



U.S. ENVIRONMENTAL PROTECTION AGENCY  
 Office of Pesticide Programs  
 Biopesticides and Pollution Prevention Division (7511P)  
 1200 Pennsylvania Ave., N.W.  
 Washington, D.C. 20460

EPA Reg. Number:

92630-1

Date of Issuance:

3/10/2017

NOTICE OF PESTICIDE:

Registration  
 Reregistration  
 (under FIFRA, as amended)

Term of Issuance:

Unconditional

Name of Pesticide Product:

Zadirax

Name and Address of Registrant (include ZIP Code):

AgroPlantae, Inc.  
 1865 Herndon Ave, Suite K321  
 Clovis, CA 93611

**Note:** Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Biopesticides and Pollution Prevention Division prior to use of the label in commerce. In any correspondence on this product, always refer to the above EPA Registration Number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA or the Act).

Registration is in no way to be construed as an endorsement or recommendation of this product by the U.S. Environmental Protection Agency (EPA). In order to protect health and the environment, the Administrator, on his or her motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under the Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is unconditionally registered in accordance with FIFRA section 3(c)(5) provided that you:

1. Submit and/or cite all data required for registration or registration review of your product when the EPA requires all registrants of similar products to submit such data.
2. Make the following labeling change before you release this product for shipment:
  - Revise the EPA Registration Number to read, "EPA Reg. No. 92630-1."

Signature of Approving Official:

Andrew Bryceland, Team Leader  
 Biochemical Pesticides Branch  
 Biopesticides and Pollution Prevention Division (7511P)  
 Office of Pesticide Programs

Date:

3/10/2017

3. Submit one (1) copy of the final printed labeling for the record before you release this product for shipment.

Should you wish to add/retain a reference to your company's website on your label, then please be aware that the website becomes labeling under FIFRA and is subject to review by the EPA. If the website is false or misleading, the product will be considered to be misbranded and sale or distribution of the product is unlawful under FIFRA section 12(a)(1)(E). 40 CFR § 156.10(a)(5) lists examples of statements the EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the EPA find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA-approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance Assurance.

Your release for shipment of this product constitutes acceptance of these terms. If these terms are not complied with, this registration will be subject to cancellation in accordance with FIFRA section 6. A stamped copy of the labeling is enclosed for your records. Please also note that the record for this product currently contains the following acceptable Confidential Statement of Formula (CSF):

- Basic CSF dated 3/8/2017

Any CSFs other than those listed above are superseded.

If you have any questions, please contact Alex Horansky of my branch by phone at (703) 347-0128 or via email at [Horansky.alex@epa.gov](mailto:Horansky.alex@epa.gov).

Sincerely,



Andrew Bryceland, Team Leader  
Biochemical Pesticides Branch  
Biopesticides and Pollution  
Prevention Division (7511P)  
Office of Pesticide Programs

Enclosure

# ZADIRAX

**ACCEPTED**

03/10/2017

Under the Federal Insecticide, Fungicide  
and Rodenticide Act as amended, for the  
pesticide registered under  
EPA Reg. No. 92630-1

**EPA File Symbol 92630-R**

**ACTIVE INGREDIENT:**

Azadirachtin\* ..... 1.2%  
**OTHER INGREDIENTS:** ..... 98.8%  
**TOTAL:** ..... 100.0%

\*Contains 0.0987 lb azadirachtin per gallon.

**KEEP OUT OF REACH OF CHILDREN**

**CAUTION**

**STOP! READ THE ENTIRE LABEL FIRST. OBSERVE ALL PRECAUTIONS AND FOLLOW DIRECTIONS CAREFULLY.**

The label is composed of two sublabels. Sublabel 1 contains commercial uses.  
Sublabel 2 contains consumer uses.

EPA Registration No. 92630-R

EPA Est. No.:

Net Contents:

Batch Code:

AgroPlantae, Inc.  
1865 Herndon Ave, Suite K321  
Clovis, CA 93611

ZADIRAX  
EPA Reg. No. 92630-R  
Label Version (2) Date February 21, 2017  
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## SUBLABEL 1 COMMERCIAL USES

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# ZADIRAX

**EPA File Symbol 92630-R**

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### **PRECAUTIONARY STATEMENTS**

#### **HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

**CAUTION:** Harmful if absorbed through skin or if inhaled. Avoid breathing vapor. Causes moderate eye irritation. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Remove contaminated clothing and wash clothing before reuse.

#### **Personal Protective Equipment (PPE)**

Applicators and other handlers must wear:

- Long sleeved shirt and pants
- Waterproof gloves
- Shoes plus socks

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

#### **User Safety Recommendations**

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.

<b>First Aid</b>	
<b>If on skin or clothing:</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If inhaled:</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth to mouth if possible.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If in eyes:</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15 – 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<p>Have the product container or label with you when calling a poison control center or doctor, or going for treatment. In case of medical emergency involving this product, you may call toll free, 1-877-800-5556 for additional treatment information.</p>	

### **ENVIRONMENTAL HAZARDS**

This pesticide is toxic to fish and aquatic invertebrates. For terrestrial uses: do not apply directly to water or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwater or rinsate.

### **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.

#### **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 (WPS).

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 4 hours.

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
- Waterproof gloves
- Shoes plus socks

**Non-Agricultural Use Requirements**

These requirements apply to uses of this product that are NOT within the scope of the Worker Protection Standard (WPS) 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. For other uses, including golf courses and other non-agricultural uses, do not enter treatment areas without protective clothing until sprays have dried.

Read entire label. Use strictly in accordance with precautionary statements and directions, and with applicable state and federal regulations.

This is an end use product. AgroPlantae, Inc. does not intend that this product be reformulated or repackaged except under a toll repackaging agreement.

**PRODUCT DESCRIPTION:**

ZADIRAX is a botanical product for control of insects on indoor and outdoor plants including ornamental trees, shrubs, flowers, garden vegetables, turfgrass, fruit trees and nut trees.

ZADIRAX has repellent, anti-feedant properties and acts as an oviposition deterrent for some insects. When used as a component of an Integrated Pest Management (IPM) program, ZADIRAX provides an effective resistance management tool.

**MODE OF ACTION:**

ZADIRAX controls target pests on contact or by ingestion. The product acts on pests by way of repellence, anti-feedance, and interference with the molting process.

Azadirachtin, an insect growth regulator (IGR), mimics the pests' hormones and disrupts distinct stages of growth and development of insects and mites. The primary mode of action of azadirachtin is an interference with synthesis and metabolism of ecdysone and the juvenile hormone. Ecdysone is the molting hormone of insects, and azadirachtin can regulate growth leading to death before or during molting.

