

228-527

5/6/2014

1/29

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460



OFFICE OF
CHEMICAL SAFETY AND
POLLUTION PREVENTION

MAY - 6 2014

Carrie M. Tackema
Nufarm Americas Inc.
4020 Aerial Center Parkway, Suite 101
Morrisville, NC 27560

Subject: Notification to include two optional marketing claims "Nufarm Grow a better tomorrow", "Grow a better tomorrow" per PRN 98-10

Dear Ms. Tackema:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10, dated April 23, 2014, for "Nuprid 4.6F Insecticide," EPA Reg. No. 228-527.

The Registration Division (RD) has conducted a review of your request for applicability under PRN 98-10, and finds that the action requested falls within the scope of PRN 98-10. The label submitted with your application has been stamped "Notification" and added to the product record.

If you have any questions, please contact me directly at 703-347-0559 or email me at marchese.jacquelyn@epa.gov.

Sincerely,

A handwritten signature in cursive script that reads "Jacquelyn Marchese".

Jacquelyn Marchese
Entomologist
Insecticide-Rodenticide Branch
Registration Division (7505P)
Office of Pesticide Programs

EXPEDITE

2/29

	United States Environmental Protection Agency Washington, DC 20460	<input type="checkbox"/> Registration <input type="checkbox"/> Amendment <input checked="" type="checkbox"/> Other:	OPP Identifier Number
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Application for Pesticide - Section I

1. Company/Product Number 228-527	2. EPA Product Manager Venus Eagle	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Nuprid 4.6F Insecticide	PM# 1	
5. Name and Address of Applicant (Include ZIP Code) Nufarm Americas, Inc. 11901 S. Austin Avenue Alsip, IL 60803 <i>Please send all correspondence to "contact point" listed below</i>		6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(I), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____ NOTIFICATION <div style="text-align: right; font-size: 1.2em;">MAY - 6 2014</div>

Section - II

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application
<input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below

Explanation: Use additional page(s) if necessary. (For Section I and Section II.)

NOTIFICATION PER PRN 98-10

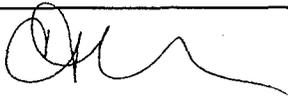
This notification is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA.

CONTACT: Carrie M. Tackema (919) 379-2528 or carrie.tackema@us.nufarm.com

Nufarm Americas, Inc.
4020 Aerial Center Parkway, Suite 101
Morrisville, NC 27560

1. Material This Product Will Be Packaged In:			
Child-Resistant Packaging <input type="checkbox"/> Yes* <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2. Type of Container <input type="checkbox"/> Metal <input checked="" type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other
*Certification must be submitted		If "Yes" Unit Packaging wgt. No. per container	If "Yes" Package wgt. No. per container
3. Location of Net Contents Information <input checked="" type="checkbox"/> Label <input type="checkbox"/> Container	4. Size(s) Retail Container Pts., Qts., 1-265 gallons, bulk	5. Location of Label Direction <input checked="" type="checkbox"/> On Label <input type="checkbox"/> On labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Other <input checked="" type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled			

Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application)		
Name Carrie M. Tackema	Title Regulatory Manager	Telephone No. (Include Area Code) (919) 379-2528
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		6. Date Application Received (Stamped)
2. Signature 	3. Title Regulatory Manager	
4. Typed Name Carrie M. Tackema	4. Date April 23, 2014	



+1 919.379.2510
+1 919.467.5920
4020 Aerial Center Parkway, Suite 100
Morrisville, NC 27560
www.nufarm.com

Via Courier Delivery

April 23, 2014

Ms. Venus Eagle, PM#1
Document Processing Desk (NOTIF)
Office of Pesticide Programs (7504P)
U. S. Environmental Protection Agency
Room S-4900, One Potomac Yard
2777 S. Crystal Drive
Arlington, VA 22202-4501

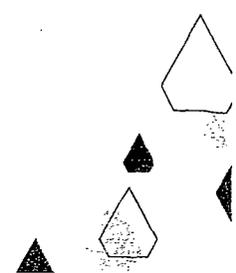
RE: NOTIFICATION(s) per PRN 98-10

Nuprid 2 F Insecticide	EPA Reg. No. 228-484
Mallet 2F Insecticide/Grub Ex Pro	EPA Reg. No. 228-485
Mantra 2F Insecticide	EPA Reg. No. 228-486
Nuprid 1.6F Insecticide	EPA Reg. No. 228-488
Mallet 0.2% on Fertilizer	EPA Reg. No. 228-500
Mallet 0.5 G Insecticide	EPA Reg. No. 228-501
Mallet 2.5 G Insecticide	EPA Reg. No. 228-502
Mallet 0.2 Granular Insecticide	EPA Reg. No. 228-510
Mantra 1G Greenhouse and Nursery Insecticide	EPA Reg. No. 228-523
Mallet 1.47% Concentrate	EPA Reg. No. 228-525
Nuprid 4.6F Insecticide	EPA Reg. No. 228-527
Nuprid 4F Insecticide	EPA Reg. No. 228-528
Nuprid-S WG	EPA Reg. No. 228-529
Atera GC 2+1 SC Insecticide	EPA Reg. No. 228-557
Mallet 7.1% PF Insecticide	EPA Reg. No. 228-562
Nuprid 2SC Soil/Foliar Insecticide	EPA Reg. No. 228-572
Mallet 0.2 G	EPA Reg. No. 228-587
Mallet 75 WP	EPA Reg. No. 228-588
Mantra 60 WSP	EPA Reg. No. 228-681
Mallet 2F T&O Insecticide	EPA Reg. No. 228-695
Kilter Insecticide	EPA Reg. No. 228-717
Bounty Turf and Ornamental Insecticide	EPA Reg. No. 1001-82

Dear Ms. Eagle:

Enclosed please find twenty-two (22) application(s) for pesticide registration – NOTIFICATION for the above-referenced product(s). The purpose of these NOTIFICATION(s) is to include two (2) optional marketing claims:

Nufarm Grow a better tomorrow
Grow a better tomorrow



4/
29

Page 2 of 2

These NOTIFICATION(s) are consistent with PRN 98-10; specifically, II N. In support of these NOTIFICATION(s) enclosed are the following:

- EPA form 8570-1 Application for Pesticide Registration – NOTIFICATION; and
- Proposed product labeling in PDF format on CD-rom.

Please contact me at directly at (919) 379-2528 or by email at carrie.tackema@us.nufarm.com if you have any questions regarding this action.

Sincerely,



Carrie M. Tackema
Regulatory Manager

Enclosure(s)

5/29

GROUP **4A** INSECTICIDE

NUPRID[®] 4.6F

INSECTICIDE

FOR USES IN PEST MANAGEMENT AND CONTROL OR SUPPRESSION OF INSECTS THAT MAY VECTOR DISEASES AND MAINTENANCE OF PLANT HEALTH

ACTIVE INGREDIENT:

Imidacloprid, 1 [(6-Chloro-3-pyridinyl)methyl]-N-nitro-2-imidazolidinimine45.2%

OTHER INGREDIENTS:54.8%

TOTAL: 100.0%

Contains 4.6 pounds of imidacloprid per gallon

KEEP OUT OF REACH OF CHILDREN

CAUTION – PRECAUCION

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.
(If you do not understand the label, find someone to explain it to you in detail.)

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. 228-527
EPA EST. NO.

Manufactured For
Nufarm Americas Inc.
11901 South Austin Avenue
Alsip, IL 60803



SHAKE WELL BEFORE USING

NET CONTENTS _____ GALS. (_____ Liters)

[Nufarm: Grow a better tomorrow]
[Grow a better tomorrow]

NOTIFICATION
MAY - 6 2014

6/29

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

Harmful if inhaled. Harmful if swallowed. Causes moderate eye irritation. Avoid breathing spray mist. Remove and wash contaminated clothing before reuse. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum or using tobacco. Avoid contact with eyes or clothing. Wear protective eye wear. Wear long sleeved shirt and long pants, socks, shoes, and chemical resistant gloves made of waterproof material such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinylchloride (PVC) or viton.

FIRST AID

IF INHALED	<ul style="list-style-type: none"> • Move the person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to- mouth if possible. • Call a poison control center or doctor for further treatment advice.
IF SWALLOWED	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately 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	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15 to 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	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 to 20 minutes. • Call a poison control center or doctor for treatment advice.

HOT LINE NUMBER

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.

NOTE TO PHYSICIAN

No specific antidote is available. Treat the patient symptomatically.

