

## SPECIMEN LABEL

This information is for promotional purposes only. Space considerations may require information to be omitted. Always refer to the actual package for complete label verbiage. This product may not yet be available or approved for sale or use in your area.

GROUP 4A INSECTICIDE

# Mallet<sup>®</sup> 2F T&O

## Insecticide

Systemic and foliar insect control in turfgrass, landscape ornamentals, on ornamental fruit and nut trees, on ornamental and vegetable plants in greenhouses, nurseries and interior plantscapes

### ACTIVE INGREDIENT:

Imidacloprid, 1 -[(6-Chloro-3-pyridinyl)methyl]-  
N-nitro-2-imidazolidinimine ..... 21.4%

**OTHER INGREDIENTS:** ..... 78.6%

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

Contains 2 pounds of imidacloprid per gallon.

### KEEP OUT OF REACH OF CHILDREN CAUTION / PRECAUCION

PRECAUCION AL USUARIO: Si usted no puede leer o entender inglés, no use este producto hasta que la etiqueta le haya sido explicada ampliamente. (TO THE USER: If you cannot read or understand English, do not use this product until the label has been fully explained to you.)  
SEE INSIDE BOOKLET FOR FIRST AID AND ADDITIONAL PRECAUTIONARY STATEMENTS

For Chemical Spill, Leak, Fire, or Exposure, Call CHEMTREC (800) 424-9300

For Medical Emergencies Only, Call (877) 325-1840

EPA Reg. No. 228-695

Manufactured for  
Nufarm Americas Inc.  
150 Harvester Drive  
Burr Ridge, IL 60527



**PRECAUTIONARY STATEMENTS  
HAZARDS TO HUMANS AND DOMESTIC ANIMALS  
CAUTION**

Harmful if absorbed through skin. Harmful if inhaled. Avoid contact with skin, eyes, or clothing. Avoid breathing spray mist. Wear long-sleeved shirt and long pants, socks, shoes, and chemical-resistant gloves (such as Natural Rubber, Selection Category A).

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

**Applicators and other handlers must wear:**

- Long-sleeved shirt and long pants.
- Chemical-resistant gloves made of any waterproof material such as, barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinylchloride (PVC) or viton.
- Shoes plus socks.

Follow manufacturer's instructions for cleaning/maintaining personal protective equipment, PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

**Engineering controls statement:** When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

Important: When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "Applicators and Other Handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown.

**USER SAFETY RECOMMENDATIONS**

**User should:**

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

<b>FIRST AID</b>	
<b>IF SWALLOWED</b>	<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>• <b>DO NOT</b> induce vomiting unless told to do so by the poison control center or doctor.</li> <li>• <b>DO NOT</b> give anything by mouth to an unconscious person.</li> </ul>
<b>IF INHALED</b>	<ul style="list-style-type: none"> <li>• Move the person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>
<b>IF ON SKIN OR CLOTHING</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15 to 20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF IN EYES</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15 to 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>
<b>HOT LINE NUMBER</b>	
<p>Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-877-325-1840 for emergency medical treatment information.</p>	
<b>NOTE TO PHYSICIAN</b>	
<p>No specific antidote is available. Treat the patient symptomatically.</p>	

### **Environmental Hazards**

This product is highly toxic to aquatic invertebrates. **DO NOT** apply directly to water, or 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.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. **DO NOT** apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

This chemical demonstrates the properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

### **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.

Shake well before using.

**DO NOT** apply when wind speed favors drift beyond the area intended for treatment.

## **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) 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 **12 hours**.

**Exception:** If the product is soil-injected or soil-incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

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 made of any waterproof material such as, barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinylchloride (PVC) or viton
- Shoes plus socks

## **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.

Keep children and pets off treated area until dry.

**OBSERVE THE FOLLOWING PRECAUTIONS WHEN MIXING AND APPLYING IN THE VICINITY OF AQUATIC AREAS SUCH AS LAKES, RESERVOIRS, RIVERS, PERMANENT STREAMS, MARSHES OR NATURAL PONDS, ESTUARIES AND COMMERCIAL FISH PONDS.**

### **RUNOFF MANAGEMENT**

Do not cultivate within 10 feet of the aquatic areas to allow growth of vegetative filter strip. When used on erodible soils, best management practices for minimizing runoff should be employed. Consult your local Natural Resources Conservation Service for recommendations in your use area.

### **ENDANGERED SPECIES NOTICE**

Under the Endangered Species Act, it is a Federal Offense to use any pesticide in a manner that results in the death of a member of an endangered species. Consult your local county bulletin, County Extension Agent, or Pesticide State Lead Agency for information concerning endangered species in your area.

### **RESISTANCE MANAGEMENT**

Some insects are known to develop resistance to insecticides after repeated use. As with any insecticide, the use of this product should conform to resistance management strategies established for the use area.

This product contains a Group 4A insecticide called imidacloprid. Insect biotypes with acquired or inherent tolerance to group 4A products may eventually dominate the insect population if Group 4A products are used repeatedly as the predominant method of control for targeted species. This may eventually result in partial or total loss of control of those species by this product and to other Group 4A products.

The active ingredient in this product is a member of the neonicotinoid chemical group. Avoid using a block of more than three consecutive applications of this product and/or other Group 4A products having the same or similar mode of action. Following a neonicotinoid block of treatments, Nufarm strongly encourages the rotation to a block of applications with effective products of a different mode before using additional applications of neonicotinoid products. Using a block rotation or windowed approach, along with other IPM practices, is considered an effective use strategy for preventing or delaying an insect pest's ability to develop resistance to this class of chemistry.

Foliar applications of this product or other Group 4A products from the neonicotinoid chemical class should not be used on crops previously treated with long-residual, soil-applied products from the neonicotinoid chemical class.

Other Group 4A, neonicotinoid products used as foliar treatments include: Actara<sup>®</sup>, Assail<sup>®</sup>, Calypso<sup>®</sup>, Centric<sup>®</sup>, Intruder<sup>™</sup>, Leverage<sup>®</sup> and Trimax<sup>™</sup>. Other 4A Group, neonicotinoid products used as soil treatment include: Admire<sup>®</sup> and Platinum<sup>®</sup>.

Contact your local extension specialist, certified crop advisor and/or product manufacturer for additional insect resistance management recommendations. Also, for more information on Insect Resistance Management (IRM), visit the Insecticide Resistance Action Committee (IRAC) on the web at <http://irac-online.org/>.

## USE INFORMATION

Thorough uniform coverage is necessary to achieve optimal control. A spray adjuvant may be used to improve coverage. This product may not knockdown established and heavy insect populations. Two applications may be required to achieve control; retreat if needed and as directed on this label. Tank mix this product with other insecticides as recommended for knockdown of pests or for improved control of other pests.

### Rotational Crops

As soon as practical following the last application, treated areas may be replanted with any crop specified on an imidacloprid label, or any crop for which a tolerance exists for the active ingredient. For crops not listed on an imidacloprid label, or for crops for which no tolerances for the active ingredient have been established, a 12-month plant-back interval must be observed. **IMPORTANT:** Cover crops for soil building or erosion control may be planted at any time, but do not graze or harvest for food or feed.

#### Immediate Plant-back:

All crops on this label plus the following crops not on this label: barley, canola, corn (field, sweet and pop), rapeseed, sorghum, sugar beet and wheat.

#### 30-Day Plant-back:

Cereals (including buckwheat, millet, oats, rice, rye and triticale), soybeans and safflower

#### 12- Month Plant-back:

All other crops

## MIXING INSTRUCTIONS

To prepare the application mixture, add a portion of the required amount of water to the spray tank, begin agitation, and add this product. Complete filling tank with the balance of water needed. Be sure to maintain agitation during both mixing and application.