**INDOOR AND OUTDOOR ORNAMENTAL TREES, SHRUBS, FLOWERS, AND PLANTS ESTABLISHED IN RESIDENTIAL, LANDSCAPE PLANTINGS AROUND INSTITUTIONAL, PUBLIC, COMMERCIAL AND INDUSTRIAL BUILDINGS, PARKS, RECREATIONAL AREAS, GREENHOUSES, SHADECLOTHS, NURSERIES, AND ATHLETIC FIELDS.**

ZADIRAX has been evaluated for phytotoxicity on a wide range of ornamentals and crops. However, since testing on all plant varieties is not feasible, test a small portion of the area to be treated for phytotoxicity before treating the entire area. All possible combinations or sequences of pesticide sprays, including other fertilizers, surfactants, adjuvants and other pesticides have not been tested. Thus, testing for phytotoxicity of spray mixtures is recommended.

The professional user assumes the responsibility for determining the level of tolerance of treated plants to ZADIRAX when applied alone or in tank-mix combinations under commercial growing conditions.

Waxy bloom on certain ornamental plants may be reduced after an ZADIRAX application. Applications of ZADIRAX may remove the glaucous 'blue' coloring from evergreens such as Colorado blue spruce and Koster spruce.

<b>Use ZADIRAX on the following plants:</b>	
<b>Ornamental Plants and Flowers including but not limited to:</b>	Actinopterus, African violets*, ageratum, aglaonema, Algerian ivy, allamanda, alocasia, amaranthus, anthurium, aphelandra, arborvitae, Artemisia, aster, aucuba ilex, azalea, baby's breath, begonia, Boston fern, bougainvillea, boxwood, brachycome; cacti, calabrese, caladium, calathea, calendula, calla, camellia, carnation, ceanothus, chrysanthemum, cineraria, coleus, columbine, cotoneaster, cyclamen, daffodil, dahlia, daisy, daylily, delphinium, dianthus, dieffenbachia, dogwood, dusty miller, Easter lily, English ivy, euphorbia, fern, ficus, foliage plants, foxglove, freesia, fuschia, gaillardia, gardenia, geranium, gerbera, gladiola, gloxinia, gypsophilla, heder, hibiscus, hyacinth, hydrangea, ilex, impatiens, iris, ivy, jasmine, lilac, lily, maidenhair fern, mandevilla, marigold, narcissus, nasturtium, orchid*, pansy, pelargonium, peony, peperomia, petunia, philodendron, phlox, photinia, pinks, pittosporum, poinsettia*, pothos, portulaca, primrose, pyracantha, rhododendron, rose, rosemary, rubber plant, salvia, schefflera, sedum, sempervivum, snapdragon, spathiphyllum, stock, syngonium, tulip, verbena, vinca, wandering jew, yucca, zinnia <b>*Caution is recommended when making applications to these species. Spotting of plant foliage and blossoms is possible.</b>
<b>Ornamental Trees and Shrubs including but not limited to:</b>	Andromeda, arborvitae, ash, Austrian pine, azalea, beech, birch, birdsnest spruce, blue spruce, bougainvillea, boxwood, butternut, cedar, charmaecyparis, cherry, cotoneaster, crabapple, cyprus, dogwood, Douglas fir, elm, euonymus, firethorn, forsythia, hackberry, hawthorn, hemlock, hickory, holly, honey locust, horse chestnut, juniper, larch, laurel, lilac, linden, London planetree, magnolia, mandevilla, maple, mimosa, mountain ash, myrtle, oak, pachysandra, peach, photinia, pine, planetree, poplar, privet, purpleleaf wintercreeper, quince, sage, spruce, sycamore, white cedar, white pine, yew.

## PESTS CONTROLLED OR SUPPRESSED

Use ZADIRAX against the following pests presented in Table 1.

<b>TABLE 1. Target pest species of ZADIRAX</b>	
<p><i>HEMIPTERA AND HOMOPTERA</i> including but not limited to: <b>true bugs</b> including boxelder bugs, chinch bugs, lygus bugs and stink bug; <b>lacebugs; leafhoppers</b> including grape leafhopper, spittlebug, potato leafhopper and variegated leafhopper; <b>mealy bugs</b> including apple mealy bugs, citrus mealy bugs, grape mealy bugs; <b>whiteflies</b> including greenhouse whitefly, silverleaf whitefly and sweet potato whitefly and woolly whitefly; <b>aphids</b> including apple aphid, green peach aphid, melon aphid, pea aphid, potato aphid and rose aphid; <b>psyllids</b> including pear psyllids and <b>scales</b> including black scale, brown soft scale, California red scale, coffee scale, olive scale, San Jose scale, and cottony cushion scale.</p>	<p><i>LEPIDOPTERA</i> including but not limited to: <b>moths</b> including European pine shoot moth, pine tip moth and Tussock moth; <b>leafrollers</b> including blueberry leafroller, filbert leafroller, fruitree leafroller, citrus leafminers, grape leafroller, oblique banded leafroller, omnivorous leafroller; <b>cutworms</b> including black cutworm and citrus cutworm; <b>caterpillars and loopers</b> including bagworms, budworms, cabbage looper, canker worms, case bearers, caseworms, corn earworm, diamondback moth, fruit worms, grapeleaf skeletonizer, gypsy moth, hornworms, imported cabbageworm, navel orangeworm, soybean looper, spruce budworm, tent caterpillar, tip moths, tent caterpillars, tobacco budworm, tobacco hornworm, tomato pinworm and tussock moth; <b>armyworms</b> including beet armyworm, fall armyworm, lawn armyworm, southern armyworm and yellow striped armyworm; <b>webworms</b> and <b>leaf perforators.</b></p>
<p><i>COLEOPTERA</i> including but not limited to: <b>beetles, grubs and weevils</b> including Asian long- horned beetle, bark beetles, black vine weevil, Colorado potato beetle, elm bark beetle, European chafer, flea beetles, Japanese beetle, June beetle, leaf beetles, Mexican bean beetle, Northern masked chafer, rose chafer and Southern masked chafer and twig girdlers.</p>	<p><i>DIPTERA</i> including but not limited to: <b>flies</b> including Caribbean fruit fly, cherry maggots, crane fly, <b>fungus gnat</b>, Hessian fly, oriental fruit fly, Mediterranean fruit fly, marsh crane flies, melon fly, shore fly and walnut husk fly; <b>leafminers</b> including citrus leafminers and serpentine leafminers.</p>
<p><i>THYSANOPTERA</i> including but not limited to: <b>thrips</b> including citrus thrips, flower thrips, gladiolus thrips, onion thrips, thrips palmi and Western flower thrips.</p>	<p><i>ACARINA</i> including but not limited to: <b>mites</b>, red spider mites, brown mite, clover mite, conifer spider mite, European red mite, spruce spider mite, and two-spotted spider mite.</p>
<p><i>ORTHOPTERA</i> including but not limited to: <b>crickets; grasshoppers; locusts</b></p>	<p><i>HYMENOPTERA</i> including but not limited to: <b>sawflies</b> including European sawflies, pear sawflies, red- headed pine sawflies, yellow-headed pin sawflies.</p>



<i>NEMATODA</i>	
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nematodes (suppression)	
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### SPRAY PREPARATION

ZADIRAX is an emulsifiable concentrate to be diluted with water.