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 STATEMENTS

When handlers use closed systems or enclosed cabs 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.

USER SAFETY RECOMMENDATIONS

Users 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.

ENVIRONMENTAL HAZARDS

DO NOT apply directly to water, 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.

7/29

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops/plants or weeds. **DO NOT** apply this product or allow it to drift to blooming crops/plants or weeds if bees are foraging the treatment area. This product is toxic to wildlife and highly toxic to aquatic invertebrates.

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.

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 FARM PONDS.

SPRAY DRIFT MANAGEMENT

The responsibility of avoiding spray drift is with the applicator. The applicator is responsible for considering weather-related factors and the interaction of application equipment when making application decisions.

Importance of Droplet Size

The droplet size is an important factor and can influence drift. Small droplets (<150 – 200 microns) drift to a greater extent than large droplets. Applications typically should be made to deliver the largest droplet range that provides adequate 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.

Restrictions During Temperature Inversions

DO NOT make ground applications during temperature inversions. Drift potential is high during temperature inversions. Temperature inversions typically restrict vertical air mixing, which then could cause small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Temperature inversions typically 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.

Mixing and Loading Requirements

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

No-Spray Zone Requirements for Soil Applications

DO NOT apply within 25 feet of lakes; reservoirs; rivers; permanent streams, marshes or natural ponds; estuaries and commercial fish farm ponds.

Runoff Management

DO NOT cultivate within 10 feet of the aquatic areas to allow growth of a vegetative filter strip. When using this product on erodible soils, employ Best Management Practices for minimizing runoff.

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. Insect biotypes with acquired or inherent resistance to Group 4A may eventually dominate the insect population if Group 4A insecticides are used repeatedly as the predominant method of control for targeted species.

The active ingredient in this product belongs to the neonicotinoid chemical class. Insect pests resistant to other chemical classes have not shown cross-resistance to this product. To maintain susceptibility to this class of chemistry in insect species with high resistance development potential, it is recommended that for each crop season: 1) only a single, soil

application of this product be made; 2) foliar applications of products from this same class not be made following a long residual, soil application of this product, or other neonicotinoid products.

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://www.irc-online.org/>.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any 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.

Note to Reviewer: the two statements in brackets below may be used as they relate to *Tilia* species:

[**DO NOT** apply this product, by any application method, to linden, basswood or other *Tilia* species in the State of Oregon.]

[**DO NOT** apply this product, by any application method, to linden, basswood or other *Tilia* species.]

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

APPLICATION INSTRUCTIONS

Apply this product to deliver the active ingredient into the seed or root-zone of crop. Failure to place this product into root-zone may result in loss of control or delay in onset of activity. This product may be applied with ground or chemigation application. **DO NOT** apply with aerial application equipment. Do not apply by foliar application.

Optimum activity results from applications to the root-zone of plants to be protected. The earlier this product is available to a developing plant, the earlier the protection begins. This product is continuously taken into the roots over a long period of time and the systemic nature of this product allows movement from roots through the xylem tissue to all vegetative parts of the plant. This results in extended residual activity, the control of insects and the prevention and/or reduction of virus transmission or symptom expression, and plant health benefits. The rate applied affects the length of the plant protection period. The higher specified rates are intended for when infestations occur later in crop development, or where pest pressure is continuous. This product will generally not control insects infesting flowers, blooms or fruit. Additional crop protection may be required for insects feeding in or on these plant parts and for insects not listed in the crop-specific, pests controlled sections of this label. Suppression, or less than adequate control of certain diseases and insect pests including reduced feeding, may also result from applications of this product. Adequate control of these pests/diseases may require supplemental control measures.

Use of this product on crops grown for production of true seed intended for private or commercial planting is not permitted unless allowed under State specific 24(c) labeling. Additional information on this product and other questions may be obtained from the Cooperative Extension Service, PCAs, or local Nufarm representatives.

Pre-mix with water or other appropriate diluent prior to application. Keep this product and water suspension agitated to avoid settling.

DO NOT apply more than 0.5 lbs active ingredient per acre, per year, regardless of formulation or method of application, unless specified within a crop-specific, Application Instructions section for a given crop.

Mixing Instructions

To prepare the application mixture, add a portion of the required amount of water to the tank and then with agitation add this product. Complete filling tank with balance of water needed. Maintain sufficient agitation during both mixing and application. This product may also be used with other pesticides and/or fertilizer solutions. **Please see Compatibility Note below.** When tank mixtures of this product and other pesticides are involved, prepare the tank mixture as specified above and follow suggested Mixing Order below.

Mixing Order

When pesticide mixtures are needed, add wettable powders first, then this product and other flowable (suspension concentrate) products second, and emulsifiable concentrates last. Ensure good agitation as each component is added. **DO NOT** add an additional component until the previous is thoroughly mixed. If a fertilizer solution is added, a fertilizer/pesticide compatibility agent may be needed. Maintain constant agitation during both mixing and application to ensure uniformity of spray mixture.

Compatibility Note

Test compatibility of the intended mixture before adding this product to the spray or mix tank. Add proportionate amounts of each ingredient in the appropriate order, to a pint or quart jar, cap, shake for 5 minutes, and let set for 5 minutes. Poor mixing or formation of precipitates that do not readily redisperse indicates an incompatible mixture that should not be used. For further information, contact your local Nufarm representative.

CHEMIGATION - DIRECTIONS FOR USE

Refer to DIRECTIONS FOR USE section before proceeding with chemigation application.

Types of Irrigation Systems

Chemigation applications of this product may only be made to crops through chemigation systems as specified in crop-specific application sections and only through low-pressure systems unless specifically recommended for a given crop. **DO NOT** apply this product through any other type of irrigation system.

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 wind speed favors drift beyond the area intended for treatment.

Required System Safety Devices

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. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump. 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. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops. 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 pesticide distribution is adversely affected. 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.

Using Water from Public Water Systems

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. Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, back flow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the 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 to the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe. The pesticide injection pipeline must contain a functional automatic quick-closing check valve to prevent the flow of fluid back toward the injection. 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. 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. 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.

ROTATIONAL CROPS*
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, as soon as practical following the last application. 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.
IMMEDIATE PLANT-BACK: All crops on this label plus the following crops not on this label: barley, canola, corn (field, pop & sweet), rapeseed, sorghum, sugar beet and wheat.
30-DAY PLANT-BACK: Cereals (including buckwheat, millet, oats, rice, rye, and triticale), soybeans and safflower
10-MONTH PLANT-BACK: Onion and bulb vegetables
12-MONTH PLANT-BACK: All Other Crops
* Cover crops for soil building or erosion control may be planted anytime, but do not graze or harvest for food or feed.

FIELD CROPS APPLICATION RATES

COTTON

Pests Controlled	Rate fluid ounces/Acre
Cotton aphid Plant bugs Thrips Whiteflies	7.4 to 9.2 (Depending on row-spacing)
Restrictions: Maximum amount allowed per year: 9.2 fluid ounces/Acre (0.33 lb AI/Acre) Regardless of formulation or method of application, apply no more than 0.5 lb active ingredient per acre per year, including seed treatment as Gaucho®, soil and foliar uses. DO NOT graze treated fields after any application of this product. Please see Resistance Management section of this label.	
Applications: Apply specified dosage in one of the following methods: 1. In-furrow spray during planting directed on or below seed; 2. In a narrow band directly below the eventual seed row in a bedding operation 7 or fewer days before planting; 3. Chemigation into root zone through low-pressure drip or trickle irrigation.	

POTATO

Pests Controlled	Rate fluid ounces/Acre
Aphids Colorado potato beetle Flea beetles Leafhoppers Potato psyllid	5.7 to 8.7
Pests / Diseases Suppressed	
Symptoms of: Potato leaf roll virus (PLRV) Potato yellows Net necrosis (PLRV) Wireworms (with in-furrow spray at planting)	5.7 to 8.7

Restrictions:

Maximum amount allowed per year: **8.7 fluid ounces/Acre** (0.31 lb AI/Acre)

Applications:

Apply specified dosage in one of the following methods:

- 1) In-furrow spray during planting directed on seed pieces or seed potatoes;
- 2) Subsurface side-dress on both sides of the row covered with 3 or more inches of soil;
- 3) Narrow band spray at ground cracking directly over the row during hilling covered with 3 or more inches of soil;
- 4) Narrow band directly below the eventual seed row in a bedding operation 7 or fewer days before planting. For effective pest control or suppression, applications of this product must be placed below soil surface and in contact with seed piece or within root zone. For potatoes grown on highly permeable soils with shallow water table, at-plant applications of this product may be made in a 2 to 4 inch band (width of planter shoe opening) and completely covered.

