

70506-157

03/06/2008

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

OFFICE OF
PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

Timothy M. Formella
United Phosphorus, Inc.
630 Freedom Business Center, Suite 402
King of Prussia, PA 19406

MAR 6 2008

Dear Mr. Formella:

Subject: Labeling Amendment; Revised Directions for Use
IMIGOLD 70 DF Turf, Ornamental, and Greenhouse Insecticide
EPA Registration No. 70506-157
Date Submitted: February 15, 2008

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable with the following provisions:

1. Revise the header "**General Information**" (page 10) to read "**Information.**"

A stamped copy is enclosed for your records. Please submit one (1) final printed copy for the referenced label, incorporating the above changes, before releasing the product for shipment.

Please note that, with the acceptance of this label amendment, the official product name for this product has been changed to IMIGOLD 70 DF Turf, Ornamental, and Greenhouse Insecticide. Please use this product name in all future correspondences with the Agency regarding this product. If you have any questions regarding this letter, please contact me at (703) 306-0415.

Sincerely,

A handwritten signature in black ink, appearing to read "Kable Bo Davis".

Kable Bo Davis
Entomologist
Insecticide-Rodenticide Branch
Registration Division (7505P)

Enclosure

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IMIGOLD 70 DF

Turf, Ornamental, and Greenhouse Insecticide

For insect control (both foliar and systemic) in turfgrass (including sod farms), landscape ornamentals, fruit and nut trees, and interior plantscapes.

ALSO

For control of insects on vegetable and ornamental plants in greenhouses and use in nurseries.

ACTIVE INGREDIENT

IMIDACLOPRID – 1-[(6-Chloro-3-pyridinyl)methyl]-N-nitro-2-imidazolidinimine.....	70.0%
OTHER INGREDIENTS	30.0%
Total	100.0%

KEEP OUT OF REACH OF CHILDREN
CAUTION

FIRST AID	
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 15-20 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 15-20 minutes. • Call a poison control center or doctor for treatment advice.
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. Contact the Rocky Mountain Poison Center at 1-866-767-5089 for emergency medical treatment information.	
NOTE TO PHYSICIAN: No specific antidote is available. Treat symptomatically.	

FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident, call CHEMTREC at 1-800-424-9300

United Phosphorus, Inc.
630 Freedom Business Center, Suite 402
King of Prussia, PA 19406
1-800-438-6071 • www.upi-usa.com

Net Contents:
EPA Reg. No. 70506-157
ACCEPTED
with COMMENTS
In EPA Letter Dated:
MAR 6 2008

**Under the Federal Insecticide,
Fungicide, and Rodenticide Act,
as amended, for the pesticide
registered under EPA Reg. No.
70506-157**

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

Caution. Harmful if swallowed or absorbed through skin. Causes eye irritation. Avoid contact with skin, eyes, or clothing. Avoid breathing dust or vapor. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse. Keep children and pets off treated area until spray is dry.

Personal Protective Equipment (PPE):

Applicators and other handlers must wear:

- Long-sleeved shirts 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, 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.

USER SAFETY RECOMMENDATIONS
<ul style="list-style-type: none"> • Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. • Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. • Remove PPE immediately after handling. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

This product is highly toxic to aquatic invertebrates. 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.

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 product is toxic to wildlife and highly toxic to aquatic invertebrates.

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

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 treatment 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.

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.

To Confine Spills: Handle and open container in a manner as to prevent spillage. If the container is leaking or material is spilled for any reason or cause, carefully sweep material into a pile and dispose of as directed for pesticides below. Refer to Precautionary Statements on label for hazards associated with the handling of this material. In spill or leak incidents, keep unauthorized people away.

Pesticide Disposal: Pesticides wastes are toxic. Improper disposal of excess pesticide, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA regional Office for guidance.

Container Disposal: Do not use container in connection with food, feed, or drinking water. Completely empty container into the processing equipment. Then dispose of empty container in a sanitary landfill or by incineration, or if allowed by State and local authorities, by burning. If burned, stay out of smoke.

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.

TURFGRASS APPLICATIONS

Do not apply more than a total of 9.2 oz (0.4 lb ai) per acre per year.

Apply ImiGold 70 DF Insecticide to the following sites, to control/suppress the pests listed in the chart below.