#### Water as diluent:

Add one-half the required amount of water to the spray tank, then add ZADIRAX slowly with agitation, and complete filling the tank with water. To prevent separation of the emulsion, mix thoroughly and continue agitation while spraying.

This product forms an emulsion and can separate upon extended or prolonged standing. Re-agitate to assure uniformity of the spray mixture.

It is suggested that the water pH be 5 to 7. Do not use tank additives that alter the pH of the spray solution above pH 7. Buffer the spray solution to alter the pH range as appropriate.

Prepare only the volume needed for the intended application, and use the spray mixture within 24 hours of preparation.

### TANK MIXTURES

ZADIRAX is an emulsifiable concentrate and is compatible with commonly used pesticides and fertilizers. Always check the physical compatibility using a jar test in the correct proportions if needed.

If a broader spectrum of control is required tank-mix ZADIRAX with insecticides or miticides. If a rapid knockdown of heavy populations is necessary, then include an effective contact insecticide/miticide in combination with ZADIRAX.

Tank mixture recommendations are for use only in states where the companion product(s) and the application site are registered.

Always read and follow the directions for use, precautions and limitations for use on all product labels used in combination. **Applications must follow the precautions and limitations of the most restrictive product label in the mixture. Do not exceed the dosage rates of any product.**

Select the right companion products:

IPM uses a variety of control options including biological, chemical, and cultural practices. Azadirachtin is botanical with growth regulator effect on insects and mites. Companion products include pyrethroids, spinosyns, microbial toxins, and chloronicotinyls that can complement azadirachtin. Formulations of bifenthrin, spinosad, abamectins, and imidacloprid are effective for different pests. Select the product that has been proven to provide adequate performance for the pests you are trying to control.

Physical Incompatibility

Do not use ZADIRAX with Captan, Bordeaux mixture, triphenyltin hydroxide, lime sulfur, Rayplex iron or other highly alkaline materials as they can cause phytotoxicity and/or reduced efficacy on some target pests. Tank-mix combinations with compounds known to be incompatible with oil-based formulations are not to be used or phytotoxicity may occur.

### **ADJUVANTS**

The addition of adjuvants may enhance control under certain conditions; the use of adjuvants or oils may cause phytotoxicity and should be thoroughly tested prior to use. Do not add crop oils to spray mixtures intended for use on ornamental plants, flowers, trees, and shrubs.

### **APPLICATION EQUIPMENT**

#### **Ground Equipment**

Apply ZADIRAX with hand-operated (manual) or power spray equipment suitable for low volume and/or high volume applications. Follow the recommendations of the equipment manufacturer when using backpack sprayers, hose-end sprayers, compression (pump-up) sprayers, and other sprayers suitable for foliar applications of insecticides.

#### **Chemigation and Subsurface Equipment**

ZADIRAX may also be applied through chemigation systems and sub-soil treatment equipment; always follow equipment manufacturer's directions.

### **APPLICATION SCHEDULE**

For the most effective control, apply the product when pests are expected to appear or as soon as possible after pests appear and are in immature stages. Spray at an interval of seven (7) to ten (10) days or as the situation warrants.

During high pest infestation levels or when canopy is dense use higher dosage (use) rates and increase the spray frequency. Spraying in the morning or evening hours is recommended. Repeat spraying if rain occurs within two to three hours of spraying.

For additional guidance, consult with the state agricultural experiment station or local extension horticulturalist/arborist for information on tactics and windows of application.

### **APPLICATION RATES**

Use ZADIRAX on ornamental pests as a spray concentration of 0.25 to 1.70% vol/vol per treatment with high volume applications in Table 2.

The application rates are specified as rate ranges depending upon the pest infestations:

**Lower rate ranges with a spray concentration of 0.25 to 0.75% vol/vol:** Use lower rate ranges for light infestations of lepidopterous insects, at the first sign or at the first observation of the early and uniform growth stages of the pest(s), and/or tank mixtures with contact insecticides.

**Medium rate ranges with a spray concentration of 0.75 to 1.25% vol/vol:** Use medium rate ranges for moderate infestations, when multiple growth stages of the pests are present, and/or heterogeneous pesticide populations are present.

**Upper rate ranges with a spray concentration of 1.25 to 1.70% vol/vol:** Use upper rate ranges for moderate to heavy pest populations of difficult-to-control pest species, for the late stages of larva/worms, for dense foliage, and/or when re-infestations occur.

**High Volume Applications:**

Apply ZADIRAX at spray concentration of 0.25 to 1.70% v/v in sufficient amounts of water to achieve complete coverage. Use an adequate spray volume to wet the leaves (foliage) and stems. Spray volumes will vary with the plant size.

Attempt to penetrate dense foliage. Thorough coverage of the upper and lower leaf surfaces is critical for effective levels of control.

Refer to Table 3 for the amounts of ZADIRAX required to prepare spray concentrations of 0.25% to 1.70% for spray volumes of 1 gallon to 200 gallons.

**Specialized Low Volume Applications:**

Select a spray volume to achieve sufficient coverage. Uniform coverage of both upper and lower leaf surfaces is critical for effective insect control.

Apply ZADIRAX in a *minimum* spray volume of 5 gallons per acre. Larger plants will require the higher-spray volumes (20 to 25 gallons per acre) to obtain sufficient coverage.

Do not exceed 20 grams active ingredient per acre per application or 57 fl.oz. of product per acre per application.

Refer to Table 4 for the amounts of ZADIRAX required to prepare spray concentrations of 0.25% to 1.70% for spray volumes of 5 to 25 gallons per acre.

**Table 2. Application rates for ornamentals established in residential, landscape plantings around institutional, public, commercial, and industrial buildings, parks, recreational areas, greenhouses, shade cloths, nurseries, and athletic fields.**

Use	Pests	Spray Concentration %	Amounts of ZADIRAX		
			Fluid ounces per gallon	Fluid ounces per 100 gallons	Quarts per 100 gallons
Including trees, shrubs, flowers, conifers, evergreens, herbaceous ornamentals, foliage plants, container-grown ornamentals, plants and groundcovers	Armyworms	Lower rate ranges of 0.25 to 0.75% vol/vol:	0.32 to 1.0 fl.oz.	32 to 96 fl.oz.	1.0 to 3.0 qt
	Azalea caterpillars				
	Aphids				
	Bagworms	Medium rate ranges of 0.75 to 1.25% vol/vol:	1.0 to 1.60 fl.oz.	96 to 160 fl.oz.	3.0 to 5.0 qt
	Black vine weevils				
	Boxelder bugs				
	Budworms	Upper rate ranges of 1.25 to 1.70% vol/vol:	1.60 to 2.18 fl.oz.	160 to 218 fl.oz.	5.0 to 6.8 qt
	Cankerworms				
	Cutworms				
	Eastern tent caterpillars				
	Elm leaf beetles				
	European sawflies				
	Fall webworms				
	Flea beetles				
	Forest tent caterpillars				
	Gypsy moth larvae				
	Japanese beetles				
	June beetles				
	Lace bugs				
	Leaf-feeding caterpillars				
	Leafhoppers				
	Leafminers				
	Leaf rollers				
	Leaf skeletonizers				
	Oleander moth larvae				
	Pine sawflies				
	Pine shoot beetles				
	Pinetip moths				
	Plant bugs				
	Sawflies (larva)				
	Scale insects (crawlers)				
	Spruce budworm				
	Striped beetles				
	Striped oakworms				
	Thrips				
	Tussock moth larvae				
	Brown softscale				
	California redscale (crawler)				