This product may also be used with other pesticides and/or fertilizer solutions; refer to the **Compatibility Section** below. When tank mixtures of this product and other pesticides are involved, prepare the tank mixture as specified above and follow the suggested Mixing Order below.

### **Mixing Order**

When pesticide mixtures are needed, add wettable powders first, this product or other flowables second, and emulsifiable concentrates last. Ensure good agitation as each component is added and do not add an additional component until the previous is thoroughly mixed. A fertilizer / pesticide compatibility agent may be needed if a fertilizer solution is to be added to the mixture. Be sure to maintain constant agitation during both mixing and application to ensure uniformity of spray mixture.

### **Compatibility**

Before adding this product to the spray or mix tank, the compatibility of the intended tank mixture should be checked using the following test:

- 1) Add proportionate amount of each ingredient in the appropriate order to a pint or a quart jar;
- 2) Cap and shake for 5 minutes;
- 3) Let set for 5 minutes.

**DO NOT** use if poor mixing or formation of precipitates that do not readily re-disperse occur, indicating an incompatible mixture. For further information, contact your local Nufarm representative.

## **APPLICATION INSTRUCTIONS**

Apply this product as a directed or broadcast foliar spray using properly calibrated ground application equipment as allowed in the specific application section. For insecticidal efficacy, thorough coverage of all target foliage without runoff is necessary. To obtain thorough coverage use adequate spray volumes, properly calibrated application equipment and a spray adjuvant if necessary. Failure to provide adequate coverage and retention of this product on leaves and fruit, if present, may result in loss of insect control or delay in onset of activity. Minimum spray volumes, unless otherwise specified on crop specific application sections, are 10 gallons/acre by ground. This product may also be applied by chemigation (see APPLICATION THROUGH IRRIGATION SYSTEMS (CHEMIGATION) section below) if allowed in the specific application section.

## **SPRAY DRIFT MANAGEMENT**

The interaction of many equipment and weather related factors determine the potential for spray drift. The applicator is responsible for considering all of these factors when making application decisions. Avoiding spray drift is the responsibility of the applicator.

### **Mixing and Loading Requirements**

To avoid potential contamination of groundwater, the use of a properly designed and maintained containment pad for mixing and loading of any pesticide into application equipment is recommended. If containment pad is not used, maintain a minimum distance of 25 feet between mixing and loading areas and potential surface to groundwater conduits such as field sumps, uncased well heads, sinkholes, or field drains.

### **Importance of Droplet Size**

An important factor influencing drift is droplet size. Small droplets (<150-200 microns) drift to a greater extent than large droplets. Within typical equipment specifications, applications should be made to deliver the largest droplet spectrum that provides sufficient control and coverage. Formation of very small droplets may be minimized by appropriate nozzle selection.

### Wind Speed Restrictions

Drift potential increases at wind speeds of less than 3 mph (due to inversion potential) or more than 10 mph. However, many factors, including droplet size, canopy and equipment specifications determine drift potential at any given wind speed. Do not apply when winds are greater than 15 mph and avoid gusty and windless conditions. Risk of exposure to sensitive aquatic areas can be reduced by avoiding applications when wind direction is toward the aquatic area.

### Restrictions During Temperature Inversions

*Because the potential for spray drift is high during temperature inversions, do NOT make ground applications during temperature inversions.* Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however if fog is not present, inversions can also be identified by the movement of smoke from a ground source. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical mixing.

### No-Spray Zone Requirements for Foliar Applications

Do not apply by ground within 25 feet of lakes; reservoirs; rivers; permanent streams, marshes or natural ponds; estuaries and commercial fish farm ponds.

## APPLICATION THROUGH IRRIGATION SYSTEMS (CHEMIGATION)

This product may be applied at rates specified on this label either alone or in tank mixture with other pesticides and chemicals registered for application through irrigation systems. The normal dilution ratio is 1:100 to 1:200, depending on the system. Always meter the product into the irrigation water during the first part of the irrigation cycle. The product may be mixed separately prior to injection. Agitation may be necessary if the mixture is allowed to stand more than 24 hours.

- **DO NOT** connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.
- Apply this product only through micro-irrigation (individual spaghetti tube), drip irrigation, overhead irrigation, and ebb and flood or hand-held or motorized calibrated irrigation equipment and only as specified in the use directions. **DO NOT apply this product through any other type of irrigation system.** Crop injury or lack of effectiveness can result from non-uniform distribution of treated water.
- Be sure to remove scale, pesticide residue and other foreign matter from the tank and entire irrigation system prior to application.
- A person knowledgeable of the chemigation system and responsible for its operation, or a person who is under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.
- If you have any questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

### SAFETY DEVICES FOR IRRIGATION SYSTEMS CONNECTED TO PUBLIC WATER SUPPLIES:

If the source of water for your irrigation system is a public water supply, follow the instructions below.

1. Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.

2. Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
3. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
4. The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
5. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
6. Systems must use a metering pump, such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
7. Do not apply when wind speed favors drift beyond the area intended for treatment.

**SAFETY DEVICES FOR IRRIGATION SYSTEMS NOT CONNECTED TO A PUBLIC WATER SUPPLY:**

1. The system must contain a functional check valve, vacuum relief valve and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
3. The pesticide injection pipeline must also contain a functional normally closed solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
5. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where the pesticide distribution is adversely affected.
6. Systems must use a metering pump such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
7. Do not apply when wind speed favors drift beyond the area intended for treatment.

**Water Volume**

When applying this product through chemigation make [it] as concentrated as possible. Retention of this product on target site of insect infestation is necessary for optimum activity. **DO NOT** use this product by chemigation in water volumes exceeding 0.10 inches/acre.

**Uniform Water Distribution and System Calibration**

The irrigation system must provide uniform distribution of treated water. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water. The system must be calibrated to uniformly apply the rates specified. If you have questions about calibration, contact State Extension Service specialists, equipment manufacturers or other experts.



### **Chemigation Monitoring**

A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise

### **Drift**

Do not apply when the wind favors drift beyond the area intended for treatment.

## **APPLICATION TO TURFGRASS**

Use this product for the control of listed soil inhabiting pests of turfgrass, including Northern & Southern masked chafers, *Cyclocephala borealis*, *C. immaculata*, and/or *C. lurida*; Asiatic garden beetle, *Maladera castanea*; European chafer, *Rhizotrogus majalis*; Green June beetle, *Cotinis nitida*; May or June beetle, *Phyllophaga* spp.; Japanese beetle, *Popillia japonica*; Oriental beetle, *Anomala orientalis*; Billbugs, *Sphenophorus* spp.; Annual bluegrass weevil, *Listronotus* spp.; Black turfgrass ataenius, *Ataenius spretulus* and *Aphodius* spp.; European crane fly, *Tipula paludosa*; and mole crickets, *Scapteriscus* spp. Use this product for suppression of cutworms and chinch bugs. Use as directed on turfgrass in home lawns, business and office complexes, shopping complexes, multi-family residential complexes, golf courses, airports, cemeteries, parks, playgrounds, and athletic fields.

The active ingredient in this product has sufficient residual activity so that applications can be made preceding the egg laying activity of the target pests. Base the need for an application on historical monitoring of the site, previous records or experiences, current season adult trapping or other methods. Make applications prior to egg hatch of the target pests, followed by sufficient irrigation or rainfall to move the active ingredient through the thatch.

### **RESTRICTIONS**

- **DO NOT** make applications when turfgrass areas are waterlogged or the soil is saturated with water. Adequate distribution of the active ingredient cannot be achieved when these conditions exist.
- The treated turf area must be in such a condition that the rainfall or irrigation will penetrate vertically in the soil profile.
- Applications cannot exceed a total of 1.6 pints (0.4 lb of active ingredient) per acre per year.