- | | |
|------------------------------------|-----------------|
| Home lawns | Cemeteries |
| Business and office complexes | Parks |
| Shopping complexes | Playgrounds |
| Multi-family residential complexes | Athletic fields |
| Golf courses | Sod farms |
| Airports | |

PESTS CONTROLLED	SCIENTIFIC NAME
Northern and Southern masked chafers	<i>Cyclocephala borealis</i> , <i>C. immaculata</i> , and/or <i>D. lurida</i> .
Asiatic garden beetle	<i>Maladera castanea</i>
European chafer	<i>Rhizotroquis majalis</i>
Green June beetle	<i>Cotinis nilida</i>
May or June beetle	<i>Phyllophaga</i> spp.
Japanese beetle	<i>Popilla japonica</i>
Oriental beetle	<i>Anomala orientalis</i>
Billbugs	<i>Spherophorus</i> spp.
Annual bluegrass weevil	<i>Hyperodes</i> spp.
Annual bluegrass ataenius	<i>Ataenius spretulus</i> and <i>Aphodius</i> spp.
European crane fly	<i>Tibula paludosa</i>
Mole crickets	<i>Scapteriscus</i> spp.
PESTS SUPPRESSED	
Cutworms	
Chinchbugs	

Due to the residual activity of the active ingredient, applications of ImiGold 70 DF Insecticide may be made before target pests lay their eggs. For best control, apply before the eggs hatch. All applications should be followed by rainfall or irrigation to move the active ingredient through the thatch.

When infested turfgrass areas are waterlogged, or soil beneath turf is saturated with water, avoid making applications because it is difficult to obtain thorough and consistent distribution of the product. For best results, ensure that rainfall or irrigation after application will vertically penetrate the soil, allowing the active ingredient to be carried into the zone where the pests are found.

Application

Dilute ImiGold 70 DF Insecticide with enough water so that there is sufficient volume to promote complete distribution into the zone where pests are found. Always use accurately calibrated equipment. Use a low pressure setting, and apply a uniform coarse droplet spray, which will eliminate off-target drift. Calibrate equipment regularly to ensure that the product is being distributed properly.

PESTS	RATE IMIGOLD 70 DF	INSTRUCTIONS
Larvae of: Annual bluegrass weevil	5.8 to 9.2 fl oz or	For best control, apply before egg hatch. Chinch bugs (suppression) apply the

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Asiatic garden beetle Billbug Black turfgrass ataenius Chinch bug (suppression) Cutworms (suppression) European crane fly European chafer Green June beetle Japanese beetle Mole crickets Northern masked chafer Oriental beetle <i>Phyllophaga</i> spp Southern masked chafer	2.7 to 4.3 tsp (0.45 to 0.7 fl oz) per 1000 square ft	maximum rate before the first instar nymphs hatch. For mole crickets, apply before or during the peak egg hatch period. For adults or large nymphs that are actively tunneling, combine ImiGold 70 DF Insecticide with a curative insecticide. To ensure that the active ingredient moves into the turf, irrigation or rainfall should occur within 24 hours of application. Avoid mowing until after sufficient irrigation or rainfall has occurred. Do not apply more than 9.2 oz (0.4 lb ai) per acre per year.
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ORNAMENTAL APPLICATIONS

For use on ornamental plants in commercial and residential landscapes and interior plantscapes.

For outdoor ornamentals, do not apply more than a total of 9.2 oz (0.4 lb ai) per acre per year.

Because ImiGold 70 DF Insecticide is a systemic insecticide that is transported within the plant system from the roots to the upper foliage, it must be applied into a growing area of the plant so that the active ingredient can be absorbed. To promote the uptake of active ingredient, soluble nitrogen type fertilizers can be added to the spray solution.

Applications can be made by foliar or soil applications, including soil injection, drenches, and broadcast sprays. Foliar applications provide locally systemic activity against insect pests.

When the product is applied to woody plants using soil application, the systemic translocation of the active ingredient will be slower, and can take as much as 60 days and sometimes longer, depending on the species and size of the plant.

Use for Ant Management

Use ImiGold 70 DF Insecticide to control ants by removing honeydew as their food source. ImiGold 70 DF Insecticide will control the aphids, scale insects, mealybugs and other sucking pests on ornamentals. For greater ant control, supplement foliar application with residual sprays, baits, or other ant control tactics.