	Clover mites Mealybugs Pineneedlescale (crawler) Spider mites Whiteflies and other species identified in Table 1.				
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**Table 3. Spray preparation for high volume applications for spray concentrations of 0.25% to 1.70%.**

Gallons of water	Amounts of ZADIRAX for:						
	0.25%	0.50%	0.75%	1.00%	1.25%	1.50%	1.70%
1 gallon	0.32 fl.oz.	0.64 fl.oz.	0.96 fl.oz.	1.28 fl.oz.	1.60 fl.oz.	1.94 fl.oz.	2.18 fl.oz.
5 gallons	1.60 fl.oz.	3.2 fl.oz.	4.8 fl.oz.	6.4 fl.oz.	8.0 fl.oz.	9.7 fl.oz.	10.9 fl.oz.
10 gallons	3.2 fl.oz.	6.4 fl.oz.	9.6 fl.oz.	12.8 fl.oz.	16.0 fl.oz.	19.4 fl.oz.	21.8 fl.oz.
25 gallons	8.0 fl.oz.	16.0 fl.oz.	24.0 fl.oz.	32 fl.oz.	1.25 qts.	1.50 qt	1.70 qt
50 gallons	16.0 fl.oz.	32.0 fl.oz.	1.50 qt.	2.0 qt.	2.5 qt	3.0 qt	3.4 qt
100 gallons	1.0 qt.	2.0 qt.	3.0 qt.	4.0 qt	5.0 qt	6.0 qt	6.8 qt
150 gallons	1.5 qt.	3.0 qt.	4.5 qt.	6.0 qt	7.5 qt	9.0 qt	10.2 qt
200 gallons	2.0 qt.	4.0 qt.	6.0 qt.	8.0 qt	10.0 qt	12.0 qt	13.6 qt

**Table 4. Special spray preparation for low volume applications of 5 to 25 gallons per acre with spray concentrations of 0.25% to 1.70%.**

Spray Concentration Desired, %vol/vol	Spray Volume, Gallons Per Acre				
	5 gpa	10 gpa	15 gpa	20 gpa	25 gpa
0.25% v/v	1.6 fl.oz./acre	3.2 fl.oz./acre	4.9 fl.oz./acre	6.5 fl.oz./acre	8.0 fl.oz./acre
0.50% v/v	3.2 fl.oz./acre	6.4 fl.oz./acre	9.6 fl.oz./acre	12.8 fl.oz./acre	16.0 fl.oz./acre
0.75% v/v	4.8 fl.oz./acre	9.6 fl.oz./acre	14.4 fl.oz./acre	19.2 fl.oz./acre	24.0 fl.oz./acre
1.00% v/v.	6.4 fl.oz./acre	12.8 fl.oz./acre	19.2 fl.oz./acre	25.5 fl.oz./acre	32.0 fl.oz./acre
1.25% v/v	8.0 fl.oz./acre	16.0 fl.oz./acre	24.0 fl.oz./acre	32.0 fl.oz./acre	40.0 fl.oz./acre
1.50% v/v	9.6 fl.oz./acre	19.2 fl.oz./acre	28.9 fl.oz./acre	38.5 fl.oz./acre	48.0 fl.oz./acre
1.70% v/v	10.8 fl.oz./acre	21.6 fl.oz./acre	32.5 fl.oz./acre	43.3 fl.oz./acre	54.0 fl.oz./acre

ZADIRAX

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## **SPECIFIC USE INSTRUCTIONS:**

Decision-making for IPM:

Scouting, monitoring, sampling, record-keeping, and predictive models are techniques to determine *if* and *when* insecticide/miticide applications are needed. The application schedule should coincide with the most vulnerable stage of the pest. For azadirachtin, target the most vulnerable stages of young larvae and young nymphs. The early larval stages and the early instar stages are more susceptible to this IGR than the later stages of the same pests.

For *Lepidoptera*:

- Armyworms: Apply when larvae are small.
- Bagworms: Apply when bags are small and larvae are actively feeding.
- Gypsy moth larvae: Apply when larvae are small and all eggs have hatched.
- Spruce budworms: Apply when larvae are exposed and actively feeding.

For *Acarina*:

- Spider mites: Apply when nymphs are first observed and before mite populations have become severe. Use multiple applications with 7 to 10 day intervals until infestation is controlled. Thorough coverage of both upper and lower leaf surfaces is needed.

For *Thysanoptera*:

- Thrips: Apply early at first signs of infestation and repeat until infestation is controlled.

For *Hymenoptera*:

- Sawfly: Apply when larvae are small. Refer to tree injection method of this label.

For *Hemiptera* and *Homoptera*:

- Leafhoppers: Apply when first observed and repeat applications at 5 to 7 day intervals.
- Mealybugs: Obtain thorough coverage of leaves and twigs.
- Scale: Obtain thorough coverage of leaves and twigs.

For *Coleoptera*:

- Beetles: Apply early at first signs of infestation and repeat applications at 7 to 10 day intervals.
- Japanese beetle (adults): Use foliar applications to repel adult feeding and treat at 5 to 7 day intervals.

For *Diptera*:

- Leafminers: Apply early to larvae when stippling or mining of leaves is first observed. Repeat applications at 7 to 10 day intervals until infestation is controlled.

## **TURFGRASS ESTABLISHED IN RESIDENTIAL (LAWNS), INSTITUTIONAL, PUBLIC, COMMERCIAL AND INDUSTRIAL SITES, PARKS, RECREATIONAL AREAS, GOLF COURSES, SOD FARMS, AND ATHLETIC FIELDS**

Use ZADIRAX to control the pests presented in Table 5. Dilute ZADIRAX in water.

The most vulnerable stage to this product is young larvae and nymphs. Schedule treatments for the early larval stages and early instars when populations are established, but before turf damage becomes noticeable.

The maximum rate on turfgrass of ZADIRAX is 57.0 fl.oz. of product per acre per application or 1.3 fl.oz. product per 1,000 sq.ft. per application. Apply at a rate up to 57 fl.oz. of product per acre. Use the higher rate specified on this label for moderate to heavy infestations.