### **Application Methods**

Apply this product in sufficient water to provide adequate distribution in the treated area. The use of accurately calibrated equipment normally used for the application of turfgrass insecticides is required. Use equipment which will produce a uniform, coarse droplet spray, using a low pressure setting to eliminate off target drift. Check calibration periodically to ensure that equipment is working properly.

<b>TURFGRASS</b>		
<b>PEST</b>	<b>USE RATE</b>	<b>REMARKS</b>
<b>Larvae of:</b> Annual bluegrass weevil Asiatic garden beetle Billbugs Black turfgrass ataenius Cutworms (suppression) European chafer European crane fly Green June beetle Japanese beetle Northern masked chafer Oriental beetle <i>Phyllophaga</i> spp. Southern masked chafer	1.25 to 1.6 pt per acre or 0.46 to 0.6 fl oz (14 to 17 ml) per 1,000 sq ft	For control of grubs, billbugs, annual bluegrass weevil, and European crane fly make application prior to egg hatch of the target pest. Read “ <b>Application Methods</b> ” Section for Application to Turfgrass.
Chinchbugs (suppression) Mole crickets	1.6 pt per acre or 0.6 fl oz (17 ml) per 1,000 sq ft	For suppression of chinchbugs, make application prior to or during the hatching of the first instar nymphs. For control of mole crickets make application prior to or during the peak egg hatch period. When adults or large nymphs are present and actively tunneling, accompany the application of this product with a remedial insecticide. Follow the most restrictive label instructions when tank-mixing.
Consult your local turf, state Agricultural Experiment Station, or State Extension Service Specialists for more specific information regarding timing of application.		
<b>RESTRICTIONS:</b> <ul style="list-style-type: none"> <li>• <b>DO NOT</b> apply more than 25.6 fluid ounces (1.6 pints) (0.4 lb of active ingredient) per acre per year.</li> <li>• <b>DO NOT</b> mow turf or lawn area until after sufficient irrigation or rainfall has occurred so that uniformity of application will not be affected.</li> <li>• Irrigation or rainfall must occur within 24 hours after application to move the active ingredient through the thatch.</li> </ul>		

## APPLICATION TO LANDSCAPE ORNAMENTALS

Use this product on ornamentals in and around the perimeter of commercial and residential landscapes and interior plantscapes. It is a systemic product and will be translocated upward into the plant system from root uptake. Apply this product to areas where the growing portion of the target plant can absorb the active ingredient. The addition of a nitrogen containing fertilizer, where applicable, into the solution has been shown to enhance the uptake of the active ingredient. Application can be made by foliar application or soil applications; including soil injection, drenches, and broadcast sprays. Foliar applications offer locally systemic activity against insect pests.

When making soil applications to plants with woody stems, systemic activity will be delayed until the active ingredient is translocated throughout the plant. In some cases, this translocation delay could take 60 days or longer. For this reason, applications must be made prior to anticipated pest infestation to achieve control.

For outdoor ornamentals, applications cannot exceed a total of 25.6 fluid ounces (1.6 pints) (0.4 lb of active ingredient) per acre per year.

### **Ant Management Programs**

Use this product to control aphids, scale insects, mealybugs and other sucking pests on ornamentals to limit the honeydew available as a food source for ant populations. Applications can then be supplemented with residual sprays, bait placements or other ant control tactics to further reduce the pest population.

### **Application Methods**

Mix product with the required amount of water and apply as desired dependent upon the selected use pattern.

When making foliar applications on hard-to-wet foliage such as holly, pine, or ivy, the addition of a spreader/sticker will improve coverage. If concentrate or mist type spray equipment is used, apply an equivalent amount of product on the area sprayed, as would be used in a dilute application.

This insecticide has been found to be compatible with commonly used fungicides, miticides, liquid fertilizers, and other commonly used insecticides. The physical compatibility of this product may vary with different sources of pesticide products and local cultural practices. Prepare, on a small scale (pint or quart jar), any tank mixture which has not been previously tested by using the proper proportions of pesticides and water to ensure the physical compatibility of the mixture.

**RESTRICTION: DO NOT** apply through any irrigation system.

**ORNAMENTAL TREES, SHRUBS, EVERGREENS, FLOWERS, FOLIAGE PLANTS, GROWDCOVERS, INTERIOR PLANTSCAPES** (in and around the perimeter of industrial and commercial buildings and residential areas)

<b>FOLIAR APPLICATIONS</b>		
<b>PEST</b>	<b>USE RATE</b>	<b>REMARKS</b>
Adelgids Aphids Japanese beetles (adults) Lace bugs Leaf beetles (including Elm and Viburnum leaf beetles) Leafhoppers (including Glassy-winged sharpshooter) Leafminers Mealy bugs Sawfly larvae Thrips (suppression) Whiteflies	1.7 fl oz (50 ml) per 100 gallons of water	Start treatments prior to establishment of high pest populations and reapply on an as needed basis. For resistance management purposes, an imidacloprid foliar application following a soil application in the same crop is not recommended.

<b>BROADCAST APPLICATIONS</b>		
<b>PEST</b>	<b>USE RATE</b>	<b>REMARKS</b>
White grub larvae (such as Japanese beetle larvae, chafer, <i>Phyllophaga</i> spp., Asiatic garden beetle, Oriental beetle)	0.46 to 0.6 fl oz (14 to 17 ml) per 1,000 sq ft	Mix required amount of product in sufficient water to uniformly and accurately cover the area being treated. <b>DO NOT</b> use less than 2 gallons of water per 1,000 square feet. Irrigate thoroughly to incorporate this insecticide into the upper soil profile. Refer to use directions (found below) specific for Flowers and Ground Covers.

**RESTRICTIONS:**

\*Only for use on vegetable plants intended for resale including: Broccoli, Chinese Broccoli, Broccoli Raab, Brussel Sprouts, Cabbage, Chinese Cabbage, Cauliflower, Collards, Eggplant, Ground Cherry, Kale, Kohlrabi, Lettuce, Mustard Greens, Pepinos, Peppers, Potatoes, Rape Greens, Sorghum, Sugarbeets Tomatillo, and Tomato.

- **DO NOT** apply more than 25.6 fluid ounces (1.6 pints) (0.4 lbs AI) per acre per year.
- **DO NOT** harvest or consume fruits or nuts from trees that have been treated within 1 year of application.
- **DO NOT** apply through any irrigation system.