Application

ImiGold 70 DF Insecticide may be used in many types of application equipment. It mixes well with water. For better coverage on hard to wet foliage on plants such as holly, ivy, or pine, add a commercial spreader/sticker.

ImiGold 70 DF Insecticide is compatible with many fungicides, miticides, liquid fertilizers, and insecticides. If the applicator does not have experience with a particular tank mix, use a clear jar to test compatibility using the proportions of the proposed tank mixture.

Do not apply through any irrigation system.

Only for this use in and around industrial and commercial buildings and residential areas

ORNAMENTAL PLANT	PESTS	RATE		INSTRUCTIONS
Trees Shrubs Evergreens Flowers Foliage plants Groundcovers Interior Plantscapes	Adelgids Aphids Japanese beetles Lace bugs Leaf beetles (including elm & viburnum leaf beetles) Leafhoppers (including glassy-winged sharpshooter) Mealybugs Psyllids Sawfly larvae Thrips (suppr.) Whiteflies White grub larvae (Japanese beetle, chafers, Phyllaphaga spp, Asiatic garden beetle, Oriental beetle)	ImiGold 70 DF (level measure) 0.25 tsp 0.5 tsp 1 tsp 2 2/3 tsp 5 1/3 tsp 3 tbsps + 1 2/3 tsp (1.8 fl oz)	<u>Water</u> 2.5 gal 5 gal 10 gal 25 gal 50 gal 100 gal	Use the dilution information to determine the rate for the amount of water needed to uniformly cover the area to be treated. Do not use less than 2 gallons of water per 1000 sq ft. It may be necessary to irrigate thoroughly to incorporate ImiGold 70 DF Insecticide into the upper soil zone. Before pest populations become established, make foliar applications. Apply as needed. To control white grub larvae, apply 3.2-4.3 level tsp per 1000 sq ft.

Only for this use in and around industrial and commercial buildings and residential areas, and state, national, and private wooded and forested areas

ORNAMENTAL PLANT	PESTS	RATE	INSTRUCTIONS
Trees Shrubs Flowers Groundcovers	Adelgids Aphids Armored scales (suppression) Black vine weevil Elm and viburnum) Eucalyptus longhorned borer Flatheaded borers (incl. bronze birch and alder borer) Japanese beetles Lace bugs Leafminers Leaf beetles (incl. Pine tip moth larvae) Leafhoppers (incl. glassywinged sharpshooter) Mealybugs Psyllids	TREES* 0.75 to 1.5 level tsp per inch trunk diameter (D.B.H.) or 1.1 to 2.1 oz per 30 cumulative inches trunk diameter (D.B.H.) SHRUBS** 0.75 to 1.5 level tsp per foot of shrub height or 1.1 to 2.1 oz per 30 cumulative feet of shrub height FLOWERS & GROUNDCOVERS 3.2 to 4.3 level tsp per 1000 sq ft	TREES, SOIL INJECTION: for a grid system, apply in a grid pattern on 2.5 centers within the tree's drip line. For a circle system, apply in evenly spaced holes approximately 1-3 ft apart in a circle within the tree's drip line. More circles may be needed for larger trees. For a basal system, apply in evenly spaced holes no more than 6 to 12 inches out from the tree's base. TREES, SOIL DRENCH: Apply in at least 10 gallons water per 1000 sq ft as a drench around the base of the tree, directed to the root zone. Remove any barrier that may prevent the solution from reaching the root zone. SHRUBS, SOIL INJECTION: Apply as a uniform drench around the base of the shrub, in at least 10 gallons water per 1000 sq ft.