**Irrigation:**

Avoid (delay or postpone) irrigation for 12 to 24 hours after application of this product.

**Mowing:**

Avoid (delay or postpone) mowing of the treated area for 12 to 24 hours after treatment.

Degree day and plant phenology models can assist in developing the appropriate application schedule for the target pests. Consult your state university or local Cooperative Extension Service office for specific pest control application timing in your area.

ZADIRAX can be tank mixed with other insecticide/miticides if a broader spectrum of pest control is required. Observe all precautionary statements and follow all label directions of companion product(s).

**Specific Use Instructions:**

- Armyworms: Apply during the early morning or late afternoon to maximize control.
- Sod webworm larvae: Applications in the late afternoon or early evening can maximize control.

<b>Table 5. Application rates for turfgrass established in residential (lawns), institutional, public, commercial and industrial sites, parks, recreational areas, golf courses, sod farms, and athletic fields.</b>						
Use	Pests	Amount of ZADIRAX		Spray Volumes		Number of Applications & Interval Days
		fl.oz/acre	fl.oz./1,000 sq.ft.	gals/acre	gals/1,000 sq.ft.	
Cool-Season and Warm-Season Turfgrass	Larvae and nymphs of these pests including but not limited to: Armyworm, Bermudagrass mite, Cutworms, Grasshopper, Sod webworm, Ticks, Chiggers	Up to 57.0 fl.oz.	Up to 1.3 fl.oz.	40 to 100 gpa	1 to 2 gal/1,000 sq.ft.	As needed, 7 days

## GREENHOUSES, NURSERIES, INTERIORSCAPES AND FOR PLANTS GROWN IN CONTAINERS:

### DRENCH APPLICATIONS:

Use ZADIRAX as a soil drench for effective control of soil-borne insect larvae, including soil-borne larvae of foliar pests, such as fungus gnats, nematodes, or soil borne thrips. When applying as a drench, avoid excessive leaching.

Preventive applications as a soil drench may be warranted for certain pests. Soil drench applications of azadirachtin will have a slower rate of activity because of soil absorption when compared to foliar applications of azadirachtin. Target the initial application of a soil drench treatment to coincide with the early stages of young larvae and young nymphs.

Dilute ZADIRAX with water for concentrations of 0.4 to 0.8% vol/vol. Drench the soil in the pot with one (1) pint of finished spray per 1.0 gallon of soil. For fungus gnats, use the 0.4% spray concentration. For mushroom fly maggot control, use the 0.6% vol/vol spray concentration. For leafminers and other difficult to control pests, use the 0.8% vol/vol spray concentration. Two to three (2-3) applications should be scheduled at 10 to 14 day intervals until the pest pressure has ended.

### DILUTION TABLE FOR DRENCH APPLICATIONS

Gallons of water	Amount of ZADIRAX			Application interval	Number of Applications
	0.4%	0.6%	0.8%		
1 gallon	1 Tbs.	1.5 Tbs.	2.0 Tbs.	10 to 14 days	2 to 3
5 gallons	2.5 fl.oz.	4.0 fl.oz.	5.0 fl.oz.	10 to 14 days	2 to 3
10 gallons	5.0 fl.oz.	8.0 fl.oz.	10.0 fl.oz.	10 to 14 days	2 to 3
100 gallons	1.6 qt	2.4 qt	3.2 qt	10 to 14 days	2 to 3

ZADIRAX can also be applied through sub-surface treatment equipment. Always follow manufacturer's use directions.

### HYDROPONIC APPLICATIONS

Hydroponic applications of ZADIRAX control a broad spectrum of insect pests.

- Schedule hydroponic applications on 7 to 10 day intervals depending on the severity of the pest problem.
- Prepare (Mix) solutions of ZADIRAX with water at concentrations of 0.4% to 0.8% vol/vol. The lower concentration (0.4%) and the longer interval (10 days) will be adequate for low to moderate pest pressure. Use the higher concentration (0.8%) and shorter interval (7 days) for high pest pressure. Refer to the chart below for the preparation of 1 to 10 gallons.



<b>DILUTION TABLE FOR RESERVOIR APPLICATIONS</b>		
<b>Gallons of Water</b>	<b>Amounts of ZADIRAX</b>	
	<b>Low to Moderate Pest Pressure at 0.4%</b>	<b>Moderate to High Pest Pressure at 0.8%</b>
1 gallon	0.5 fl.oz. (1 Tbs.)	1 fl.oz. (2 Tbs.)
2 gallons	1.0 fl.oz. (2 Tbs.)	2 fl.oz. (4 Tbs.)
3 gallons	1.5 fl.oz. (3 Tbs.)	3 fl.oz. (6 Tbs.)
4 gallons	2.0 fl.oz. (4 Tbs.)	4 fl.oz. (8 Tbs.)
5 gallons	2.5 fl.oz.	5 fl.oz.
6 gallons	3.0 fl.oz.	6 fl.oz.
7 gallons	3.5 fl.oz.	7 fl.oz.
8 gallons	4.0 fl.oz.	8 fl.oz.
9 gallons	4.5 fl.oz.	9 fl.oz.
10 gallons	5.0 fl.oz.	10 fl.oz.
Equal measures: 1 fl.oz. = 2 Tablespoons (Tbs.) 8 fl.oz. = 1 cup		

### TRIGGER SPRAYERS

Use trigger sprayers for foliar sprays of individual plants. Apply this product when pests are expected to appear or as soon as possible after pests appear and are in immature stages.

Direct the spray to the target pests and provide uniform coverage of the plants. Thorough coverage of the upper and lower leaf surfaces is critical for effective levels of control. Spray at intervals of seven (7) to ten (10) days or as the situation warrants.

Prepare only the amount of spray solution needed for the individual plants to be treated. Refer to the chart below for the amounts of ZADIRAX required to prepare a spray concentration of 1.70% vol./vol. for 1 pint to 1 gallon of spray solution.

<b>DILUTION TABLE FOR TRIGGER SPRAYERS</b>			
<b>Amount of Water</b>	<b>Amounts of ZADIRAX</b>		
	<b>Fluid ounces (fl.oz.)</b>	<b>Millimeters (ml)</b>	<b>Tablespoons (Tbs.)</b>
1 pint	0.28	8	1/2
2 pints	0.56	16	1
4 pints	1.12	34	2
6 pints	1.68	50	3
8 pints, 1 gallon	2.24	66	4
Equal measures: 0.5 fl.oz. = 15 ml = 1 Tbs.			

### TREE INJECTION

Inject ZADIRAX into mature trees established in landscapes, residential settings, nurseries, and forestry sites.

Use appropriate tree injection equipment and follow the instructions provided by the equipment manufacturer.

### Application Schedule for Tree Injections

Consult with your state agricultural experiment station, extension specialist, or your local U.S. Forest Service authority for information on the application schedule for specific pests in your area.