POTATO * - Seed Piece Treatment

Pests Controlled	Rate fluid ounces/100 lbs seed	Rate fluid ounces/Acre
Aphids Colorado potato beetle Flea beetles Leafhoppers Potato psyllid Wireworms (seed piece protection)	0.17 to 0.35	3.5 to 7.0
Pests / Diseases Suppressed		
Symptoms of: Potato leaf roll virus (PLRV) Potato yellows Net necrosis (PLRV)	0.35	7.0

Restrictions:

Maximum amount allowed per year: **8.7 fluid ounces/Acre** (0.31 lb AI/Acre)

DO NOT use treated seed pieces for food, feed, or fodder. **DO NOT** apply any subsequent application of this product (in-furrow), or any other imidacloprid product following an imidacloprid seed-piece treatment.

Applications:

Apply specified dosage as a diluted spray onto seed pieces using a shielded spray system. Dilute with 3 parts water, or less, to 1 part this product. Agitate or stir spray solution as needed. Fungicidal or inert absorbent dusts may be applied after this product's application. Apply only in areas with adequate ventilation or in areas that are equipped to remove spray mist or dust. Plant seed pieces as soon as possible after treating avoiding prolonged exposure of seed pieces treated with this product to sunlight and in accordance with the recommendation of your local Extension specialist.

Consult your local Nufarm representative or crop protection product dealer for information relevant to your area.

* Based on a seeding rate of 2000 lbs/acre.

TOBACCO

Pests Controlled	Rate fluid ounces/1,000 plants (as seedling tray drench)	Rate fluid ounces/1,000 plants (in-furrow or transplant-water)
Aphids Flea beetles	0.5	0.6
Mole crickets Whiteflies Wireworms	0.6 to 1.2	0.8 to 1.2
Pests / Diseases Suppressed		
Cutworms Symptoms of: Tomato spotted wilt virus (TSWV)	0.6 to 1.2	0.8 to 1.2

Restrictions:

Pre-Harvest Interval (PHI): **14 days**

Maximum amount allowed per year: **14.0 fluid ounces/Acre** (0.50 lb AI/Acre)

Applications:

Apply specified dosage of this product in one of the following methods:

- 1) Uniform, broadcast foliar spray to seedlings in trays (tray drench) not more than 7 days prior to transplanting, followed immediately by overhead irrigation to wash this product from foliage into potting media. Failure to wash this product from foliage may result in a reduction in pest control. Transplants should be handled carefully during setting to avoid dislodging treated potting media from roots.
- 2) In-furrow spray or transplant-water drench during setting.
- 3) Chemigation into root zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment.

Important Notes:

Proper tray drench applications of this product have been shown to be the most efficacious method of application. However, the specified rate of this product may be applied as a combination of the tray drench in the planthouse and/or transplant-water drench in field. Adverse growing conditions may cause a delay in uptake of this product into the plant and a delay in control.

**VEGETABLE and SMALL FRUIT CROPS
APPLICATION INSTRUCTIONS**

CUCURBIT VEGETABLES ^{1/}

Crops of Crop Group 9: Chayote (fruit), Chinese waxgourd (Chinese preserving melon), Citron melon, Cuban pumpkin, Cucumber, Gherkin, Gourd (edible, includes hyotan, cucuzza, hechima, Chinese okra), *Momordica* spp. (includes balsam apple, balsam pear, bitter melon, Chinese cucumber), Muskmelon (hybrids and/or cultivars of *Cucumis melo* including true cantaloupe, cantaloupe, casaba, Crenshaw melon, golden pershaw melon, honeydew melon, honey balls, mango melon, Persian melon, pineapple melon, Santa Claus melon, snake melon and Winter melon), Pumpkin, Squash (includes summer squash types such as: butternut squash, calabaza, crookneck squash, Hubbard squash, scallop squash, straightneck squash, vegetable marrow and zucchini, and winter squash types such as acorn squash and spaghetti squash), Watermelon (includes hybrids and/or varieties of *Citrullus lanatus*)

Field Application Instructions	
Pests Controlled	Rate fluid ounces/Acre
Aphids Cucumber beetles Leafhoppers Thrips (foliage-feeding thrips only) Whiteflies	7.0 to 10.5
Pests / Diseases Suppressed	
Bacterial wilt (as vectored by various cucumber beetles) Leaf silvering resulting from whitefly feeding	7.0 to 10.5

Restrictions:

Pre-Harvest Interval (PHI): **21 days**

Maximum amount allowed per crop season: **10.5 fluid ounces/Acre** (0.38 lb AI/Acre)

Applications:

Apply specified dosage of this product in one of the following methods:

- 1) Chemigation into root zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment;
- 2) In-furrow spray directed on or below seed;
- 3) Narrow (2 or less) surface band spray over seed-line during planting incorporated to a depth of 1 to 1.5 with sufficient irrigation within 24 hours of application;
- 4) Narrow band spray directly below eventual seed row in bedding operation 14 or fewer days before planting;
- 5) Post-seeding drench, transplant-water drench, or hill drench;
- 6) Subsurface side-dress on both sides of each row. This product must be incorporated into root-zone.

13/29

Planthouse Application Instructions	
Pests Controlled	Rate fluid ounces/10,000 plants
Aphids Whiteflies	0.44
<p>Restrictions: Maximum amount applied in the planthouse: 0.44 fluid ounce (0.001 56 lb AI)/10,000 plants. Maximum number of applications in planthouse: 1</p> <p>Applications: Apply specified dosage to seedlings in trays in the planthouse, targeting soil media (tray drench), not more than 7 days prior to transplanting, in one of the following manners: 1) Uniform, broadcast high-volume foliar spray, followed immediately by sufficient overhead irrigation to wash this product from foliage into potting media without loss of gravitational liquid from the bottom of the tray. Failure to wash this product from foliage may result in reduced pest control; 2) Injection into overhead irrigation system, using adequate volume to thoroughly saturate soil media without loss of gravitational solution from the bottom of the tray.</p> <p>The application made in the planthouse is not intended as a substitution for a field application. An additional field application must be made within 2 weeks following transplanting to provide continuous protection. Applications of higher rates or increased number of applications in planthouse may result in significant plant injury. Transplants must be handled carefully during setting to avoid dislodging treated potting media from roots.</p> <p>Important Notes: Not all varieties of cucurbit vegetables have been tested for tolerance to this product applied to seedling flats. Therefore, treat a small number of plants and confirm tolerance for 7 days prior to treating entire planthouse.</p>	

^{1/} Not for use on crops grown for seed unless allowed by state-specific 24(c) labeling.

GREENHOUSE VEGETABLES ^{1/}

Cucumber and Tomato ONLY (Mature plants in production greenhouses)

Pests Controlled	Rate fluid ounces/1,000 plants
Aphids Whiteflies	0.6
<p>Restrictions: Pre-Harvest Interval (PHI): 0 days Maximum number of applications per crop season: 1</p> <p>Applications: Apply specified dosage in a minimum of 16 gallons of water for tomatoes and 21 gallons of water for cucumbers using soil drenches, micro-irrigation, drip irrigation, or hand-held or motorized calibrated irrigation equipment. DO NOT apply to immature plants since phytotoxicity may occur.</p> <p>Apply when infestation pressure surpasses threshold and beneficials are not able to maintain pest populations below damage thresholds. Repellency of bumble bee pollinators and negative effects on some beneficials (<i>Onius</i> sp.) can occur when this product is applied.</p> <p>Important Notes: Many varieties of vegetables have been tested for tolerance to this product and show good safety. However, certain varieties may show more sensitivity to this product. Therefore, treat a few plants before treating the whole greenhouse.</p>	

^{1/} Not for use on crops grown for seed unless allowed by state-specific 24(c) labeling.