	Royal palm bugs Sawfly larvae Soft scales Thrips (suppression) larvae White grub larvae Whiteflies	Remove any barrier that may prevent the solution from reaching the root zone. <u>FLOWERS AND GROWDCOVERS:</u> Apply as a broadcast treatment, incorporating into the soil before planting. Application can also be made after the plants are established; in this case best control is achieved if plants are irrigated after application.
<p>* Notes and restrictions for TREES: Use enough water so that an equal amount of solution may be injected in each hole. Use low pressure and enough solution to ensure thorough distribution. Keep soil moist for 7-10 days. Use at least 4 holes per tree. No soil injection applications are allowed in Nassau or Suffolk Counties of New York. If trees are already heavily infested with borers, application may not save the tree.</p>		
<p>** Notes and restrictions for SHRUBS: Use enough water so that an equal amount of solution may be injected in each hole. Use low pressure and enough solution to ensure thorough distribution. Use at least 4 holes per shrub. No soil injection applications are allowed in Nassau or Suffolk Counties of New York.</p>		

FOR USE ON POME FRUITS IN AND AROUND RESIDENTIAL AREAS ONLY
 (Apple, Crabapple, Loquat, Mayhaw, Pear, Pear (oriental), Quince)

PESTS	RATE IMIGOLD 70 DF	INSTRUCTIONS
Aphids (except Woolly apple aphid) Leafhoppers (incl. glassy-winged sharpshooter) Leafminer Mealybugs (not for use on this pest on pears in California) San Jose Scale (not for use on this pest on pears in California)	1.8 fl oz (3 tbsp + 1 2/3 tsp) per 100 gallons or 2.1 oz/Acre Note: the amount of product per acre will vary according to tree size and volume of foliage. This rate is based on a standard 400 gallons dilute solution per acre for large trees.	Apply at the specified rate as needed once petal fall is complete. Do not apply more than 2.1 ounces per acre in one single application. Do not make more than 5 applications. Do not apply more often than every 10 days. Preharvest interval: 7 days. <u>Rosy apple aphid:</u> apply before the pest begins leafrolling. <u>First generation leafminers:</u> apply as soon as petal fall is complete. For best control, apply as early as possible. <u>Second and later generation leafminers:</u> apply early in the adult flight to control eggs and early instar larvae. If necessary under conditions of severe pressure or overlapping generations, make a second application 10 days later. Applying only once may result only in suppression. This product will not control late stage larvae. <u>San Jose Scale:</u> make application at the crawler stage. Treat each generation. <u>Leafhoppers, late season control:</u> apply when most leafhoppers are nymphs. <u>Mealybug:</u> for best control, good coverage of trunk, scaffolding limbs, or other resting sites is essential.

FOR USE ON PECANS IN AND AROUND RESIDENTIAL AREAS ONLY

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Note: use on pecans is not allowed in California unless specific supplemental labeling exists

PESTS	RATE IMIGOLD 70 DF	INSTRUCTIONS
Yellow pecan aphid Black margined aphid Pecan leaf phyloxera Pecan spittlebug Pecan stem phylloxera	1.8 fl oz (3 tbs + 1 2/3 tsp) per 100 gallons or 2.1 oz/Acre Note: the amount of product per acre will vary according to tree size and volume of foliage. This rate is based on a standard 400 gallons dilute solution per acre for large trees.	Make foliar applications before pest population becomes severe. For optimum control, 2 applications at 10- to 14-day intervals may be needed. Scout and retreat if necessary. Treat foliage to ensure thorough, uniform coverage. An organosilicone-based spray adjuvant may be added at a rate not exceeding the manufacturer's recommendation, to improve coverage. Do not apply more than 6.3 oz ImiGold 70 DF Insecticide per acre per year. Do not apply more than 3 times. Do not apply more often than every 10 days.

FOR USE ON GRAPES IN AN AROUND INDUSTRIAL AND COMMERCIAL BUILDINGS AND RESIDENTIAL AREAS

PESTS	RATE IMIGOLD 70 DF	INSTRUCTIONS
Leafhoppers, incl. glassy-winged sharpshooter Mealybugs	1.8 fl oz (3 tbs + 1 2/3 tsp) per 100 gallons or 1 oz/Acre	Apply as a foliar spray using 200 gallons water per acre. Do not apply more than 2.1 oz ImiGold 70 DF Insecticide per acre per year. Do not apply more often than every 14 days. ImiGold 70 DF Insecticide may be applied up to and including the day of harvest.

RESTRICTIONS

Do not graze treated areas or use clippings from treated areas for feed or forage.
 Avoid runoff or puddling of irrigation water following application.
 Keep children and pets off treated area until dry.
 Avoid application of ImiGold 70 DF Insecticide to areas which are waterlogged or saturated, which will not allow penetration into the root zone of the plant.
 Do not apply more than 9.2 oz (0.4 lb ai) per acre per year.
 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 plantback interval should be observed.