Pests Controlled and Hosts:	
PESTS	HOSTS
Spruce budworm larva	White Spruce Black Spruce Balsam Fir
Pine false webworm	Eastern White Pine Red Pine
Pine sawfly larvae	White Pine
Cedar leafminer	White Cedar

### Dosage Rate for Tree Injections

Use appropriate injection equipment. Inject at the rate of 0.37 to 0.74 fl.oz. (11 to 22 ml) of product per inch tree trunk diameter at breast height. Or, inject at the rate of 0.127 to 0.25 grams azadirachtin per inch tree trunk diameter at breast height.

### INSTRUCTIONS FOR GARDEN CROPS, VEGETABLES, HERBS AND SPICES, FRUITS, AND BERRIES

- For the most effective control, spray the product as soon as possible after pests appear and are in immature stages.
- Spray at an interval of seven to ten days or as the situation warrants. During high pest infestation levels use higher label rates and increase the spray frequency.
- Spraying in the morning or evening hours is recommended.
- Repeat spraying if rain occurs within two to three hours of spraying.

### SPRAY EQUIPMENT

Use any suitable application equipment to ensure uniform coverage.

### USE RATES

Apply ZADIRAX as directed to any food or non-food crop up to and including the day of harvest, at a maximum rate of 57 fl.oz. (20 grams active ingredient) per acre (1.33 fl.oz. per 1,000 sq.ft.) per application. Rates in Table 6 pertain to typical pest infestations.

Apply ZADIRAX alone to food/garden crops on the day of harvest.

Dilute this product with water at 0.5 to 4.0 tablespoons (Tbs.) per gallon of water. Use the lower RATE PER GALLON for low to moderate infestations and use the higher specified RATE PER GALLON for severe infestations.

<b>Table 6. Use rates for garden crops, vegetables, herbs and spices, berries, and fruit.</b>			
<b>CROP</b>	<b>PESTS such as:</b>	<b>Dilution Rate for Sprayers</b>	
		<b>fl.oz. of product per 1,000 sq.ft.</b>	<b>Tbs. of product per 1.0 gallon of water</b>
<i>Leafy Vegetables including but not limited to:</i> <b>Broccoli, Brussel Sprouts, Cabbage, Cauliflower, Collards, Endive, Kale, Lettuce, Spinach</b>	Leafrollers, Cutworms, Loopers, Armyworms	0.19 to 0.96 fl.oz.	3/4 Tbs. To 4 Tbs./gal
	True Bugs, Leafhoppers, Whiteflies, Aphids, Beetles, Weevils, Flies, Thrips, Mites	0.24 to 0.96 fl.oz.	1 Tbs. to 4 Tbs./gal
<i>Root Vegetables, including but not limited to:</i> <b>Beet, Carrot, Horseradish, Parsnip, Potato, Radish, Sweet potato, Turnip, Yams</b>	Beetles, Weevils	0.11 to 0.22 fl.oz.	1/2 Tbs. to 1.5 Tbs./gal
	True Bugs, Leafhoppers, Whiteflies, Aphids, Leafrollers, Cutworms, Loopers, Armyworms, Flies, Thrips, Mites	0.24 to 0.96 fl.oz.	1 Tbs. to 4 Tbs./gal
<i>Fruiting Vegetables including but not limited to:</i> <b>Eggplant, Pepper, Tomatillo, Tomato</b>	Beetles, Weevils Thrips	0.29 to 0.96 fl.oz.	2 Tbs. to 4 Tbs./gal
	True Bugs, Leafhoppers, Whiteflies, Aphids, Leafrollers,	0.29 to 0.96 fl.oz.	2 Tbs. to 4 Tbs./gal
	Cutworms, Loopers, Armyworms, Flies, Mites	0.24 to 0.96 fl.oz.	1 Tbs. to 4 Tbs./gal
<i>Cucurbit Vegetables including but not limited to:</i> <b>Cucumber, Gourd (edible), Muskmelon, Pumpkin, Squash, Watermelon, including Cantaloupe, Casaba, Gherkins, Melons (including hybrids), Zucchini</b>	Beetles, Weevils Thrips	0.29 to 0.96 fl.oz.	2 Tbs. to 4 Tbs./gal
	True Bugs, Leafhoppers, Whiteflies, Aphids, Leafrollers,	0.29 to 0.96 fl.oz.	2 Tbs. to 4 Tbs./gal
	Cutworms, Loopers, Armyworms, Flies, Mites	0.24 to 0.96 fl.oz.	1 Tbs. to 4 Tbs./gal

<b>Table 6. Use rates for garden crops, vegetables, herbs and spices, berries, and fruit.</b>			
<b>CROP</b>	<b>PESTS such as:</b>	<b>Dilution Rate for Sprayers</b>	
		<b>fl.oz. of product per 1,000 sq.ft.</b>	<b>Tbs. of product per 1.0 gallon of water</b>
<i>Legume Vegetables including but not limited to:</i> <b>Bean, Chickpea, Lentil, Pea</b>	Beetles, Weevils Thrips	0.29 to 0.96 fl.oz.	2 Tbs. to 4 Tbs./gal
	True Bugs, Leafhoppers, Whiteflies, Aphids, Leafrollers, Cutworms, Loopers, Armyworms, Flies, Mites	0.29 to 0.96 fl.oz.	2 Tbs. to 4 Tbs./gal
		0.24 to 0.96 fl.oz.	1 Tbs. to 4 Tbs./gal
<i>Bulb Vegetables including but not limited to:</i> <b>Garlic, Onion, Shallot</b>	Beetles, Weevils Thrips	0.29 to 0.96 fl.oz.	2 Tbs. to 4 Tbs./gal
	True Bugs, Leafhoppers, Whiteflies, Aphids, Leafrollers, Cutworms, Loopers, Armyworms, Flies, Mites	0.29 to 0.96 fl.oz.	2 Tbs. to 4 Tbs./gal
		0.24 to 0.96 fl.oz.	1 Tbs. to 4 Tbs./gal
<i>Berries including but not limited to:</i> <b>Blackberry, Blueberry, Raspberry, Strawberry,</b>  <b>others include:</b> <b>Boysenberry, Currants, Dewberry, Elderberry, Gooseberry, Loganberry</b>	Beetles, Weevils Thrips True Bugs, Leafhoppers, Whiteflies,	0.29 to 0.96 fl.oz.	2 Tbs. to 4 Tbs./gal
	Aphids, Leafrollers, Cutworms, Loopers, Armyworms, Flies, Mites	0.29 to 0.96 fl.oz.	2 Tbs. to 4 Tbs./gal
		0:24 to 0.96 fl.oz.	1 Tbs. to 4 Tbs./gal