FRUITING VEGETABLES ^{1/}

Crops of Crop Group 8 plus Okra: Eggplant, Ground cherry, Okra, Pepper (including bell, chili, cooking, pimento and sweet) Tomato, Pepinos, Tomatillo

Field Application Instructions	
Pests Controlled	Rate fluid ounces/Acre
Aphids Colorado potato beetle Flea beetles Leafhoppers Thrips (foliage-feeding thrips only) Whiteflies	Okra and Pepper 7.0 to 14.0 Other Crops 7.0 to 10.5
Pests / Diseases Suppressed	
Symptoms of: Tomato mottle virus Tomato spotted wilt virus Tomato yellow leaf curl virus	Okra and Pepper 7.0 to 14.0 Other Crops 7.0 to 10.5
Restrictions: Pre-Harvest Interval (PHI): 21 days Maximum amount allowed on pepper and okra crops per crop season: 14.0 fluid ounces/Acre (0.5 lb AI/Acre) Maximum amount allowed on other fruiting vegetable crops per crop season: 10.5 fluid ounces/Acre (0.38 lb AI/Acre)	
Applications: Apply specified dosage of this product in one of the following methods: 1) Chemigation into root zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment; 2) In-furrow spray-directed-on or below seed; 3) Narrow (2" or less) surface band spray over seed-line during planting incorporated to a depth of 1 to 1.5" with sufficient irrigation within 24 hours of application; 4) Narrow band spray directly below eventual seed row in bedding operation 14 or fewer days before planting; 5) Post-seeding drench, transplant-water drench, or hill drench; 6) Subsurface side-dress on both sides of each row. This product must be incorporated into root-zone.	

Planthouse Application Instructions	
Pests Controlled	Rate fluid ounces/10,000 plants
Aphids Whiteflies	0.44
Restrictions: Maximum amount applied in the planthouse: 0.44 fluid ounce (0.001 56 lb AI)/10,000 plants. Maximum number of applications in planthouse: 1	
Applications: Apply specified dosage to seedlings in trays in the planthouse, targeting soil media (tray drench), not more than 7 days prior to transplanting, in one of the following manners: 1) Uniform, broadcast high-volume foliar spray, followed immediately by sufficient overhead irrigation to wash this product from foliage into potting media without loss of gravitational liquid from the bottom of the tray. Failure to wash this product from foliage may result in reduced pest control; 2) Injection into overhead irrigation system, using adequate volume to thoroughly saturate soil media without loss of gravitational solution from the bottom of the tray.	
The application made in the planthouse is not intended as a substitution for a field application. An additional field application must be made within 2 weeks following transplanting to provide continuous protection. Applications of higher rates or increased number of applications in planthouse may result in significant plant injury. Transplants must be handled carefully during setting to avoid dislodging treated potting media from roots.	
Important Notes: Not all varieties of fruiting vegetables have been tested for tolerance to this product applied to seedling flats. Therefore, treat a small number of plants and confirm tolerance for 7 days prior to treating entire planthouse.	

^{1/} Not for use on crops grown for seed unless allowed by state-specific 24(c) labeling.

HERBS

Crops of Crop Subgroup 19A: Angelica, Balm (lemon balm), Basil (fresh and dried), Borage, Bumet, Camomile, Catnip, Chervil (dried), Chinese chive, Chive, Clary, Coriander (cilantro or Chinese parsley leaves), Costmary, Culantro (leaf), Curry (leaf), Dillweed, Horehound, Hyssop, Lavender, Lemongrass, Lovage (leaf), Marigold, Marjoram, Nasturtium, Parsley (dried), Pennyroyal, Rosemary, Rue, Sage, Savory (summer and winter), Sweet bay (bay leaf), Tansy, Tarragon, Thyme, Wintergreen, Woodruff, Wormwood

Pests Controlled	Rate fluid ounces/Acre
Aphids Flea Beetles Leafhoppers Whiteflies	7.0 to 10.5
Pests Suppressed	
Thrips (foliage-feeding thrips only)	7.0 to 10.5
<p>Restrictions: Pre-Harvest Interval (PHI): 14 days Maximum amount allowed per season: 10.5 fluid ounces/Acre (0.38 lb AI/Acre)</p> <p>Applications: Apply specified dosage in one of the following methods: 1) In-furrow spray during planting directed on or below seed; 2) In-furrow spray or transplant-water drench during setting or transplanting; 3) Shankd-into or below eventual seed-line; 4) Chemigation into root zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment.</p> <p>Important Notes: Not all crops and/or varieties listed above have been tested for phytotoxic effects. Without specific knowledge about a particular crop and variety, Nufarm strongly recommends that only small areas or numbers of plants of each be treated and evaluated prior to commercial use.</p>	

HEAD and STEM BRASSICA VEGETABLES and LEAF BRASSICA GREENS, plus TURNIP TOPS^{1/}

Crop of Crop Group 5: Broccoli, Broccoli raab (*rapini*), Brussels sprouts, Cabbage, Cauliflower, Cavalo broccoli, Chinese (*gai lan*) broccoli, Chinese (*bok choy*) cabbage, Chinese (*napa*) cabbage, Chinese mustard (*gai choy*) cabbage, Collards, Kale, Kohlrabi, Mizuna, Mustard greens, Mustard spinach, Rape greens, plus Turnip tops (leaves)

LEAFY GREENS VEGETABLES^{1/}

Crops of Crop Subgroup 4A plus Watercress: Amaranth (leafy amaranth, Chinese spinach, tampala), Arugula (Roquette), Chervil, Chrysanthemum (edible leaved and garland), Corn salad, Cress (garden), Cress (upland, yellow rocket, winter cress), Dandelion, Dock (sorrel), Endive (escarole), Lettuce (head and leaf), Orach, Parsley, Purslane (garden and winter), Raddicchio (red chicory), Spinach (including New Zealand and vine (Malabar spinach, Indian spinach)), Watercress (commercial production only, applications must not be made to native cress growing in streams or other bodies of water), Watercress (upland)

Pests Controlled	Rate Fluid ounces/Acre (on 36 inch rows)
Aphids Leafhoppers Thrips (foliage-feeding thrips only) Whiteflies	4.4 to 10.5
<p>Restrictions: Pre-Harvest Interval (PHI): 21 days Maximum amount allowed per crop season: 10.5 fluid ounces/Acre (0.38 lb AI/Acre)</p> <p>Applications: Apply specified dosage of this product in one of the following methods: 1) Chemigation into root-zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment; 2) In-furrow spray directed on or below seed;</p>	

- 3) Narrow (2" or less) surface band spray over seed-line during planting incorporated to a depth of 1 to 1.5" with sufficient irrigation within 24 hours of application;
- 4) Narrow band spray directly below eventual seed row in bedding operation 14 or fewer days before planting;
- 5) Post-seeding drench, transplant-water drench, or hill drench;
- 6) Subsurface side-dress on both sides of each row. This product must be incorporated into root-zone.

^{1/} Not for use on crops grown for seed unless allowed by state-specific 24(c) labeling.

LEAFY PETIOLE VEGETABLES ^{1/}

Crops of Crop Subgroup 4B: Cardoon, Celery, Celtuce, Chinese celery (fresh leaves and stalk only), Florence fennel (including sweet anise, sweet fennel, finocchio), Rhubarb, Swiss chard

Pests Controlled	Rate fluid ounces / Acre
Aphids Leafhoppers Thrips (foliage-feeding thrips only) Whiteflies	4.4 to 10.5

Restrictions:
Pre-Harvest Interval (PHI): **45 days**
Maximum amount allowed per crop season: **10.5 fluid ounces/Acre** (0.38 lb AI/Acre)

Applications:
Apply specified dosage of this product in one of the following methods:
1) Chemigation into root zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment;
2) In-furrow spray directed on or below seed;
3)-Narrow-(2" or-less) -surface -band spray over seed-line during planting incorporated to a depth of 1 to 1.5" with sufficient irrigation within 24 hours of application;
4) Narrow band spray directly below eventual seed row in bedding operation 14 or fewer days before planting;
5) Post-seeding drench, transplant-water drench, or hill drench;
6) Subsurface side-dress on both sides of each row. This product must be incorporated into root zone.

^{1/} Not for use on crops grown for seed unless allowed by state-specific 24(c) labeling.