**ORNAMENTAL TREES, SHRUBS, FLOWERS AND GROWDCOVERS** (in and around the perimeter of industrial and commercial buildings and residential areas, and state, national, and private wooded and forested areas for the insect pests listed below)

PEST	USE RATE	APPLICATION SITE
<b>TREES</b>		
<p>Adelgids Alder borer Aphids Armored scales (suppression) Black vine weevil larvae Bronze birch borer Emerald ash borer Eucalyptus longhorned borer Flatheaded borers (including Bronze birch and Alder) Japanese beetles Lace bugs Leaf beetles (including elm and viburnum leaf beetles) Leafhoppers (including glassy-winged sharpshooter) Leafminers Mealybugs Pine tip moth larvae Psyllids Royal palm bugs Sawfly larvae* Soft scales Thrips (suppression) White grub larvae Whiteflies</p>	<p><b>For TREES:</b> Use the following rates as a function of tree diameter at breast height (DBH): Apply 0.1 – 0.4 fl.oz. (3 to 6 mL) per inch of trunk diameter (DBH) You may use the higher rate (0.3 – 0.4 fl.oz.) only for trees &gt;15 inches (DBH) to control: Asian longhorned beetle, Emerald ash borer, Eucalyptus longhorned borer, Bronze birch borer, and Alder borer <b>RESTRICTION: DO NOT</b> apply more than 25.6 fl.oz. (0.4 lb AI) per acre per year. Diameter at Breast Height (DBH) is measured at 4.5 feet from the ground.</p>	<p><b>Soil Injection:</b> GRID SYSTEM: Holes must be spaced on 2.5 foot centers, in a grid pattern, extending to the drip line of the tree. CIRCLE SYSTEM: Apply in holes evenly spaced in circles, (use more than one circle dependent upon the size of the tree) beneath the drip line of the tree extending in from that line. BASAL SYSTEM: Space injection holes evenly around the base of the tree trunk no more than 6 to 12 inches out from the base. Mix required dosage in sufficient water to inject an equal amount of solution in each hole. Maintain a low pressure and use sufficient solution for distribution of the liquid into the treatment zone. Keep the treated area moist for 7 to 10 days. <b>DO NOT</b> use less than 4 holes per tree. <b>NEW YORK SPECIFIC RESTRICTION: No Soil Injection Applications Allowed in Nassau or Suffolk Counties of New York.</b></p> <p><b>Soil Drench:</b> Uniformly apply the dosage in no less than 10 gallons of water per 1,000 square feet as a drench around the base of the tree, directed to the root zone. Remove plastic or any other barrier that will stop solution from reaching the root zone.</p> <p><b>For Control of Specified Borers:</b> Application to trees already heavily infested may not prevent the eventual loss of the trees due to existing pest damage and tree stress.</p> <p><b>Basal Drench using Slow Release Irrigation Bags (such as Treegator® 15, 20, or 50 Gallon capacity):</b> Follow manufacturer’s instructions for installation and setup of drip irrigation water bag. Fill bag to ¼ capacity with irrigation water. Add the specified rate of this product for the tree diameter to which the bag is attached. Add remaining volume of water needed to fill bag.</p>

**ORNAMENTAL TREES, SHRUBS, FLOWERS AND GROWDCOVERS** (in and around the perimeter of industrial and commercial buildings and residential areas, and state, national, and private wooded and forested areas for the insect pests listed below) *(continued)*

PEST	USE RATE	APPLICATION SITE
<i>(continued from previous page)</i>	0.1 to 0.2 fl oz (3 to 6 ml) per foot of shrub height	<b>SHRUBS</b>
		<p><b>Soil Injection:</b> Apply to individual plants using dosage indicated.</p> <p>Mix required dosage in sufficient water to inject an equal amount of solution in each hole. Maintain a low pressure and use sufficient solution for distribution of the liquid into the treatment zone. Keep the treated area moist for 7 to 10 days. DO NOT use less than 4 holes per shrub.</p> <p><b>NEW YORK SPECIFIC RESTRICTION: No Soil Injection Applications Allowed in Nassau or Suffolk Counties of New York.</b></p>
	<p><b>Soil Drench:</b> Uniformly apply the dosage in no less than 10 gallons of water per 1,000 square feet as a drench around the base of the tree, directed to the root zone. Remove plastic or any other barrier that will stop solution from reaching the root zone.</p> <p><b>Basal Drench using Slow Release Irrigation Bags (such as Treegator® 15, 20, or 50 Gallon capacity):</b> Follow manufacturer’s instructions for installation and setup of drip irrigation water bag. Fill bag to ¼ capacity with irrigation water. Add the specified rate of this product for the shrub height to which the bag is attached. Add remaining volume of water needed to fill bag.</p>	
	0.46 to 0.6 fl oz (14 to 17 ml) per 1000 sq ft	<p><b>FLOWERS &amp; GROWDCOVERS</b></p> <p>Apply as a broadcast treatment and incorporate into the soil before planting or apply after plants are established. Irrigate immediately following application to established plants.</p>

**Remarks**

\*Pine sawfly larvae feed on mature foliage beginning in early spring. Make treatments in the fall before pine sawfly emergence in spring to allow adequate time for imidacloprid translocation into mature foliage.

**RESTRICTIONS:**

- **DO NOT** apply more than 25.6 fluid ounces (1.6 pints) (0.4 lbs AI) per acre per year.
- **DO NOT** harvest or consume fruits or nuts from trees that have been treated within 1 year of application.
- **DO NOT** apply through any irrigation system.

**POME FRUITS: Apple, Crabapple, Loquat, Mayhaw, Pear, Pear (oriental), Quince** (around perimeter of industrial and commercial buildings and on residential areas)

PEST	USE RATE	
Aphids (except Woolly apple aphid) Leafhoppers (including glassy-winged sharpshooter) Leafminer Mealybugs* San Jose scale*	1.5 fl oz (45 ml) per 100 gal of water	6.0 fl oz/A <sup>1</sup>

**Remarks**

Apply specified dosage as foliar spray as needed after petal-fall is complete.  
 For control of Rosy apple aphid, apply prior to leafrolling caused by the pest.  
 For first generation leafminer control, make first application as soon as petal-fall is complete. Greatest leafminer control will result from the earliest possible application. For second and succeeding generations of leafminer, optimal control is obtained from applications made early in the adult flight against egg and early instar larvae. A second application may be required 10 days later if severe pressure continues or if generations are overlapping. A single application may result in suppression only. This product will not control late stage larvae.  
 For San Jose Scale, time applications to the crawler stage. Treat each generation.  
 For late season (preharvest) control of leafhopper species, apply this product while most leafhoppers are in the nymphal stage.  
 For control of mealybugs, insure good spray coverage of the trunk and scaffolding limbs or other resting sites of the mealybugs.

<sup>1</sup> The amount of this product required per acre will depend on tree size and volume of foliage present. The rate per acre is based on a standard of 400 gallons of dilute spray solution per acre for large trees.

**RESTRICTIONS:**

- **DO NOT** apply more than 6.0 fluid ounces per acre in a single application.
- **DO NOT** make more than 4 applications per year.
- Allow 10 or more days between applications. Allow at least 7 days between last application and harvest.

\* Not for use in California for control on pears.

<b>PECANS*</b> (around perimeter of industrial and commercial buildings and on residential areas)		
<b>PEST</b>	<b>USE RATE</b>	
Yellow pecan aphid Black margined aphid Pecan leaf phylloxera Pecan spittlebug Pecan stem phylloxera	1.5 fl oz (45 ml) per 100 gal of water	6.0 fl oz/A <sup>1</sup>
<b>Remarks</b>		
<p>Make foliar applications as pests begin to build before populations become extreme. Two applications at a 10 to 14-day interval may be required to achieve control. Scout and retreat if needed. Thorough uniform coverage of foliage is necessary for control. Addition of an organosilicone-based spray adjuvant at a rate not to exceed the adjuvant manufacturer's specified use rate may improve coverage</p> <p><sup>1</sup> The amount of this product required per acre will depend on tree size and volume of foliage present. The rate per acre is based on a standard of 400 gallons of dilute spray solution per acre for large trees.</p>		
<b>RESTRICTIONS:</b>		
<ul style="list-style-type: none"> <li>• <b>DO NOT</b> apply more than a total of 18.0 fluid ounces of this product per acre per year.</li> <li>• <b>DO NOT</b> make more than 3 applications per year.</li> <li>• Allow 10 or more days between applications.</li> <li>• <b>DO NOT</b> apply through any irrigation system.</li> </ul> <p>* Use on pecans not permitted in California unless otherwise directed by specific supplemental labeling.</p>		