**Table 6. Use rates for garden crops, vegetables, herbs and spices, berries, and fruit.**

CROP	PESTS such as:	Dilution Rate for Sprayers	
		fl.oz. of product per 1,000 sq.ft.	Tbs. of product per 1.0 gallon of water
<i>Herbs and Spices including but not limited to:</i> <b>Chive, Dill, Fennel, Mustard, Sage, Sweet bay, others include: Anise, Balm, Basil, Black pepper, Borage, Caraway, Catnip, Chamomile, Coriander, Cumin, Curry leaf, Dandelion, Fenugreek, Horehound, Hyssop, Marjoram, Marigold, Mint, Nasturtium, Pennyroyal, Peppermint, Rosemary, Savory, Spearmint, Tansy, Tarragon, Thyme, Wintergreen, Woodruff, Wormwood</b>	Beetles, Weevils Thrips True Bugs, Leafhoppers, Whiteflies, Aphids, Leafrollers, Cutworms, Loopers, Armyworms, Flies, Mites	0.29 to 0.96 fl.oz.	2 Tbs. to 4 Tbs./gal
		0.29 to 0.96 fl.oz.	2 Tbs. to 4 Tbs./gal
		0.24 to 0.96 fl.oz.	1 Tbs. to 4 Tbs./gal
<i>Nut Trees including but not limited to:</i> <b>Almond, Brazil nut, Filbert, Hickory nut, Pecan, Pistachios, Walnut</b>	Beetles, Weevils Thrips True Bugs, Leafhoppers, Whiteflies, Aphids, Leafrollers, Cutworms, Loopers, Armyworms, Flies, Mites	0.29 to 0.96 fl.oz.	2 Tbs. to 4 Tbs./gal
		0.29 to 0.96 fl.oz.	2 Tbs. to 4 Tbs./gal
		0.24 to 0.96 fl.oz.	1 Tbs. to 4 Tbs./gal

<b>Table 6. Use rates for garden crops, vegetables, herbs and spices, berries, and fruit.</b>			
<b>CROP</b>	<b>PESTS such as:</b>	<b>Dilution Rate for Sprayers</b>	
		<b>fl.oz. of product per 1,000 sq.ft.</b>	<b>Tbs. of product per 1.0 gallon of water</b>
<i>Pome Fruits including but not limited to:</i> <b>Apple, Pear, Quince</b>	Beetles, Weevils	0.29 to 0.96 fl.oz.	2 Tbs. to 4 Tbs./gal
	Thrips		
	True Bugs, Leafhoppers, Whiteflies, Aphids, Leafrollers, Cutworms, Loopers, Armyworms, Flies, Mites	0.29 to 0.96 fl.oz.	2 Tbs. to 4 Tbs./gal
<i>Stone Fruits including but not limited to:</i> <b>Apricot, Cherry, Nectarine, Peach, Plum</b>	Beetles, Weevils	0.29 to 0.96 fl.oz.	2 Tbs. to 4 Tbs./gal
	Thrips		
	True Bugs, Leafhoppers, Whiteflies, Aphids, Leafrollers, Cutworms, Loopers, Armyworms, Flies, Mites	0.29 to 0.96 fl.oz.	2 Tbs. to 4 Tbs./gal
<i>Citrus Fruits including but not limited to:</i> <b>Grapefruit, Lemon, Lime, Orange</b> <b>others include:</b> <b>Citrus, Citron, Mandarin (tangerine), Nectarine, Satsuma (orange mandarin), Tangerine</b>	Beetles, Weevils	0.29 to 0.96 fl.oz.	2 Tbs. to 4 Tbs./gal
	Thrips		
	True Bugs, Leafhoppers, Whiteflies, Aphids, Leafrollers, Cutworms, Loopers, Armyworms, Flies, Mites	0.29 to 0.96 fl.oz.	2 Tbs. to 4 Tbs./gal
		0.24 to 0.96 fl.oz.	1 Tbs. to 4 Tbs./gal
		0.24 to 0.96 fl.oz.	1 Tbs. to 4 Tbs./gal

#### **CHEMIGATION GENERAL INFORMATION**

ZADIRAX may be applied through drip (trickle) or sprinkler irrigation systems. Do not apply this product through any other type of irrigation system.

Crop injury, lack of effectiveness, or illegal pesticide residues can result from non-uniform distribution of treated water. Questions concerning calibration should be directed to your State Extension Service Specialist, the equipment manufacturer or other expert.

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. Direct your questions concerning calibration to your State Extension Service Specialist, the equipment manufacturer, or other expert. A person knowledgeable of the chemigation system and responsible for its operation or under the

supervision of a responsible person, shall shut the system down and make necessary adjustments should the need arise.

Dilute ZADIRAX with water before introduction into the system. Use the diluted solution within 8 hours. Do not apply in irrigation water if the pH exceeds 7.0. The optimum pH range for application is 5.5 to 6.5. The pH of the irrigation water can be adjusted by use of a suitable buffering agent. Agitation is necessary. Apply at the specified rate using sufficient water to achieve an even distribution within an 8-hour period. Do not apply ZADIRAX at a rate that exceeds 3.5 pints active ingredient per acre (57 fl. oz).

Caution must be exercised in irrigation waters with a pH greater than 7. If the irrigation cycle will last longer than 8 hours and the ZADIRAX is premixed in the supply tank, the tank mix must be buffered to a pH of 8 or lower.

### **Precautions for Chemigation Systems Connected to a Public Water System**

*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 a year.*

Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone (RPZ), backflow preventer 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 flow outlet end of the fill pipe and the top of 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 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, or in the 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.

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

**Operation of Sprinkler Chemigation or Drip (Trickle) Utilizing A Pressurized Water and Pesticide Injection System:** 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 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 that 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.

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



## **STORAGE AND DISPOSAL**

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

**PESTICIDE STORAGE:** Keep containers tightly closed and in original containers when not in use. Store in a cool, dry place, away from direct sunlight, feed or foodstuffs. Do not store below 50°F (10°C) or above 95 °F (35°C).

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

### **CONTAINER HANDLING:**

**For Plastic Containers - Nonrefillable with capacities equal to or less than 5 gallons:**  
Nonrefillable container. Do not reuse or refill this container.

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.

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

Offer for recycling, if available, or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

### **CONTAINER HANDLING:**

**For Plastic Containers - Nonrefillable with capacities greater than 5 gallons:**  
Nonrefillable container. Do not reuse or refill this container.

Triple rinse container (or equivalent) promptly after emptying

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

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

Offer for recycling, if available, or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**CONTAINER HANDLING:**

**For Refillable Containers:** Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose.

Container cleaning: 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 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

**LIMITED WARRANTY AND DISCLAIMER**

The manufacturer warrants only that the chemical composition of this product conforms to the ingredient statement given on the label, and that the product is reasonably suited for the labeled use when applied according to the Directions for Use.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE MANUFACTURER NEITHER MAKES NOR INTENDS ANY OTHER EXPRESS OR IMPLIED WARRANTIES, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE EXPRESSLY DISCLAIMED. This limited warranty does not extend to the use of the product inconsistent with label instructions, warnings or cautions, or to use of the product under abnormal conditions such as drought, excessive rainfall; tornadoes, hurricanes, etc. These factors are beyond the control of the manufacturer or the seller. Any damages arising from a breach of the manufacturer's warranty shall be limited to direct damages, and shall not include indirect or consequential damages such as loss of profits or values, except as otherwise provided by law.