LEGUME VEGETABLES ^{1/}

Crops of Crop Group 6 Except soybean, dry: Edible Podded and Succulent Shelled Pea and Bean and Dried Shelled Pea and Bean, Bean (*Lupinus* spp., includes grain lupin, sweet lupin, white lupin, and white sweet lupin), Bean (*Phaseolus* spp., includes field bean, kidney bean, lima bean, navy bean, pinto bean, runner bean, snap bean, tepary bean, wax bean), Bean (*Vigna* spp., includes adzuki bean, asparagus bean, blackeyed pea, catjang, Chinese longbean, cowpea, Crowder pea, moth bean, mung bean, rice bean, Southern pea, urd bean, yardlong bean), Pea (*Pisum* spp., includes dwarf pea, edible-pod pea, English pea, field pea, garden pea, green pea, snow pea, sugar snap pea), Other Beans and Peas [Broad bean (fava), Chickpea (garbanzo bean), Guar, Jackbean, Lablab bean (hyacinth bean), Lentil, Pigeon pea, Soybean (immature seed), Sword bean]

Pests Controlled	Rate fluid ounces/Acre
Aphids Leafhoppers Thrips (foliage-feeding thrips only) Whiteflies	7.0 to 10.5

Pests / Diseases Suppressed	
Symptoms of: Bean common mosaic virus (BCMV) Bean golden mosaic virus (BGMV) Beet curly top hybrigeminivirus (BCTV)	7.0 to 10.5

Restrictions:

Pre-Harvest Interval (PHI): **21 days**
 Maximum amount allowed per crop season **10.5 fluid ounces/Acre** (0.38 lb AI/Acre)

Applications:

- Apply specified dosage of this product in one of the following methods:
- 1) Chemigation into root zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment;
 - 2) In-furrow spray at planting directed on or below seed;
 - 3) In a narrow (2" or less) surface band over seed-line during planting incorporated to a depth of 1 to 1.5" with sufficient irrigation within 24 hours following application;
 - 4) In a narrow band directly below the eventual seed row in a bedding operation 7 or fewer days before planting;
 - 5) As a post-seeding drench, transplant drench, or hill drench.

^{1/} Not for use on crops grown for seed unless allowed by state-specific 24(c) labeling.

ROOT VEGETABLES^{1/}

Crops of Crop Subgroup 1 B except Sugarbeet: Beet (garden)^{2/}, Burdock (edible)^{2/}, Carrot^{2/}, Celeriac^{2/}, Chervil (turnip-rooted)^{2/}, Chicory^{2/}, Ginseng, Horseradish, Parsley (turnip-rooted), Parsnip^{2/}, Radish^{2/}, Oriental radish (diakon)^{2/}, Rutabaga^{2/}, Salsify (oyster plant), Salsify (black)^{2/}, Salsify (Spanish), Skirret and Turnip^{2/}.

Pests Controlled	Rate Fluid ounces/1,000 row-feet	Rate Fluid ounces/Acre
Aphids Flea beetles Leafhoppers Thrips (foliage-feeding thrips only) Whiteflies	0.31 to 0.74	4.4 to 10.5

Restrictions:

Pre-Harvest Interval (PHI): **21 days**
 Maximum amount allowed per crop season: **10.5 fluid ounces/Acre** (0.38 lb AI/Acre)
 Maximum number of applications per crop season: **1**

Applications:

- Apply specified dosage of this product in one of the following methods:
- 1) Chemigation into root zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment;
 - 2) In-furrow spray (rate specified per 1,000 row-feet) or, shanked-in 1 to 2 inches below seed depth during planting;
 - 3) In a narrow (2 inches or less) band directly (1 to 2 inches) below the eventual seed row in a bedding operation 14 or fewer days before planting.

Important Notes:

The rate applied affects the length of control. Use higher specified rates within the rate range where infestations occur later in crop development, or where pest pressure is continuous. Rates of this product less than 0.31 fluid ounce/1,000 row-feet will not provide adequate residual pest control. Crops treated with this product grown on very high organic matter soils (muck) may also require additional pest management control.

^{1/} Not for use on crops grown for seed unless allowed by state-specific 24(c) labeling.

^{2/} Tops or greens from these crops may be utilized for food or feed.

TUBEROUS and CORM VEGETABLES^{1/}

Crops of Crop Subgroup 1C: Arracacha, Arrowroot, Artichoke (Chinese and Jerusalem), Canna (edible, Queensland arrowroot), Cassava (bitter & sweet)^{2/}, Chayote (root), Chufa, Dasheen (taro)^{2/}, Ginger, Leren, Sweetpotato, Tanier (cocoyam)^{2/}, Turmeric, Yam bean (jicama, manioc pea), Yam (true)^{2/}

For applications on potato see Field Crops section for Potato - Soil

Pests Controlled	Rate Fluid ounces/1,000 row-feet	Rate Fluid ounces/Acre
Aphids Flea beetles Leafhoppers Thrips (foliage-feeding thrips only) Whiteflies	0.31 to 0.74	4.4 to 10.5

Restrictions:

Pre-Harvest Interval (PHI) from planting application: **3 days** (leaves); **125 days** (corms)
 Maximum amount allowed per crop season: **10.5 fluid ounces/Acre** (0.38 lb AI/Acre)
 Maximum number of applications per crop season: **1**

Applications:

Apply specified dosage of this product in one of the following methods:

- 1) In-furrow spray (rate specified per 1,000 row-feet) over planting material (hulis) or shanked-in 1 to 2 inches below hulis depth at planting;
- 2) Side-dress not more than 0.26 fluid ounce/1,000 row-feet no later than 45 days after-planting. Observe same PHI as above.

Important Notes:

The rate applied affects the length of control. Use higher specified rates within the rate range where infestations occur later in crop development, or where pest pressure is continuous. Rates of this product less than 0.31 fluid ounce/1,000 row-feet may not provide adequate residual pest control. Crops treated with this product grown on very high organic matter soils (muck) may also require additional pest management control.

^{1/} Not for use on crops grown for seed unless allowed by state-specific 24(c) labeling.

^{2/} Tops or greens from these crops may be utilized for food or feed.

STRAWBERRY ^{1/}

Annual and Perennial Crops	
Pests Controlled	Rate fluid ounces/Acre
Aphids Whiteflies	10.5 to 14.0
Restrictions: Pre-Harvest Interval (PHI): 14 days Maximum amount allowed per crop season: 14.0 fluid ounces/Acre (0.50 lb AI/Acre)	
Applications: Apply specified dosage of this product in one of the following methods: 1) Chemigation into root zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment after plants are established or on perennial crops in early spring prior to bud opening; 2) As a plant material or plant hole treatment just prior to, or during transplanting. 3) As a band spray over the row pre-plant in a minimum of 20 gallons of water per acre, followed immediately by overhead irrigation to incorporate product into root zone. DO NOT use plastic or other mulch that limits movement of this product into root zone.	
The rate applied affects the length of control. Use higher specified rates within the rate range where infestations may occur later in crop development or where pest pressure is continuous.	

Post-harvest Use on Perennial Crops	
Pests Controlled	Rate fluid ounces/Acre
White grub complex (grubs of Asiatic garden beetle, European and Masked chafer, Japanese beetle, Oriental beetle)	7.0 to 10.5
Restrictions: Pre-Harvest Interval (PHI): 14 days Maximum amount allowed per year: 10.5 fluid ounces/Acre (0.38 lb AI/Acre)	
Applications: Apply a single application post harvest to coincide with renovation of strawberry fields and during active egg-laying period of beetles. Apply specified dosage of this product in one of the following methods: 1) As a ground spray via boom or backpack sprayer in a minimum of 20 gallons of water per acre; 2) As a row-band spray using an adjusted amount of product based on the treated row band area in proportion to the amount required per full acre. The bandwidth should be equivalent to the width of the anticipated fruiting bed; 3) As a chemigation application with 600 to 1,000 gallons of water followed by 0.10 to 0.25 inch irrigation.	
Important Notes: All soil-surface applications must be followed by 0.25 inch of rainfall or overhead irrigation water per acre within 2 hours of application. Failure to adequately incorporate this product into egg-deposition zone may result in decreased activity of beetle grubs.	

^{1/} Not for use on crops grown for seed unless allowed by state-specific 24(c) labeling.

SUGARBEET ^{1/} (For Use Only in CA)

Pests Controlled	Rate fluid ounces/Acre
Aphids Leafhoppers Whiteflies Flea beetles	2.6 to 5.2
Pests / Diseases Suppressed	
Symptoms of: Western yellows / Beet curly top hybrigeminivirus (BCTV)	2.6 to 5.2
Restrictions: Maximum amount allowed per year: 5.2 fluid ounces/Acre (0.18 lb AI/Acre) DO NOT apply immediately prior to bud opening or during bloom or when bees are actively foraging. Applications: Apply specified dosage of this product in the following method: 1) Apply specified dosage in sufficient carrier volume to insure uniform application. Apply directly below each seed furrow either during the bedding operation immediately prior to planting or at the time of planting. The low rate may be applied to aid establishment of stands in whitefly areas, or for early season control of the other pests listed.	

^{1/} Not for use on crops grown for seed unless allowed by state-specific 24(c) labeling.

