



P.O. Box 34645 • Omaha, NE 68134 • Toll-Free: 800-698-4641 • Phone: 402-339-4459 • Fax: 402-339-5011 • www.ArborSystems.com

### An ArborSystems™ Direct-Inject™ Chemical

For management, reduction or regulation of shoot growth, and overall canopy growth of a wide variety of ornamental trees in utility rights-of-way, urban environments, residential areas and interior landscapes (such as those in domestic landscape/garden areas, public display plantings, recreation areas, highway and other transportation rights-of-way, scenic corridors, storage areas, forest areas, campgrounds, and other uncultivated, nonagricultural areas).

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

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

#### ACTIVE INGREDIENT:

Flurprimidol\* (CAS No. 56425-91-3).....48.1%

OTHER INGREDIENTS ..... 51.9%

**Total:** 100.0%

\* $\alpha$ -(1-methylethyl)- $\alpha$ -[4-(trifluoromethoxy) phenyl]-5-pyrimidinemethanol

Container Size	Net Contents	AI/Container
120 ml pack	4 fl oz (120 ml)	2.1 oz (58 g)
1000 ml pack	1 qt 2 fl oz (1000 ml)	17.1 oz (483 g)

EPA Reg. No. 67690-34-69117      EPA Est. 69117-NE-1

**Keep Out of Reach of Children**

### CAUTION

See below for additional precautionary statements and complete Directions for Use.

## PRECAUTIONARY STATEMENTS

### Hazards to Humans & Domestic Animals

**CAUTION:** Harmful if swallowed. Causes moderate eye irritation. Avoid contact with eyes, skin, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Remove contaminated clothing and wash clothing before reuse.

### FIRST AID

**Have the product container, label, or Material Safety Data Sheet with you when calling a poison control center or doctor, or going for treatment.**

**If Swallowed:** Immediately call a poison control center or doctor 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 by mouth to an unconscious person.

**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 on Skin or Clothing:** Take off contaminated clothing. Immediately rinse skin with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

### ENVIRONMENTAL HAZARDS

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 washwaters or rinsate.

### DIRECTIONS FOR USE

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

### GENERAL INFORMATION

**Do not inject food bearing trees.**

### ARBORSYSTEMS DIRECT-INJECT TREE INJECTION SYSTEM

The ArborSystems Direct-Inject Tree Injection System is easy to use. Many trees can be treated in as little as five minutes, allowing applicators to treat trees quickly. There is no need to wait for absorption (translocation) because the chemical is injected into the cambial area of the tree (the active vascular system). 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 every two years, with no threat of long-term or permanent damage to the tree.

### INDICATIONS

Mastiff PGR is a plant growth regulator (PGR) intended for the management, reduction or regulation of shoot growth and overall canopy growth of a wide variety of ornamental trees in utility rights-of-way, urban environments, residential areas and non-crop areas. Mastiff PGR has demonstrated desirable growth regulation in many woody ornamental plants and deciduous trees species, without phytotoxic effects. Use Mastiff PGR to control canopy growth, pruning volume/frequency and for the associated benefits of stimulated root development, increased drought tolerance, increased stress tolerance and stabilizing trees in mild decline.

Growth reduction is beneficial for trees planted under and near utility lines, close to homes, decks, patios and sidewalks, in areas with restricted space for canopy and/or root development, or in areas where excessive growth may block a scenic view. Utility arborists look to growth reduction treatments to provide benefits such as reduced vegetation-related power outages, more efficient trimming operations, lengthened trim cycles and reduced biomass of tree trimmings. The shortening of internodal growth also results in increased density of the tree canopy, enhancing shade and screening benefits. Mastiff PGR may suppress "dbh" (diameter at breast height) growth which can benefit trees growing in municipal vaults and other confined areas.



**In Commercial and Residential Areas:** Mastiff PGR is an option for trees planted too close together, close to homes, in tightly landscaped areas, near foundations, under power lines, in interior spaces or when a wrong tree for the site cannot be removed. Mastiff PGR applications result in a reduction of canopy growth and can increase the root-to-canopy ratio.