<b>GRAPES:</b> (around perimeter of industrial and commercial buildings and on residential areas)		
<b>PEST</b>	<b>USE RATE</b>	
Leafhoppers (including glassy-winged sharpshooter) Mealybugs*	1.5 fl oz (45 ml) per 100 gal of water	3.0 fl oz/A <sup>1</sup>
<b>Remarks</b>		
<p><sup>1</sup> Apply specified dosage as a foliar spray using 200 gallons of water per acre.</p>		
<b>RESTRICTIONS:</b>		
<ul style="list-style-type: none"> <li>• <b>DO NOT</b> apply more than a total of 6.0 ounces of this product per acre per year.</li> <li>• Allow at least 14 days between applications.</li> <li>• Applications may be applied up to and including day of harvest.</li> <li>• <b>DO NOT</b> apply through any irrigation system.</li> </ul>		



**CITRUS: Citrus and Citrus hybrids, Orange (sweet and sour), Calamondin, Grapefruit, Kumquat, Lemon, Lime, Pummelo, Tangerine, Tangelo** (around perimeter of industrial and commercial buildings and on residential areas)

PEST	USE RATE	
Aphids Asian citrus psyllid Black fly Citrus leafminer Leafhoppers/Sharpshooters Mealybugs Scales Termites (FL only) Whiteflies	1.5 fl oz (45 ml) per 100 gal of water	6.0 fl oz/A <sup>1</sup>

**Remarks**

Apply specified dosage as foliar spray as needed after petal-fall is complete.

For first generation leafminer control, make first application as soon as petal-fall is complete. Greatest leafminer control will result from the earliest possible application. For second and succeeding generations of leafminer, optimal control is obtained from applications made early in the adult flight against egg and early instar larvae. A second application may be required 10 days later if severe pressure continues or if generations are overlapping. A single application may result in suppression only. This product will not control late stage larvae.

For late season (preharvest) control of leafhopper species, apply this product while most leafhoppers are in the nymphal stage.

For control of mealybugs, insure good spray coverage of the trunk and scaffolding limbs or other resting sites of the mealybugs.

<sup>1</sup> The amount of this product required per acre will depend on tree size and volume of foliage present. The rate per acre is based on a standard of 400 gallons of dilute spray solution per acre for large trees.

**RESTRICTIONS:**

- **DO NOT** apply more than 6.0 fluid ounces per acre in a single application.
- **DO NOT** make more than 5 applications per year.
- Allow 10 or more days between applications. Allow at least 7 days between last application and harvest.
- **DO NOT** apply through any irrigation system.
- **DO NOT** apply pre-bloom or during bloom or when bees are actively foraging.

<b>AVOCADO:</b> (around perimeter of industrial and commercial buildings and on residential areas)		
<b>PEST</b>	<b>USE RATE</b>	
Aphids Avacado lacebug Leafhoppers Whiteflies	1.5 fl oz (45 ml) per 100 gal of water	6.0 fl oz/A <sup>1</sup>
<b>Remarks</b>		
<sup>1</sup> The amount of this product required per acre will depend on tree size and volume of foliage present. The rate per acre is based on a standard of 400 gallons of dilute spray solution per acre for large trees.		
<b>RESTRICTIONS:</b>		
<ul style="list-style-type: none"> <li>• <b>DO NOT</b> apply more than a total of 6.0 ounces of this product per acre per year.</li> <li>• Allow at least 14 days between applications.</li> <li>• Allow at least 7 days between application and harvest.</li> <li>• <b>DO NOT</b> apply through any irrigation system.</li> <li>• <b>DO NOT</b> apply pre-bloom or during bloom or when bees are actively foraging.</li> </ul>		

## APPLICATION TO GRASSY AREAS IN NURSERIES

This product can be used for the control of listed soil inhabiting pests of grassy areas of nurseries, including Northern and Southern masked chafers, *Cyclocephala borealis*, *C. immaculata*, and/or *C. lurida*; Asiatic garden beetle, *Maladera castanea*; European chafer, *Rhizotroqus majalis*; Green June beetle, *Cotinis nitida*; May or June beetle, *Phyllophaga* spp.; Japanese beetle, *Popillia japonica*; Oriental beetle, *Anomala orientalis*; Billbugs, *Spherophorus* spp.; Annual bluegrass weevil, *Hyperodes* spp.; Black turfgrass atenius, *Ataenius spretulus* and *Aphodius* spp. and mole crickets, *Scapteriscus* spp. This product can also be used for suppression of cutworms and chinchbugs. This product can be used as directed on nursery grass in sites such as under or around field or container grown plants, on roadways or other grassy areas in or around nurseries.

The active ingredient in this product has sufficient residual activity so that applications can be made preceding the egg laying activity of the target pests. The need for an application can be based on historical monitoring of the site, previous records or experiences, current season adult trapping or other methods. When applications are made prior to egg hatch of the target pests, sufficient irrigation or rainfall is needed to allow the movement of the active ingredient through the thatch.

### **RESTRICTIONS:**

- **DO NOT** use this product on commercial sod farms.
- **DO NOT** make application when grassy areas are waterlogged or the soil is saturated with water. Adequate distribution of the active ingredient cannot be achieved when these conditions exist.
- The treated grassy area must be in such a condition that the rainfall or irrigation will penetrate vertically in the soil profile.
- Application cannot exceed a total of 25.6 fluid ounces (1.6 pints) (0.4 lb of active ingredient) per acre per year.

**Application Equipment for Use on Grassy Areas in Nurseries**

Apply this product in sufficient water to provide adequate distribution in the treated area. The use of accurately calibrated equipment normally used for the application of soil insecticides is required. Use equipment which will produce a uniform, coarse droplet spray, using a low pressure setting to eliminate off target drift. Check calibration periodically to ensure that equipment is working properly.

<b>GRASSY AREAS OF FIELD AND FOREST NURSERIES</b>	
<b>PEST</b>	<b>USE RATE</b>
<b>Larvae of:</b> Annual bluegrass weevil Asiatic garden beetle Billbugs Black turfgrass ataenius Cutworms (suppression) European chafer European crane fly Green June beetle Japanese beetle Northern masked chafer Oriental beetle <i>Phyllophaga</i> spp. Southern masked chafer	19.2 to 25.6 fl oz per acre (1.25 to 1.6 pt per acre) or 0.46 to 0.6 fl oz (14 to 17 ml) per 1,000 sq ft
Chinchbugs (suppression) Mole crickets	25.6 fl oz per acre (1.6 pt per acre) or 0.6 fl oz (17 ml) per 1,000 sq ft
<b>Remarks</b>	
For control of grubs, billbugs and annual bluegrass-weevil, make application prior to egg hatch of the target pest. Read " <b>APPLICATION EQUIPMENT</b> " section of this label. For suppression of chinchbugs, make application prior to or during the hatching of the first instar nymphs. For control of mole crickets make application prior to or during the peak egg hatch period. When adults or large nymphs are present and actively tunneling, accompany the application of this product with a remedial insecticide. Follow the most restrictive label instructions when tank-mixing. Consult your local turf, state Agricultural Experiment Station, or State Extension Service Specialists for more specific information regarding timing of application.	
<b>Restrictions</b>	
<p><b>DO NOT</b> apply more than 25.6 fluid ounces (1.6 pt) (0.4 lb of active ingredient) per acre per year.                      Irrigation or rainfall must occur within 24 hours after application to move the active ingredient through the thatch.  <b>DO NOT</b> mow turf or lawn area until after sufficient irrigation or rainfall has occurred.</p>	

## APPLICATION TO ORNAMENTALS AND VEGETABLE PLANTS (Nurseries, Greenhouses, Interior Plantscapes)

This product is for insect control on ornamental and vegetable plants in nurseries and greenhouses and interior plantscapes. This product is a systemic product and will be translocated upward into the plant system. To assure optimum effectiveness, the product must be placed where the growing portion of the target plant can absorb the active ingredient. The addition of a nitrogen containing fertilizer, where applicable, into the solution may enhance the uptake of the active ingredient. Application can be made by foliar application or soil applications; including soil injection, drenches, and broadcast sprays.