CONVERSION CHART FOR LINEAR APPLICATION										
RATE fluid ounces/Acre	RATE fluid ounces/1,000 row-feet Based on average row spacing (in inches):									
	10	15	20	25	30	34	36	38	40	45
5.0	0.10	0.14	0.19	0.24	0.29	0.33	0.34	0.36	0.38	0.43
5.5	0.11	0.16	0.21	0.26	0.32	0.36	0.38	0.40	0.42	0.47
6.0	0.11	0.17	0.23	0.29	0.34	0.39	0.41	0.44	0.46	0.52
6.5	0.12	0.19	0.25	0.31	0.37	0.42	0.45	0.47	0.50	0.56
7.0	0.13	0.20	0.27	0.33	0.40	0.46	0.48	0.51	0.54	0.60
7.5	0.14	0.22	0.29	0.36	0.43	0.49	0.52	0.55	0.57	0.65
8.0	0.15	0.23	0.31	0.38	0.46	0.52	0.55	0.58	0.61	0.69
8.5	0.16	0.24	0.33	0.41	0.49	0.55	0.59	0.62	0.65	0.73
9.0	0.17	0.26	0.34	0.43	0.52	0.59	0.62	0.65	0.69	0.77
9.5	0.18	0.27	0.36	0.45	0.55	0.62	0.65	0.69	0.73	0.82
10.0	0.19	0.29	0.38	0.48	0.57	0.65	0.69	0.73	0.77	0.86
10.5	0.20	0.30	0.40	0.50	0.60	0.68	0.72	0.76	0.80	0.90
11.0	0.21	0.32	0.42	0.53	0.63	0.72	0.76	0.80	0.84	0.95
11.5	0.22	0.33	0.44	0.55	0.66	0.75	0.79	0.84	0.88	0.99
12.0	0.23	0.34	0.46	0.57	0.69	0.78	0.83	0.87	0.92	1.03
12.5	0.24	0.36	0.48	0.60	0.72	0.81	0.86	0.91	0.96	1.08
13.0	0.25	0.37	0.50	0.62	0.75	0.85	0.90	0.95	0.99	1.12
13.5	0.26	0.39	0.52	0.65	0.77	0.88	0.93	0.98	1.03	1.16
14.0	0.27	0.40	0.54	0.67	0.80	0.91	0.96	1.02	1.07	1.21

Important Note: The rate of this product applied affects the length of control and to a considerable extent, the degree of control or effect. Row-spacing x product rate combinations in shaded blocks may not provide adequate residual pest control and are not recommended for long-term, residual control. Use higher labelled rates where infestations may occur later in crop development or where pest pressure is continuous. Nufarm offers no warranty for use of this product at rates below 0.31 fluid ounces/1,000 row-feet.

**TREE, BUSH and VINE CROPS
APPLICATION INSTRUCTIONS**

BANANA and PLANTAIN

Pests Controlled	Rate fluid ounces/Acre
Aphids Leafhoppers	7.0 to 14.0
Pests / Diseases Suppressed	
Scales	7.0 to 14.0
<p>Restrictions: Pre-Harvest Interval (PHI): 0 day Maximum amount allowed per year: 14.0 fluid ounces/Acre (0.5 lb AI/Acre)</p> <p>Applications: Apply specified dosage of this product in the following method: Chemigation into root zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment.</p>	

BUSHBERRY

Crops of Crop Subgroup 13B: Blueberry, Currant, Elderberry, Gooseberry, Huckleberry, Juneberry, Lingonberry, and Salal

Pests Controlled	Rate Fluid ounces/Acre
Japanese beetle (adults, feeding on foliage) White grub complex (grubs of Asiatic garden beetle; European and Masked chafer, Japanese beetle and Oriental beetle)	7.0 to 14.0
<p>Restrictions: Pre-Harvest Interval (PHI): 7 days Maximum amount allowed per year: 14.0 fluid ounces/Acre (0.50 lb AI/Acre) DO NOT apply pre-bloom or during bloom or when bees are foraging.</p> <p>Applications: Apply specified dosage of this product in one of the following methods: 1) Chemigation into root zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment; 2) 18-inch band on each side of the row followed with 0.25 inch of irrigation immediately after application. For optimal grub control, apply this product to control 1st or 2nd instar larvae. Application may be made post-bloom up to 7 days prior to harvest, or post-harvest until October 1st. For optimum control of Japanese beetle larvae, make applications from June 1 to July 15. DO NOT apply during bloom.</p> <p>Application to grass covered rows, row middles, drive lanes, headlands, and other grassy areas in and around the berry field will control resident grub populations. Applications directed to the root zone will help protect berry plant roots from grub feeding.</p> <p>Apply this product to moist soil. If necessary, apply one hour of irrigation water immediately before application. To ensure maximum efficacy, 0.5 to 1 inch of irrigation water or rainfall should be applied or received within 24 hours of application of this product to facilitate movement into the soil and into the root zone.</p>	

CANEBERRY (For Use Only in CA)

Crops of Crop Subgroup 13A including: Blackberry (*Rubus eubatus*, including bingleberry, black satin berry, boysenberry, Cherokee blackberry, Chesterberry, Cheyenne blackberry, coryberry, darrowberry, dewberry, Dirksen thornless berry, Himalayaberry, hullberry, Lavacaberry, Loganberry, lowberry, Lucretiaberry, mammoth blackberry, marionberry, nectarberry, olallieberry, Oregon evergreen berry, phenomenalberry, rangeberry, ravenberry, rossberry, Shawnee blackberry, youngberry, and varieties and/or hybrids of these). Raspberry (black and red, *Rubus occidentalis*, *Rubus strigosus*, *Rubus idaeus*).

Pests Controlled	Rate fluid ounces/Acre
Aphids Leafhoppers Whiteflies	7.0 to 14.0
Rednecked cane borer	10.5 to 14.0
Pests / Diseases Suppressed	
Thrips (foliage-feeding thrips only)	7.0 to 14.0
Restrictions: Pre-Harvest Interval (PHI): 7 days Maximum amount allowed per year: 14.0 fluid ounces/Acre (0.5 lb AI/Acre) DO NOT apply pre-bloom or during bloom or when bees are foraging. Applications: Apply specified dosage in one of the following methods: 1) Chemigation into root zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment. 2) Basal, soil drench in a minimum of 500 gallons solution per acre.	

CITRUS (Nursery and Greenhouse Container Stock)

Crops of Crop Group 10: Calamondin, Citrus citron, Citrus hybrids (includes chironja, tangelo, and tangor), Grapefruit, Kumquat, Lemon, Lime, Mandarin (tangerine), Pummelo, Orange (sweet and sour), Tangelo, Satsuma mandarin, and other cultivars and/or hybrids of these.

Pests Controlled	Rate mL/ft ³ container media
Aphids Asian citrus psyllid Black fly Citrus leafminer Leafhoppers/Sharpshooters Mealybugs Scales Whiteflies	0.33
Citrus root weevil (larval complex)	0.55 to 1.1
Pests / Diseases Suppressed	
Citrus thrips (foliage-feeding thrips only)	1.1
Applications: Determine volume of container and calculate dosage necessary to treat container. Apply calculated dosage of this product per container as a soil drench or through low-pressure drip or trickle irrigation water, through injection into the overhead irrigation system, or as a broadcast high volume spray. With overhead irrigation or broadcast spray, use additional irrigation to wash the product from the foliage into the potting medium. Use sufficient carrier volume to ensure thorough uniform distribution throughout the media without loss of gravitational water from the container. For optimal results, treatment should be made at planting prior to insect infestation. Retreat if necessary. For control of larvae of the citrus root weevil complex, application should be made prior to neonate larvae entering potting media. Utilize higher specified dosage for heavy infestations.	
Restrictions: Pre-Harvest Interval (PHI): 0 day Maximum amount allowed per application: 0.50 mLs/0.1 ft³ container media Maximum amount allowed per crop season: 3.0 mLs/plant Do not apply pre-bloom or during bloom or when bees are foraging.	

CITRUS (Field)

Crops of Crop Group 10 including: Calamondin, Citrus citron, Citrus hybrids (includes chironja, tangelo, and tangor), Grapefruit, Kumquat, Lemon, Lime, Mandarin (tangerine), Pummelo, Orange (sweet and sour), Tangelo, Satsuma mandarin, and other cultivars and/or hybrids of these.

