the flow of Alamo solution through the dispenser tube. The microinjection unit should never be activated unless installed correctly & securely in the tree to be treated.
9. Microinjection units may require up to several minutes or more to empty, depending on the health of the tree and local weather conditions. Microinjection units should be removed when evacuation of Alamo is completed. Never assume that microinjection units have depressurized completely because they appear empty.
10. When removing the microinjection unit, wear eye protection and the gloves recommended in the 'precautions and environmental hazards' portion of this label. Cover the microinjection unit with one hand near the point of insertion into the root flare

while grasping the barrel end of the microinjection unit with the other hand. The microinjection unit should be twisted slightly as it is slowly withdrawn from the tree.

11. After units are removed from the trees, they must be discarded in the heavy-duty plastic disposal bag included in each carton of injection units. The bags should be properly sealed and placed in the original carton.
12. Sealed cartons should be returned freight prepaid to Engage Agro Corporation, 315 Woodlawn Road West, Guelph, Ontario, Canada N1H 7K8.

## **RATE OF USE FOR DUTCH ELM DISEASE OF ELMS**

For treatment of Dutch elm disease, use one microinjection unit per each 2.5 cm.(1.0 inch) DBH. When treating diseased trees, prune diseased parts of the tree prior to treatment.

### **Retreatment:**

At the initial injection of Alamo, 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 Alamo. After this 12-month period, continue to evaluate trees for the need for retreatment on an annual basis. Preventative applications should be considered 24 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.

### **Notes:**

- (1) Accurate diagnosis of Dutch elm disease is important.
- (2) Alamo will be most effective when used in conjunction with cultural practices recommended for management of Dutch elm disease (removal of dead elm trees, pruning of diseased tree limbs and branches, control of bark beetles, etc.). For further information on the proper diagnosis and control of Dutch elm disease, consult your provincial tree specialist.

## **RESISTANCE MANAGEMENT**

For resistance management, please note that ALAMO fungicide contains a Group 3 fungicide. Any fungal population may contain individuals naturally resistant to ALAMO and other Group 3 fungicides. A gradual or total loss of pest control may occur over time if these fungicides are used repeatedly in the same fields. Other resistance mechanisms that are not linked to site of action but specific for individual chemicals, such as enhanced metabolism, may also exist. Appropriate resistance management strategies should be followed.

To delay fungicide resistance:

Where possible, rotate the use of ALAMO fungicide or other Group 3 fungicides with different groups that control the same pathogens.

Avoid application of more than the maximum number listed in the label and consecutive sprays of ALAMO fungicide or other fungicides in the same group in a season.

Fungicide use should be based on an IPM program that includes scouting, historical information related to pesticide use and crop rotation and considers cultural, biological and other chemical control practices.

Monitor treated fungal populations for sign of resistance development.

If disease continues to progress after treatment with this product, do not increase the use rate. Discontinue use of this product, and switch to another fungicide with a different target site of action, if available.

Contact your local extension specialist or certified crop advisors for any additional pesticide resistance management and/or IPM recommendations for specific crops and pathogens.

For further information and to report suspected resistance, contact Syngenta Crop Protection Canada, Inc. at 1-800-265-3554 or at <http://www.syngenta.ca>.

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