When making soil applications to plants with woody stems, systemic activity will be delayed until the active ingredient is translocated throughout the plant. Make application prior to anticipated pest infestation.

**RESTRICTION:** For outdoor ornamentals, applications cannot exceed a total of 25.6 fluid ounces (1.6 pints) (0.4 lb of active ingredient) per acre per year.

**Bark Media:** Media with 30% or more bark content may confer a shorter period of protection when treated with this product.

**Resistance:** Some insects are known to develop resistance to insecticides after repeated use. Because the development of resistance cannot be predicted, the use of this product must conform to resistance management strategies established for the use area. Consult your local or state pest management authorities for details.

### **Application Equipment for Ornamentals and Vegetable Plants**

Mix product with the required amount of water and apply as specified for the selected use pattern.

When making foliar applications on hard-to-wet foliage such as holly, pine, or ivy, the addition of a spreader/sticker will improve coverage. If concentrate or mist type spray equipment is used, apply an equivalent amount of product on the area sprayed, as would be used in a dilute application.

This product has been found to be compatible with commonly used fungicides, miticides, liquid fertilizers, and other commonly used insecticides. The physical compatibility of this product may vary with different sources of pesticide products and local cultural practices. For any tank mixture that has not been previously tested, prepare on a small scale (pint or quart jar), using the proper proportions of pesticides and water to ensure the physical compatibility of the mixture.

**FOLIAR & BROADCAST APPLICATIONS: ORNAMENTAL TREES (including non-bearing fruit & nut trees), SHRUBS, EVERGREENS, FLOWERS, FOLIAGE PLANTS, GROWDCOVERS, INTERIOR PLANTSCAPES, VEGETABLE PLANTS\*** (around field-grown nursery and container stock, indoor and outdoor ornamentals (including both greenhouse and interior plantscapes) and ornamentals grown in flats, benches or beds)

<b>FOLIAR APPLICATIONS</b>		
<b>PEST</b>	<b>USE RATE</b>	<b>REMARKS</b>
Adelgids Aphids Japanese beetles (adults) Lace bugs Leaf beetles (including Elm and Viburnum leaf beetles) Leafhoppers (including Glassy-winged sharpshooter) Leafminers Mealy bugs Sawfly larvae Thrips (suppression) Whiteflies	1.7 fl oz (50 ml) per 100 gallons of water	Start treatments prior to establishment of high pest populations and reapply on an as needed basis. For resistance management purposes, <b>DO NOT</b> make an imidacloprid foliar application following a soil application in the same crop.
<b>BROADCAST APPLICATIONS</b>		
<b>PEST</b>	<b>USE RATE</b>	<b>REMARKS</b>
White grub larvae (such as Japanese beetle larvae, chafers, <i>Phyllophaga</i> spp., Asiatic garden beetle, Oriental beetle)	0.46 to 0.6 fl oz (14 to 17 ml) per 1,000 sq ft	Mix required amount of product in sufficient water to uniformly and accurately cover the area being treated. <b>DO NOT</b> use less than 2 gallons of water per 1,000 square feet. Irrigate thoroughly to incorporate this insecticide into the upper soil profile. Refer to specific use directions (found below), for Flowers and Ground Covers.
<p><b>RESTRICTIONS:</b>                      *Only for use on vegetable plants intended for resale including: Broccoli, Chinese Broccoli, Broccoli Raab, Brussel Sprouts, Cabbage, Chinese Cabbage, Cauliflower, Collards, Eggplant, Ground Cherry, Kale, Kohlrabi, Lettuce, Mustard Greens, Pepinos, Peppers, Potatoes, Rape Greens, Sorghum, Sugarbeets Tomatillo, and Tomato.  <b>DO NOT</b> apply more than 25.6 fluid ounces (1.6 pints) (0.4 lbs AI) per acre per year.</p>		

SOIL APPLICATIONS: NURSERY, GREENHOUSE AND INTERIORSCAPE PLANTS		
PEST	USE RATE	APPLICATION SITE
		<b>TREES</b>
Adelgids Alder borer Aphids Armored scales (suppression) Black vine weevil larvae Bronze birch borer Emerald ash borer Eucalyptus longhorned borer Flatheaded borers (including Bronze birch and Alder) Japanese beetles Lace bugs Leaf beetles (including elm and viburnum leaf beetles) Leafhoppers (including glassy-winged sharpshooter) Leafminers Mealybugs Pine tip moth larvae Psyllids Royal palm bugs Sawfly larvae* Soft scales Thrips (suppression) White grub larvae Whiteflies	<p><b>For TREES:</b></p> <p>Use the following rates as a function of tree diameter at breast height (DBH):</p> <p>Apply 0.1 – 0.4 fl.oz. (3 to 6 mL) per inch of trunk diameter (DBH)</p> <p>You may use the higher rate (0.3 – 0.4 fl.oz.) only for trees &gt;15 inches (DBH) to control:</p> <p>Asian longhorned beetle, Emerald ash borer, Eucalyptus longhorned borer, Bronze birch borer, and Alder borer</p> <p><b>RESTRICTION: DO NOT</b> apply more than 25.6 fl.oz. (0.4 lb AI) per acre per year.</p> <p>Diameter at Breast Height (DBH) is measured at 4.5 feet from the ground.</p>	<p><b>Soil Injection:</b> GRID SYSTEM: Holes must be spaced on 2.5 foot centers, in a grid pattern, extending to the drip line of the tree. CIRCLE SYSTEM: Apply in holes evenly spaced in circles, (use more than one circle dependent upon the size of the tree) beneath the drip line of the tree extending in from that line. BASAL SYSTEM: Space injection holes evenly around the base of the tree trunk no more than 6 to 12 inches out from the base.</p> <p>Mix required dosage in sufficient water to inject an equal amount of solution in each hole. Maintain a low pressure and use sufficient solution for distribution of the liquid into the treatment zone. Keep the treated area moist for 7 to 10 days. <b>DO NOT</b> use less than 4 holes per tree.</p> <p><b>NEW YORK SPECIFIC RESTRICTION: No Soil Injection Applications Allowed in Nassau or Suffolk Counties of New York.</b></p> <p><b>Soil Drench:</b> Uniformly apply the dosage in no less than 10 gallons of water per 1,000 square feet as a drench around the base of the tree, directed to the root zone. Remove plastic or any other barrier that will stop solution from reaching the root zone.</p> <p><b>For Control of Specified Borers:</b> Application to trees already heavily infested may not prevent the eventual loss of the trees due to existing pest damage and tree stress.</p> <p><b>Basal Soil Drench using Slow Release Irrigation Bags (such as Treegator® 15, 20, or 50 Gallon capacity):</b> Follow manufacturer’s instructions for installation and setup of drip irrigation water bag. Fill bag to ¼ capacity with irrigation water. Add the specified rate of this product for the tree diameter to which the bag is attached. Add remaining volume of water needed to fill bag.</p>

(continued)