Pests Controlled	Rate fluid ounces/Acre
Aphids Asian citrus psyllid Black fly Citrus leafminer Leafhoppers/Sharpshooters Mealybugs Scales Termites (FL only) Whiteflies	7.0 to 14.0
Pests / Diseases Suppressed	
Citrus nematode Symptoms of: Citrus tristeza virus (CTV) through vector control Citrus yellows Thrips (foliage-feeding thrips only)	14.0
<p>Restrictions: Pre-Harvest Interval (PHI): 0 day Maximum amount allowed per year: 14.0 fluid ounces/Acre (0.50 lb AI/Acre)</p> <p>Applications: Apply specified dosage of this product in one of the following methods: 1) Chemigation into root zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment. For optimum results, apply to newly planted trees or those previously trained to drip, trickle or micro-sprinkler irrigation. Soil should be lightly pre-wetted to break soil surface tension prior to applications of this product. Chemigation application can be made separate to normal irrigation but followed by 10 to 20 minutes of additional watering to move this product into root zone. Allow 24 hours before initiating subsequent irrigations; 2) Soil surface band spray on both sides of the tree. Bands should overlap at the tree base to create a continuous band within the drip-line area of the tree, to be followed immediately with light sprinkler irrigation sufficient to move the product into the upper portion of the root zone. This method is suitable for very coarse soils with 0.75% organic matter or less; 3) Drench to base of tree not exceeding one quart total solution per tree immediately around trunk of tree and extending outward covering the entire fibrous root system of the tree. Only recommended for trees up to 8 feet tall; 4) For control of existing termite infestations, apply specified dosage in 1 to 4 quarts of total solution volume, depending on size of tree, as a drench application to the basal portion of the tree trunk and surrounding soil in the immediate vicinity of the tree trunk; 5) For suppression of citrus nematode, apply specific dosage through low pressure chemigation or soil surface spray only, ensuring complete coverage of the root system and utilizing application directions stated above for the respective application method.</p> <p>Important Notes: Repeated and regular use of this product over several consecutive growing seasons provides the greatest degree of nematode suppression and yields the greatest plant response.</p>	

COFFEE

Pests Controlled	Rate fluid ounces/Acre
Aphids Leafhoppers Leafminer	7.0 to 14.0
Pests Suppressed	
Scales	7.0 to 14.0
<p>Restrictions: Pre-Harvest Interval (PHI): 7 days Maximum amount allowed per year: 14.0 fluid ounces/Acre (0.5 lb AI/Acre)</p>	

DO NOT apply pre-bloom or during bloom or when bees are foraging.

Applications:
 Apply specified dosage in one of the following methods:
 1) Chemigation into root zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment.
 2) Subsurface side-dress shanked into the root zone on both sides of the plants followed by irrigation;
 3) Basal, soil drench in sufficient water to insure incorporation into the root zone followed by irrigation.

CRANBERRY

Pests Controlled	Rate Fluid ounces/Acre
Rootgrubs (Scarabaeidae) Rootworms (Chrysomelidae)	7.0 to 14.0

Restrictions:
 Pre-Harvest Interval (PHI): **30 days**
 Maximum amount allowed per year: **14.0 fluid ounces/Acre** (0.50 lb AI/Acre)
DO NOT apply pre-bloom or during bloom or when bees are foraging.

Applications:
 Apply this product to moist soil. Apply specified dosage of this product in one of the following methods:
 1) As a soil spray (ground application) directed to the root and crown area using a minimum of 20 gal of water per acre;
 2) As a chemigation application with 600 to 1,000 gallons water.

Immediately upon application, this product must be incorporated into root zone by 0.1 to 0.3 inch water/Acre, either with the chemigation application or through irrigation/rainfall if not applied through chemigation. Inadequate incorporation within 24 hours of application may result in reduced control.

Important Notes:
 Make post-bloom application immediately after bees are removed to control rootgrubs and rootworms. Applications should target early instar larvae.
 This product has not been tested for crop response in tank mixes with other registered fungicides or insecticides. If tank mixing is desired, premix a sample of this product and the desired fungicide or insecticide partner at labeled rates and apply to a small area. Evaluate crop response within 48 hours and for at least two weeks prior to utilizing the tank mix on larger acreage. If crop injury results from the premix test, do not apply the tank mix to larger acreage.

GRAPE

American bunch grape, Muscadine grape and Vinifera grape

Pests Controlled	Rate fluid ounces/Acre
European fruit lecanium Leafhoppers/Sharpshooters Mealybugs <i>Phylloxera</i> * spp	7.0 to 14.0
Pests / Diseases Suppressed	
Grapeleaf skeletonizer Nematodes Pierce's disease	10.5 to 14.0

Restrictions:
 Pre-Harvest Interval (PHI): **30 days**
 Maximum amount allowed per year: **14.0 fluid ounces/Acre** (0.50 lb AI/Acre)

Applications:
 Apply specified dosage of this product in one of the following methods:
 1) Chemigation into root zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment;
 2) Subsurface side-dress shanked into the root zone on both sides of the plants followed by irrigation;
 3) Hill drench in sufficient water to insure incorporation into the root zone followed by irrigation.
 4) For suppression of nematodes, apply 14 fluid ounces in a single application or two 7-fluid ounce applications on a 30 to 45-day interval. Apply only by 1) chemigation into root zone through above ground low pressure drip, trickle, micro sprinkler or equivalent equipment or 2) French plow technique, followed immediately by sufficient irrigation to move the product into the entire root zone of the plant. Repeated and regular use of this product over several consecutive growing seasons provides the greatest degree of nematode suppression and yields the greatest plant

response.

For optimum results, make application between bud-break and the pea-berry stage. A total of 14 fluid ounces/acre is recommended under the following conditions:

- 1) Where vigorous vine growth is expected
- 2) In warmer growing areas
- 3) Where mealybug and European fruit lecanium populations are expected to be heavy
- 4) Where vine populations exceed 600 per acre, or;
- 5) For suppression of nematodes

* Repeated and regular use of this product over several, consecutive growing seasons controls existing *Phylloxera* infestations over time or prevents *Phylloxera* from becoming established.

HOPS

Pests Controlled	Rate Fluid ounces/Acre
Aphids	2.8 to 8.4

Restrictions:

Pre-Harvest Interval (PHI): **60 days**

Maximum amount allowed per year: **8.4 fluid ounces/Acre** (0.30 lb AI/Acre)

Applications:

Apply specified dosage of this product in one of the following methods:

- 1) Chemigation into root zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment;
- 2) Subsurface side-dress shanked into the root zone on both sides of the plants followed by irrigation;
- 3) Hill drench in sufficient water to insure incorporation into the root zone followed by irrigation.

Use higher specified dosages where extended residual control is desired or for treating larger vines or vines with dense foliage volume.

POME FRUIT

Crops of Crop Group 11: Apple, Crabapple, Loquat, Mayhaw, Pear (including Oriental pear), Quince

Pests Controlled	Rate Fluid ounces/Acre
Aphids (including woolly apple aphid) Leafhoppers	7.0 to 10.5

Restrictions:

Pre-Harvest Interval (PHI): **21 days**

Maximum amount allowed per year: **10.5 fluid ounces/Acre** (0.38 lb AI/Acre)

DO NOT apply pre-bloom or during bloom or when bees are foraging.

Applications:

Apply specified dosage of this product in the following method:

- 1) Chemigation into root zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment.

POMEGRANATE

Pests Controlled	Rate Fluid ounces/Acre
Aphids Leafhoppers/Sharpshooters Whiteflies	7.0 to 14.0

Restrictions:

Pre-Harvest Interval (PHI): **0 day**

Maximum amount allowed per year: **14.0 fluid ounces/Acre** (0.5 lb AI/Acre)

DO NOT apply pre-bloom or during bloom or when bees are foraging.

Applications:

Apply specified dosage of this product in the following method:

- 1) Chemigation into root zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment.

STONE FRUIT

Crops of Crop Group 12: Apricot, Cherry (including sweet and tart), Nectarine, Peach, Plum (including Chickasaw, Damson and Japanese), Plumcot, Prune (fresh and dried)

In-field, Soil Application	
Pests Controlled	Rate fluid ounces/Acre
Aphids (including woolly apple aphid) Leafhoppers	7.0 to 10.5
Restrictions: Pre-Harvest Interval (PHI): 21 days Maximum amount allowed per year: 10.5 fluid ounces/Acre (0.38 lb AI/Acre) DO NOT apply pre-bloom or during bloom or when bees are foraging.	
Applications: Apply specified dosage of this product in the following method: 1) Chemigation into root zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment.	
Pre-plant, Root Dip Application	
Pests Controlled	Rate fluid ounces/10 gallons root-dip solution
Black peach aphid (infesting roots)	0.87
Mix this product at a rate of 0.87 fluid ounces per 10 gallons of water. Thoroughly wet bare-root transplant to slightly above the graft union by soaking roots in this product's solution for up to 5 minutes. Allow solution to dry on roots and transplant trees as soon as possible following treatment.	