CHEMIGATION

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

ImiGold 70 DF Insecticide may be applied at rates recommended 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 1:10 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.

Remove scale, pesticide residue and other foreign matter from the tank and entire irrigation system.

Apply ImiGold 70 DF Insecticide only through microirrigation (individual spaghetti tube), drip irrigation, overhead irrigation, ebb and flood, or hand-held or motorized calibrated irrigation equipment.

Do not apply this product through any other type of irrigation system. Crop injury or lack of effectiveness can result from nonuniform distribution of treated water.

If you have any questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

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.

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.

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.

GREENHOUSE AND NURSERY APPLICATIONS

General Information

IMIGOLD 70 DF Insecticide is a systemic product which provides insect control on ornamental and vegetable plants in nurseries and greenhouses. IMIGOLD 70 DF Insecticide will be translocated upward within the plant. Apply this product as a soil treatment only. To assure optimum effectiveness, the product must reach the roots of the plant so that they can absorb the active ingredient.

Irrigate moderately but thoroughly after application. Do not allow leaching or runoff from containers for at least three irrigations or 10 days, whichever is longer.

Resistance: 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. Consult your Cooperative Extension Service for resistance management strategies and recommended pest management practices for your area.

To aid in resistance management, foliar application of any chloronicotinyl insecticide following an IMIGOLD 70 DF Insecticide soil application in the same crop is not recommended.

Incorporate IMIGOLD 70 DF Insecticide by means of cultivation, irrigation, rainfall, mechanical placement, soil injection, drenching, and broadcast sprays.

Woody Perennials: Protection occurs more slowly than in herbaceous species, and a delay of 2 or more weeks should be expected. Longer delays may be expected with larger plants. Therefore it is best to apply well before expected insect activity.

Bark Media: Media with 30 to 50% or more bark content may confer a shorter period of protection when treated with IMIGOLD 70 DF Insecticide.

Tank Mixes: IMIGOLD 70 DF Insecticide has been found to be compatible with commonly used liquid fertilizers, fungicides and insecticides. United Phosphorus recommends that physical compatibility be confirmed using the correct proportion of products in a small jar test if local experience is unavailable.

APPLICATION TO GRASSY AREAS IN NURSERIES

Use IMIGOLD 70 DF Insecticide 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. Do not use IMIGOLD 70 DF Insecticide on commercial sod farms.

Insects controlled: soil inhabiting pests of grassy areas of nurseries such as Northern and Southern masked chafers, *Cyclocephala borealis*, *C. immaculata*, and/or *C. lurida* Asiatic garden beetle, *Maladera castanea* European chafer *Rhizotrogus majalis*

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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 ataenius, *Ataenius spretulus* and *Aphodius* spp.
 Mole crickets, *Scapteriscus* spp.

Insects suppressed: cutworms and hairy chinchbugs.

For best control, apply IMIGOLD 70 DF Insecticide before or during the egg laying period and follow with sufficient irrigation or rainfall which will move the active ingredient through the thatch. The active ingredient in IMIGOLD 70 DF Insecticide has sufficient residual activity so that applications can be made preceding the egg laying activity of the target pests. Use historical monitoring data of the site, previous records or experiences, current season adult trapping or other methods to determine the need for application.

When grassy areas are waterlogged or the soil is saturated with water, adequate distribution of the active ingredient cannot be achieved. Rainfall or irrigation must be able to vertically penetrate in the soil profile. Do not apply more than a total of 9.1 oz (0.4 lb of active ingredient) per acre per year.

Application Equipment for Use on Grassy Areas in Nurseries: Apply IMIGOLD 70 DF Insecticide in enough water to provide adequate coverage of the treated area. Use accurately calibrated equipment normally used for soil application. Use equipment which will produce a uniform, coarse droplet spray, with a low pressure setting to eliminate off-target drift. Check calibration regularly to confirm that equipment is working properly.

RECOMMENDED DRENCH AND IRRIGATION APPLICATIONS

For use only on ornamental and vegetable plants in greenhouses, nurseries and interior plantscapes using soil drenches, micro-irrigation, drip irrigation, overhead irrigation, ebb and flood irrigation, or hand-held or motorized calibrated irrigation equipment.