SOIL APPLICATIONS: NURSERY, GREENHOUSE AND INTERIORSCAPE PLANTS		
PEST	USE RATE	APPLICATION SITE
		<b>SHRUBS</b>
<i>(continued from previous page)</i>	0.1 to 0.2 fl oz (3 to 6 ml) per foot of shrub height	<p><b>Soil Injection:</b> Apply to individual plants using dosage indicated.</p> <p>Mix required dosage in sufficient water to inject an equal amount of solution in each hole. Maintain a low pressure and use sufficient solution for distribution of the liquid into the treatment zone. Keep the treated area moist for 7 to 10 days. <b>DO NOT</b> use less than 4 holes per shrub.</p> <p><b>NEW YORK SPECIFIC RESTRICTION: No Soil Injection Applications Allowed in Nassau or Suffolk Counties of New York.</b></p> <p><b>Soil Drench:</b> Uniformly apply the dosage in no less than 10 gallons of water per 1,000 square feet as a drench around the base of the tree, directed to the root zone. Remove plastic or any other barrier that will stop solution from reaching the root zone.</p> <p><b>Basal Soil Drench Using Slow Release Irrigation Bags (such as Tregator® 15, 20, or 50 Gallon capacity):</b> Follow manufacturer's instructions for installation and setup of drip irrigation water bag. Fill bag to ¼ capacity with irrigation water. Add the specified rate of this product for the shrub height to which the bag is attached. Add remaining volume of water needed to fill bag.</p>
	0.46 to 0.6 fl oz (14 to 17 ml) per 1000 sq ft	<p style="text-align: center;"><b>FLOWERS &amp; GROUNDCOVERS</b></p> <p>Apply as a broadcast treatment and incorporate into the soil before planting or apply after plants are established. Irrigate immediately following application to established plants.</p>
<b>Remarks</b>		
*Pine sawfly larvae feed on mature foliage beginning in early spring. Make treatments in the fall before pine sawfly emergence in spring to allow adequate time for imidacloprid translocation into mature foliage.		
<p><b>RESTRICTIONS:</b></p> <ul style="list-style-type: none"> <li>• <b>DO NOT</b> apply more than 25.6 fluid ounces (1.6 pints) (0.4 lbs AI) per acre per year.</li> </ul>		

<b>SOIL APPLICATIONS: FIELD AND FOREST NURSERIES</b>		
<b>Pests</b>	<b>Fluid ounces / 1,000 ft of row</b>	<b>Fluid ounces / 1,000 square ft</b>
<b>For control of:</b> White grub larvae <sup>1</sup> (such as Japanese beetle, Masked chafers, European chafer, Oriental beetle, Asiatic garden beetle)	1.7 fl oz (50 ml)	0.6 fl oz (17 ml) 25.6 fl oz / Acre
<b>Application methods</b>		
Apply as a uniform band on either side of the row using a band width six (6) inches wider than the actual root ball diameter to be dug. <b>DO NOT</b> allow bands in adjacent rows to overlap.		
<b>Remarks</b>		
Mowing of the vegetation in the area to be treated to a height of 3 inches or less prior to application will improve the consistency of control. Apply May through July. Time the treatment so that rainfall or irrigation occurs within 24 hours following the application. <sup>1</sup> For grub control in areas of turf, apply as a broadcast application using 0.46 – 0.60 fluid ounces (14 – 17 ml) per 1,000 square feet (19.6 – 25.6 fluid ounces / Acre)		
<b>RESTRICTIONS:</b>		
<ul style="list-style-type: none"> <li>• <b>DO NOT</b> use less than 2 gallons of spray volume per 1,000 square feet (85 GPA)</li> <li>• <b>DO NOT</b> exceed 25.6 fluid ounces / acre per year (1.6 pints) (0.4 lbs AI/A)</li> </ul>		

### **EBB & FLOOD APPLICATIONS**

This product may be applied through Ebb and Flood applications to Ornamental and Vegetable Plants (intended for resale only) grown in containers. To assure accurate uptake, prior to treatment, bring a minimum of 10 plants up to a known field capacity and allow to dry out for one or two days. Re-wet these plants to determine how much water on average each plant will absorb to bring it back at field capacity. Use the volume absorbed per plant (keeping pot sizes uniform) multiplied by the number of pots being treated. Add to this volume a required minimum to flood your smallest treatment area. This will minimize the return back to the storage tank. Re-use the returned volume with subsequent irrigation or nutrients on the same plants.



<b>EBB &amp; FLOOD APPLICATIONS: ORNAMENTAL AND VEGETABLE PLANTS GROWN IN CONTAINERS</b>			
<b>PEST</b>	<b>Container size (inches)</b>	<b>Herbaceous species including vegetable plants (1 or 2 plants/pot)</b>	<b>Woody perennials, Herbaceous species including vegetable plants (3 or more/pot)</b>
		<b>ml / 100 plants</b>	
Adelgids Aphids	2	1.6	2.5
Armored scales (suppression) Fungus gnats (larvae only) <sup>1</sup>	3	2.5	3.7
Japanese beetles (adults) Lacebugs	4	3.3	5.0
Leaf Beetles (including Elm and Viburnum)	5	4.2	6.3
Leafhoppers/Sharpshooters Leafminers	6	5.0	7.7
Mealybugs Psyllids	7	5.9	9.1
Root mealybugs <sup>2</sup> Root weevil complex: (such as Apopka, Black vine, Citrus root) <sup>3</sup>	8	6.6	10.0
Soft scales Thrips (suppression) <sup>4</sup>	9	7.4	11.1
Whiteflies White grub larvae (such as Japanese beetle, Masked chafers, European chafer, Oriental beetle, Asiatic garden beetle)	10	8.3	12.5
	11	9.0	14.3
	12	10.0	16.7
<b>Remarks</b>			
<p><sup>1</sup> <b>Fungus gnat larvae</b> in the soil will be controlled by drench or incorporation. <b>No adult Fungus Gnat control.</b> Other foliar insect control is achieved by the uptake of this product from a healthy root system translocating the active ingredient up into the plant.</p> <p><sup>2</sup> <b>Root Mealybug</b> control will require a thorough drenching of containerized media. Coverage is essential for control while minimizing the amount of leachate. Rate: 2.0 fluid ounces (60 ml) in 150 gallons of water.</p> <p><sup>3</sup> <b>Citrus Root Weevil:</b> For use on non-bearing citrus nursery stock.</p> <p><sup>4</sup> <b>Thrips</b> suppression on foliage only. Thrips in buds and flowers will not be suppressed.</p>			
<p><b>RESTRICTION:</b> Use only on vegetable plants intended for resale including: Broccoli, Chinese Broccoli, Broccoli Raab, Brussels Sprouts, Cabbage, Chinese Cabbage, Cauliflower, Collards, Eggplant, Ground Cherry, Kale, Kohlrabi, Lettuce, Mustard Greens, Pepinos, Peppers, Potatoes, Rape Greens, Sorghum, Sugarbeets, Tomatillo, and Tomato</p>			

**DRENCH & IRRIGATION APPLICATIONS**

This product may be applied through Drench and Flood applications. See instructions above “**For Application Through Irrigation Systems**”. Apply only to greenhouse and nursery grown ornamentals, vegetable plants (intended for resale only), and interiorscape plants using soil drenches, mircoirrigation, drip irrigation, overhead irrigation, ebb and flood irrigation, or hand-held or motorized calibrated irrigation equipment.