TREE NUTS

Crops of Crop Group 14 except Almond: Beechnut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert, Hickory nut, Macadamia nut, Pecan, Pistachio, Walnut (black and English)

Pests Controlled	Rate fluid ounces/Acre
Aphids Leafhoppers/Sharpshooters Mealybugs Spittlebugs Termites Whiteflies	7.0 to 14.0
Pests / Diseases Suppressed	
Pecan scab (from reduction in honeydew deposition)	7.0 to 14.0
Thrips (foliage-feeding thrips only)	14.0
Restrictions: DO NOT use in Almonds Pre-Harvest Interval (PHI): 7 days Maximum amount allowed per year: 14.0 fluid ounces/Acre (0.50 lb AI/Acre) DO NOT apply pre-bloom or during bloom or when bees are foraging.	
Applications: Apply specified dosage prior to or at onset of pest infestation in one of the following methods: 1) Chemigation into root zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment. Pre-wet soil prior to applications of this product and allow soil to dry following application and prior to subsequent irrigation; 2) Emitter or spot application in a minimum of 4 fluid ounces of mixture per emitter site; 3) Shank or subsurface side-dress, injected to a depth just above or just within the root zone and between the trunk and drip line of the tree canopy. Product should be applied in a minimum of 10 gallons per acre using multiple shanks on both sides of trees. Ensure product placement is below sod or orchard floor debris. Irrigation covering entire treated area should follow within 48 hours to promote uptake by root system. 4) For control of termites, apply specified dosage to slightly moist soil as a high-volume drench to the basal portion of the tree trunk and surrounding soil in the immediate vicinity of the tree trunk. Utilize sufficient carrier volume to penetrate the soil to a depth of 18 to 24 inches to obtain optimum control. Allow soil to dry following treatment and prior to applying any irrigation.	

Important Notes:

Use the higher specified rates within the rate range when applied by shank or subsurface side-dress, used on larger trees, soils with high clay content, for high plant populations, and/or where extended control is desired. Under some conditions, control may not occur for 14 or more days or until two (2) irrigations have been made. Applications made later in the season may result in reduced efficacy.

TROPICAL FRUIT - SOIL

Including: Acerola, Atemoya, Avocado, Birida, Black sapote, Canistel, Cherimoya, Custard apple, Feijoa, Jaboticaba, Guava, Llama, Longan, Lychee, Mamey sapote, Mango, Papaya, Passionfruit, Persimmon, Pulasan, Rambutan, Sapodilla, Soursap, Spanish lime, Star apple, Starfruit, Sugar apple, Wax jambu

Pests Controlled	Rate fluid ounces/Acre
Aphids Avocado Lacebugs Leafhoppers Whiteflies	10.5 to 14.0
Pests / Diseases Suppressed	
Scales Thrips (foliage-feeding thrips only)	14.0
<p>Restrictions: Pre-Harvest Interval (PHI): 6 days Maximum amount allowed per year: 14.0 fluid ounces/Acre (0.50 lb AI/Acre). DO NOT apply pre-bloom or during bloom or when bees are foraging.</p> <p>Applications: Apply specified dosage of this product in the following method: 1) Chemigation through low-pressure drip, trickle, micro-sprinkler or equivalent equipment.</p>	

CHRISTMAS TREE

Pests Controlled	Rate Fluid ounces / Acre
White grub complex (damage from grubs of Asiatic garden beetle, European and Masked chafer, Japanese beetle and oriental beetle)	7.0 to 14.0
<p>Restrictions: Maximum amount allowed per year: 14.0 fluid ounces/Acre (0.5 lb AI/Acre)</p> <p>Applications: Soil incorporation and movement of this product to the root zone is required for activity. This product can be incorporated most readily when applied to moist soil. Apply specified dosage in one of the following methods: 1) Chemigation into root zone through low-pressure drip, trickle, micro-sprinkler or equivalent equipment; 2) 18-inch band on each side of the row (small trees) to full broadcast application (large trees) followed by rainfall or 0.25 to 1 inch of irrigation within 12 hours after application.</p> <p>Important Notes: For optimal grub control, apply this product during adult flight activity, or up to mid-July, when first instar larvae are present.</p>	

POPLAR/COTTONWOOD ^{1/}

(Includes members of the genus *Populus* grown for pulp or timber)

Pests Controlled	Rate fluid ounces/Acre
Aphids Cottonwood leaf beetle	7.0 to 14.0
Pests / Diseases Suppressed	
<i>Phylloxera popularia</i>	7.0 to 14.0
Restrictions: Maximum amount allowed at-plant per year: 14.0 fluid ounces/Acre (0.50 lb AI/Acre) DO NOT apply pre-bloom or during bloom or when bees are foraging. Applications: Apply specified dosage of this product in the following method: 1) Chemigation through low-pressure drip irrigation. 2) For narrow row, cutting orchards/nurseries used for plant propagation, shank into root zone followed by adequate irrigation to promote uptake. Adequate irrigation depends on soil moisture level at application. Under dry conditions 0.25 inch/acre is recommended. For Cottonwood leaf beetle, protection against damage will occur when application is made early-season, when beetles first begin feeding. Larger trees may require earlier treatment as a result of slower uptake. For <i>Phylloxera</i> , apply early in the year, from break of dormancy through May.	

^{1/} Use not permitted in California unless otherwise directed by state-specific 24(c) labeling.

Cutting/Whip Application Instructions. See details above for Field Application Instructions. ^{1/}

Pests Controlled	Cutting Whip Soaking Solution fluid ounces of this product needed per 100 gallons
Cottonwood leaf beetle	5.8 to 11.6 (unhydrated cuttings/whips) 11.6 to 17.5 (partially hydrated cuttings/whips)
Pests / Diseases Suppressed	
Aphids	5.8 to 11.6 (unhydrated cuttings/whips)
<i>Phylloxera popularia</i>	11.6 to 17.5 (partially hydrated cuttings/whips)
Restrictions: Maximum amount allowed at-plant per year: 14.0 fluid ounces/Acre (0.50 lb AI/Acre) Applications: <u>Apply this product in one of the following cuttings/whips soaking methods:</u> 1) For freshly cut (hydrated) cuttings/whips, soak plant material in specified solution concentration for 24 hours prior to cold storage. After removal from cold storage, plant as needed. 2) For previously hydrated cuttings/whips removed from cold storage, allow plant material to reach room temperature and soak in specified solution concentration for 24 hours prior to planting. Proper care should be taken in disposal of any residual soaking solution. Solution may be applied to existing trees or other registered crops as long as all product label precautions and restrictions are observed. Important Notes: Moisture content of cuttings/whips prior to application, the solution concentration and the length of soaking interval interact to affect the amount of product absorbed into plant material. For a constant soaking interval of 24 hours, drier cuttings/whips absorb a higher quantity of solution and require a lower concentration. Conversely, more hydrated cuttings/whips absorb less solution and require a higher concentration. Soaking of cuttings/whips should occur in a covered container in absence of UV light. Not all <i>Populus</i> sp. clones/varieties/hybrids have been tested for crop safety. Without specific knowledge about a particular <i>Populus</i> sp. clone/variety/hybrid, a small number of cuttings/whips of each should be treated and evaluated prior to commercial use.	

^{1/} Use not permitted in California unless otherwise directed by state-specific 24(c) labeling.

STORAGE AND DISPOSAL

DO NOT contaminate water, food, or feed by storage or disposal.

PESTICIDE STORAGE: Store in a 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.

Handle and open container in a manner as to prevent spillage. If the container is leaking, invert to prevent leakage. If container is leaking or material spilled for any reason or cause, carefully dam up spilled material to prevent runoff. Refer to Precautionary Statements on label for hazards associated with the handling of this material. **DO NOT** walk through spilled material. Absorb spilled material with absorbing type compounds and dispose of as directed for pesticides below. In spill or leak incidents, keep unauthorized people away.

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, or, if allowed by State and local authorities, by burning. 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. 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 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 larger than 5 gallons]

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 and, if possible, spray all sides while adding water. If practical, 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 containers 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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