Pest	Use Pattern		Rate		Remarks
			IMIGOLD 70 DF		
			Container Size (inches)	No. pots treated with 0.6 ounce	
Adelgids	Plants in containers	Herbaceous Species – including Vegetable plants ⁵ (one or two plants per pot)	2	3000	Distribute 0.6 ounce of IMIGOLD 70 DF Insecticide evenly in the specified number of pots, using sufficient water volume to wet potting medium without loss of liquid through leaching. Apply according to label directions.
Aphids			3	2000	
Armored scale (suppression)			4	1500	
Fungus gnats (larvae only) ¹			5	1200	
Japanese Beetle (adults)			6	1000	
			7	850	
Lacebugs			8	750	
			9	675	
Leaf beetles (including elm and viburnum leaf			10	600	
			11	550	
			12	500	

Pest	Use Pattern		Rate		Remarks
			IMIGOLD 70 DF		
beetles) Leafhoppers (including glassy-winged sharpshooter) Leafminers Mealybugs Psyllids Root mealybugs ² Root Weevil Complex (Such as Black Vine Weevil, ApopkaWeevil, Citrus Root Weevil ³) Soft Scale Thrips (suppression) ⁴ White Grub larvae (such as Japanese Beetle, Masked Chafers, European Chafer, Oriental Beetle, Asiatic Garden Beetle) Whiteflies		Woody Perennial Species	2	2000	
			3	1350	
			4	1000	
			5	800	
			6	650	
			7	550	
		8	500		
		9	450		
		10	400		
		11	350		
		12	300		
				Herbaceous Species – including Vegetable plants ⁵ (three or more plants per pot)	
	Ornamental and vegetable ⁵ plants grown in flats, benches, or beds	0.6 ounce per 3000 sq ft		Mix required amount in enough water to uniformly and accurately cover the area being treated. Do not use less than 2 gallons of mixture per 1000 sq. ft. Apply as a broadcast treatment and incorporate into the medium before planting or apply after plants are established. If application is made to established plants, optimum control will be attained if areas are lightly irrigated after application. Allow no leaching or runoff for 10 days after application.	
	Containerized Plants	Container Size	No. Pots Treated with One Ounce	Apply in enough water to wet the potting medium. For best control, apply before egg hatch of the target pest. Irrigate moderately after application to move the active ingredient into the root zone.	
		1 gallon	240 to 120		
		2 gallon	120 to 60		
		3 gallon	90 to 40		
		5 gallon	65 to 30		
White Grub larvae (such as Japanese Beetle, Masked Chafers, European Chafer, Oriental Beetle, Asiatic Garden Beetle)	Field and Forest Nurseries	Apply as a uniform band on either side of row using a band six (6) inches wider than the actual root ball diameter to be dug. Do not allow bands in adjacent rows to overlap. Use one ounce per 1000 ft. of row or 3000 sq. ft. For grub control in turf areas, make a broadcast application using one ounce per 3000 sq. ft.		Mow vegetation in the area to be treated to a height of 3 inches or less before application. Mowing to the lowest possible height will provide more control. Apply May through July. For best control, treatment should be followed by rainfall or irrigation. Do not use less than 2 gallons of spray volume per 1000 square feet.	

¹ **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 IMIGOLD 70 DF Insecticide from a healthy root system translocating the active ingredient up into the plant.

² **Root Mealybug** control will require a thorough drenching of containerized media. Coverage is essential for control while minimizing the amount of leachate. Rate: one ounce in 250 gallons of water.

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

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

⁵ **Note:** For use on vegetable plants intended for resale only 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.

RESTRICTIONS

Do not graze treated areas or use clippings from treated areas for feed or forage.

Do not apply to soils which are water-logged or saturated, which will not allow the penetration of the insecticide into the root zone of the plants.

Do not allow leachate runoff for the first 10 days after application, in order to retain the product and facilitate full plant uptake of the active ingredient.

For outdoor ornamentals grown in beds or turf, applications of IMIGOLD 70 DF Insecticide cannot exceed a total of 9.1 oz (0.4 lb of active ingredient) per acre per year.