<b>DRENCH &amp; IRRIGATION APPLICATIONS: ORNAMENTAL AND VEGETABLE PLANTS GROWN IN SMALL CONTAINERS, IN FLATS, ON BENCHES, OR IN BEDS</b>			
<b>PEST</b>	<b>CONTAINERIZED PLANTS (small containers)</b>		
	<b>Container size (inches)</b>	<b>Herbaceous species including vegetable plants (1 or 2 plants/pot)</b>	<b>Woody perennials, Herbaceous species including vegetable plants (3 or more/pot)</b>
		<b># of Containers treated with 2.0 fluid ounces (60 ml)</b>	
Adelgids	2	3000	2000
Aphids	3	2000	1350
Fungus gnats (larvae only) <sup>1</sup>	4	1500	1000
Japanese beetles (adults)	5	1200	800
Lacebugs	6	1000	650
Leaf Beetles (including Elm and Viburnum leaf beetles)	7	850	550
Leafhoppers (including glassy-winged sharpshooter)	8	750	500
Leafminers	9	675	450
Mealybugs	10	600	400
Psyllids	11	550	350
Root mealybugs <sup>2</sup>	12	500	300
Root weevil complex: (such as Apopka, Black vine, Citrus root weevils) <sup>3</sup>			
<b>Application methods</b>			
Soft scales	Use sufficient volume to wet most of the potting medium without loss of liquid from the bottom of the container. Apply according to label directions. Follow application with moderate irrigation. Irrigate carefully during the next 10 days in order to prevent loss of active ingredient due to leaching.		
Thrips (suppression) <sup>4</sup>			
Whiteflies			
White grub larvae (such as Japanese beetle, Masked chafers, European chafer, Oriental beetle, Asiatic garden beetle)			
<b>PLANTS IN FLATS, ON BENCHES, OR IN BEDS</b>			
0.67 fluid ounces (20 ml) per 1,000 square feet			
<b>Application methods</b>			
Mix required amount in sufficient water to uniformly cover the area being treated. <b>DO NOT</b> use less than 2 gallons of mixture per 1,000 square feet. Apply as a broadcast treatment and incorporate into the medium before planting or apply after plants are established. Lightly water the treated areas if application is made to established plants. Allow no leaching or runoff for 10 days after application.			

**DRENCH & IRRIGATION APPLICATIONS: ORNAMENTAL AND VEGETABLE PLANTS GROWN IN SMALL CONTAINERS, IN FLATS, ON BENCHES, OR IN BEDS** *(continued)*

**Remarks**

<sup>1</sup> **Fungus gnat larvae** in the soil will be controlled by drench or incorporation. **No adult Fungus Gnat control.** Other foliar insect control is achieved by the uptake of this product from a healthy root system translocating the active ingredient up into the plant.

<sup>2</sup> **Root Mealybug** control will require a thorough drenching of containerized media. Coverage is essential for control while minimizing the amount of leachate. Rate: 2.0 fluid ounces (60 ml) in 150 gallons of water.

<sup>3</sup> **Citrus Root Weevil:** For use on non-bearing citrus nursery stock.

<sup>4</sup> **Thrips** suppression on foliage only. Thrips in buds and flowers will not be suppressed.

**RESTRICTIONS:**

- For outdoor ornamentals grown in beds or turf, applications of this product cannot exceed a total of 25.6 fluid ounces (1.6 pints) (0.4 lb of active ingredient) per acre per year.
- Use only on vegetable plants intended for resale including: Broccoli, Chinese Broccoli, Broccoli Raab, Brussels Sprouts, Cabbage, Chinese Cabbage, Cauliflower, Collards, Eggplant, Ground Cherry, Kale, Kohlrabi, Lettuce, Mustard Greens, Pepinos, Peppers, Potatoes, Rape Greens, Sorghum, Sugarbeets, Tomatillo, and Tomato

**DRENCH AND IRRIGATION APPLICATIONS: ORNAMENTAL AND VEGETABLE PLANTS GROWN IN LARGE CONTAINERS**

**Application instructions:** Use 2.0 fl oz (60 ml) of product in an appropriate amount of water to prevent leaching. 2.0 fl oz (60 ml) will treat the number of containers specified below, based on container size.

<b>Pests</b>	<b>Container Size (gallons)</b>	<b># of Containers treated with 2.0 fluid ounces (60 ml)</b>
Adelgids Aphids Fungus gnats (larvae only) <sup>1</sup> Japanese beetles (adults) Lacebugs	1	340 – 244
Leaf Beetles (including Elm and Viburnum leaf beetles) Leafhoppers (including glassy-winged sharpshooter)	2	280 – 210
Leafminers Mealybugs Psyllids Root mealybugs <sup>2</sup> Root weevil complex: (such as Apopka, Black vine, Citrus root) <sup>3</sup>	3	220 – 185
Soft scales Thrips (suppression) <sup>4</sup> Whiteflies	5	160 – 110
White grub larvae (such as Japanese beetle, Masked chafer, European chafer, Oriental beetle, Asiatic garden beetle)	7	100 – 75
	10	60 – 45
	15	40 – 30
	20	20 – 15

**DRENCH AND IRRIGATION APPLICATIONS: ORNAMENTAL AND VEGETABLE PLANTS GROWN IN LARGE CONTAINERS**

*(continued)*

**Application methods**

Apply in sufficient water to wet the potting medium. Make applications prior to egg hatch of the target pest. Irrigate moderately after application to move the active ingredient into the root zone.

**Remarks**

<sup>1</sup> **Fungus gnat larvae** in the soil will be controlled by drench or incorporation. **No adult Fungus Gnat control.** Other foliar insect control is achieved by the uptake of this product from a healthy root system translocating the active ingredient up into the plant.

<sup>2</sup> **Root Mealybug** control will require a thorough drenching of containerized media. Coverage is essential for control while minimizing the amount of leachate. Rate: 2.0 fluid ounces (60 ml) in 150 gallons of water.

<sup>3</sup> **Citrus Root Weevil:** For use on non-bearing citrus nursery stock.

<sup>4</sup> **Thrips** suppression on foliage only. Thrips in buds and flowers will not be suppressed.

**RESTRICTION:**

Use only on vegetable plants intended for resale including: Broccoli, Chinese Broccoli, Broccoli Raab, Brussels Sprouts, Cabbage, Chinese Cabbage, Cauliflower, Collards, Eggplant, Ground Cherry, Kale, Kohlrabi, Lettuce, Mustard Greens, Pepinos, Peppers, Potatoes, Rape Greens, Sorghum, Sugarbeets, Tomatillo, and Tomato

**SPECIFIC RESTRICTIONS**

**DO NOT** graze treated areas or use clippings from treated areas for feed or forage.

Prevent runoff or puddling of irrigation water following application.

**DO NOT** apply this product to soils which are water logged or saturated, which will not allow penetration into the root zone of the plants.

Keep children and pets off treated area until dry.

**DO NOT** apply more than 25.6 fluid ounces (1.6 pints) (0.4 lb of active ingredient) per acre per year.

**Food crops:** Treated areas may be replanted with any crop specified on an imidacloprid label, or with any crop for which a tolerance exists for the active ingredient.

For crops not listed on an imidacloprid label, or for crops for which no tolerances for the active ingredient have been established, a 12-month plant-back interval must be observed.

## STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE:** Store in cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food and feed. Store in original container and out of the reach of children, preferably in a locked storage area.

**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 [HANDLING]:**

[Nonrefillable Containers 5 Gallons or Less:]

**Nonrefillable container.** Do not reuse or refill this container. Offer for recycling if available. 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 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. Do not burn unless allowed by state and local ordinance. If burned stay out of smoke.

[Nonrefillable containers larger than 5 Gallons:]

**Nonrefillable container.** Do not reuse or refill this container. Offer for recycling if available. If recycling or reconditioning is not available, 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. Do not burn unless allowed by state and local ordinance. If burned stay out of smoke. Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

**Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

**Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

[Refillable containers]

**Refillable container.** Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

[Refillable For return to Nufarm:]

**Refillable container.** Refill this container with pesticide only. Do not reuse this container for any other purpose. Close all openings and replace all caps. Contact Nufarm's Customer Service Department at 1-800-345-3330 to arrange for return of the empty refillable container.

## **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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**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.**

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