**In Municipal Applications:** Mastiff PGR regulates and reduces growth on trees planted under and near power lines or along rights-of-way, on trees near streetlights, intersections, or municipal/commercial signage, in airport approach areas, and in areas where vista control is desired. Applications of Mastiff PGR may result in extended pruning/trimming cycles and reduce the need for pruning in dangerous locations.

## TREE SPECIES

Alder (red), Ash, Aspen, Blackolive, Black Cherry, Black Locusts, Black Walnut, Boxelder, Cottonwood, Dogwood, Elms (American, Chinese, Siberian, Winged), Blue Gum Eucalyptus, Hackberry, Maples (Norway, Red, Silver, Sugar), Melaleuca, Oaks (Laurel, Live, Pin, Post, Red, Southern Red, Water, Willow), Pine (Australian), Sugarberry, Sweetgum, Sycamore, Tallowtree (Chinese) and Willow (Black)

## APPLICATION RATE

1 ml per 4" of trunk circumference measured within 12" of the ground. Dosage may be increased to 2 ml per injection site for trees with diameters over 12". Application rates vary by tree species and local conditions.

## NOTE

A single Mastiff PGR application provides tree growth regulation for three to five years. Do not inject this product more than once every two years as more frequent application is known to cause adverse effects on trees, such as stacking of leaves.

Shoot growth is most common between April and June. Mastiff PGR applications in the preceding fall or early spring provide more first-year growth control than applications made at other times. Inject Mastiff PGR at any time during the spring, summer or fall, as long as transpiration is occurring. Tree bark must be pliable enough to accept the injection; this depends on local weather conditions. Make treatments in the summer or fall, prior to dormancy for deciduous trees, to regulate growth the following spring. Regardless of application timing, growth reduction within the first year of treatment may not be as noticeable as in subsequent years.

The growth varies based on species, location, climatic factors, environmental conditions, etc. Before large-scale tree injection programs are pursued, establish by testing on a limited number of trees, the best rates to produce the desired results under local growing conditions. Treatment may cause bark damage; check bark before repeating treatments.

## DO NOT INJECT A TREE SHOWING ONE OR MORE OF THE FOLLOWING CONDITIONS

1. The tree is hollow or decayed in an area equal to one-half or more of its diameter.
2. The tree is heavily decayed in the crown. Heavy decay is indicated by dead or decayed limbs and branches over most of the crown, or one or two major limbs over 6" in diameter showing signs of decay.
3. The tree is missing bark from the main trunk one-half way around or more.
4. The tree shows other signs of poor condition:
  - a) Heavy, deep cracking of the bark on a main branch showing interior wood.
  - b) Deformed or misshapen twigs and branches.
  - c) Size or color of leaves inappropriate for the season of the year.
  - d) Tree under stress from insect infestation.

## HOW TO USE ARBORSYSTEMS DIRECT-INJECT CHEMICALS WITH ARBORSYSTEMS DIRECT-INJECT UNITS

1. Use only ArborSystems Direct-Inject chemicals with your unit as they have been formulated specifically for the Direct-Inject system. Use of other chemicals will invalidate warranty.
2. Attach the container 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 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. Make Wedgle® Tip injections within 12" of the ground. Portle® Tip injection height varies depending on type of tree and location.
7. With a smooth motion, firmly squeeze the injection unit handles. This releases a pre-measured chemical dose into 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.

**Storage:** Store in a tightly closed 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:** Completely empty pack into application equipment, then dispose of empty pack in a sanitary landfill or by incineration, or if allowed by State and local authorities, by burning; if burned, stay out of smoke.



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## **NOTICE OF WARRANTY**

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ArborSystems warrants that this product conforms to the chemical description on the label and is reasonably fit for use under average conditions when used strictly in accordance with the directions on the labeling. ArborSystems does not make or authorize any agent or representative to make any other warranty, guarantee or representation, express or implied, concerning this product.

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

Direct Inject™ unit is protected by U.S. Patent #5,901,498

Wedgle® Tip is protected by U.S. Patent #5,239,773

WedgeChek™ is protected by U.S. Patent #5,797,215

Portle® Tip is protected by U.S. Patent #7,178,286