On plants with a production cycle of less than one year, application is not to exceed a frequency of more than once each 16 weeks for a particular plant. On stock plants and woody crops with a production cycle of greater than one year, application may not exceed once a 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 should be observed.

PESTS	USES AND INSTRUCTIONS
Adelgids Aphids Armored scales (suppression) Black vine weevil larvae Eucalyptus longhorned borers Flatheaded borers (including bronze birch, emerald ash, and alder borers) Japanese beetles (adults) Lacebugs 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	TREES 0.60 oz. per 8 to 16 inches of cumulative trunk diameter Soil Injection: GRID SYSTEM: Using a grid pattern, space holes on 2.5 foot centers, extending to the drip line of the tree. CIRCLE SYSTEM: Apply in holes evenly spaced in circles, (use more than one circle depending on 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. Use low pressure and sufficient solution for distribution of the liquid into the treatment zone. For best control, keep the treated area moist for 7 to 10 days. Use a minimum of 4 holes per tree. No Soil Injection Application Allowed in Nassau or Suffolk Counties of New York. Soil Drench: Uniformly apply the dosage in at least 10 gallons of water per 1000 square feet as a drench around the base of the tree. Direct to the root zone. Remove plastic or any other barrier that will stop solution from reaching the root zone. For Control of Specified Borers: Application to trees already heavily infested may not prevent the eventual loss of the trees due to existing pest damage and tree stress. SHRUBS 0.60 Oz. per 8 to 16 feet of cumulative shrub height Soil Injection: Apply to individual plants using dosage indicated. 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. No Soil Injection Application Allowed in Nassau or Suffolk Counties of New York. Soil Drench: Uniformly apply the dosage in at least 10 gallons of water

	<p>per 1000 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>FLOWERS AND GROUND COVERS 0.6 oz. per 5000 sq. ft. Apply as a broadcast treatment and incorporate into the soil before planting or apply after plants are established. If application is made to established plants, optimum control will be attained if area is irrigated thoroughly after application.</p>
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IMIGOLD 70 DF Insecticide Ebb & Flood Application

IMIGOLD 70 DF Insecticide may be applied through Ebb and Flood applications. To assure accurate uptake it is recommended that prior to treatment, a minimum of 10 plants be brought up to a known field capacity and allowed to dry out for one or two days. Re-wet the same 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 should minimize the return back to the storage tank. Re-use the returned volume with subsequent irrigation or nutrients on the same plants.

IMIGOLD 70 DF Insecticide EBB & FLOOD APPLICATIONS		
Adelgids Aphids Armored scales (suppression) Fungus Gnats (larvae only) ¹ Japanese Beetles (adults) Lacebugs Leaf beetles (including elm and viburnum leaf beetles)	Leafhoppers (including glassy-winged sharpshooter) Leafminers Mealybugs Psyllids Root mealybugs ² Root Weevil Complex: (such as Apopka Weevil, Black Vine Weevil, Citrus Root Weevil ³)	Soft Scales Thrips (suppression) ⁴ Whiteflies White Grub larvae (such as Japanese Beetle, Masked Chafers, European Chafer, Oriental Beetle, Asiatic Garden Beetle)
	Number of pots treated with 0.6 ounces	
Pot sizes (inches)	Herbaceous species including vegetable plants ⁵ (one or two plants per pot)	Woody perennials, Herbaceous species including vegetable plants ⁵ (3 or more per pot)
2	5000	3300
3	3000	2250
4	2500	1650
5	2000	1325
6	1600	1080
7	1400	900
8	1250	830
9	1120	750
10	1000	665
11	900	580
12	830	500

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- ¹ **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 IMIGOLD 70 DF Insecticide from a healthy root system translocating the active ingredient up into the plant.
- ² **Root Mealybug** control will require a thorough drenching of containerized media. Coverage is essential for control while minimizing the amount of leachate. Rate: 1.7 fl oz (50 mL) in 150 gallons of water.
- ³ **Citrus Root Weevil:** For use on non-bearing citrus nursery stock.
- ⁴ **Thrips** suppression on foliage only. Thrips in buds and flowers will not be suppressed.
- ⁵ **Note:** For use on vegetable plants intended for resale only 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, Sugar Beets, Tomatillo, and Tomato.

**IMPORTANT INFORMATION
READ BEFORE USING PRODUCT**

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