The terms of this Limited Warranty and Disclaimer cannot be varied by any written or verbal statements or agreements. No employee or agent of the seller is authorized to vary or exceed the terms of this Limited Warranty and Disclaimer in any manner.

## APPENDIX

1. Statements which may appear on different label components depending on packaging configuration.
  - See next panel for additional Precautionary Statements and First Aid
  - Net Contents:
  - EPA Est. No.
  
2. Advertising claims that may be presented on container labeling, advertisements, brochures, and other marketing/sales promotional materials:
  - Botanical insecticide, repellent, anti-feedant and insect growth regulator (IGR)
  - Biological product for control of insects on indoor and outdoor trees, shrubs, flowers, fruit and nut trees, garden vegetables and plants.
  - Indoor and outdoor vegetables, ornamental flowers, trees, turfgrass, shrubs and plants, including plants grown in containers, interiorscapes, home and garden use.
  - Controls mites, caterpillars, whiteflies, thrips, aphids, and other insects as listed on this label.
  - Controls chewing and sucking insects
  - Seven to Fourteen (7 to 14) day residual
  - CAUTION signal word
  - Low-odor formulation
  - Broad-spectrum control
  - Can be applied the day of harvest
  - For use on a wide variety of trees, shrubs, flowers, fruit and nut trees, garden vegetables and plants
  - Low (Mild) odor
  - Not persistent in the environment
  - Organic Materials Review Institute (OMRI) Certified
  - FOR ORGANIC PRODUCTION

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## SUBLABEL 2 CONSUMER USES

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# ZADIRAX

### EPA File Symbol 92630-R

Not for Commercial Use

ACTIVE INGREDIENT:

Azadirachtin\* ..... 1.2%

OTHER INGREDIENTS: ..... 98.8%

TOTAL: ..... 100.0%

\*Contains 0.0987 lb azadirachtin per gallon.

### KEEP OUT OF REACH OF CHILDREN

### CAUTION

**STOP! READ THE ENTIRE LABEL FIRST. OBSERVE ALL PRECAUTIONS AND FOLLOW DIRECTIONS CAREFULLY.**

### PRECAUTIONARY STATEMENTS

#### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**CAUTION:** Harmful if absorbed through skin or if inhaled. Avoid breathing vapor. Causes moderate eye irritation. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Remove contaminated clothing and wash clothing before reuse.

#### Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long sleeved shirt and pants
- Waterproof gloves
- Shoes plus socks

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

**User Safety Recommendations**

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.

**First Aid**

<b>If on skin or clothing:</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If inhaled:</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth to mouth if possible.</li> </ul>
<b>If in eyes:</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15 – 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<p>Have the product container or label with you when calling a poison control center or doctor, or going for treatment. In case of medical emergency involving this product, you may call toll free, 1-877-800-5556 for additional treatment information.</p>	

**ENVIRONMENTAL HAZARDS**

The pesticide is toxic to fish and aquatic invertebrates. To protect the environment, do not allow pesticides to enter or run off into storm drains, drainage ditches, gutters or surface waters. Applying this product in calm weather when rain is not predicted for the next 24 hours will help to ensure that wind or rain does not blow or wash pesticide off the treatment area. Rinsing application equipment over the treated area will help avoid run off to water bodies or drainage systems.

**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.

Read entire label. Use strictly in accordance with precautionary statements and directions, and with applicable state and federal regulations. This is an end use product. PSI/Gordon Corporation does not intend that this product be reformulated or repackaged except under a toll repackaging agreement.

**PRODUCT DESCRIPTION:**

ZADIRAX is a botanical product for control of insects on indoor and outdoor plants including ornamental trees, shrubs, flowers, garden vegetables, fruit trees and nut trees.

ZADIRAX has repellent, anti-feedant properties and acts as an oviposition deterrent for some insects. When used as a component of an Integrated Pest Management (IPM) program, ZADIRAX provides an effective resistance management tool.

**MODE OF ACTION:**

ZADIRAX controls target pests on contact or by ingestion. The product acts on pests by way of repellence, anti-feedance, and interference with the molting process.

Azadirachtin, an insect growth regulator (IGR), mimics the pests' hormones and disrupts distinct stages of growth and development of insects and mites. The primary mode of action of azadirachtin is an interference with synthesis and metabolism of ecdysone and the juvenile hormone. Ecdysone is the molting hormone of insects, and azadirachtin can regulate growth leading to death before or during molting.

**HYDROPONIC APPLICATIONS**

Hydroponic applications of ZADIRAX control a broad spectrum of insect pests.

- Schedule hydroponic applications on 7 to 10 day intervals depending on the severity of the pest problem.
- Prepare (Mix) solutions of ZADIRAX with water at concentrations of 0.4% to 0.8% vol/vol. The lower concentration (0.4%) and the longer interval (10 days) will be adequate for low to moderate pest pressure. Use the higher concentration (0.8%) and shorter interval (7 days) for high pest pressure. Refer to the chart below for the preparation of 1 to 2 gallons.

<b>DILUTION TABEL FOR RESERVOIR APPLICATIONS</b>		
<b>Gallons of Water</b>	<b>Amount of ZADIRAX</b>	
	<b>Low to Moderate Pest Pressure at 0.04%</b>	<b>Moderate to High Pest Pressure at 0.08%</b>
1 gallon	0.5 fl.oz. (1 Tbs.)	1 fl.oz. (2 Tbs.)
2 gallons	1.0 fl.oz. (2 Tbs.)	2 fl.oz. (4 Tbs.)
Equal measures: 1 fl.oz. = 2 Tablespoons (Tbs.) 8 fl.oz. = 1 cup		

**DRENCH APPLICATIONS:**

Use ZADIRAX as a soil drench for effective control of soil-borne insect larvae, including soil-borne larvae of foliar pests, such as fungus gnats, nematodes, or soil borne thrips. When applying as a drench, avoid excessive leaching.

Preventive applications as a soil drench may be warranted for certain pests. Soil drench applications of azadirachtin will have a slower rate of activity because of soil absorption when compared to foliar applications of azadirachtin. Target the initial application of a soil drench treatment to coincide with the early stages of young larvae and young nymphs.

Dilute ZADIRAX with water for concentrations of 0.4 to 0.8% vol/vol. Drench the soil in the pot with one (1) pint of finished spray per 1.0 gallon of soil. For fungus gnats, use the 0.4% spray concentration. For mushroom fly maggot control, use the 0.6% vol/vol spray concentration. For leafminers and other difficult to control pests, use the 0.8% vol/vol spray concentration. Two to three (2-3) applications should be scheduled at 10 to 14 day intervals until the pest pressure has ended.

<b>DILUTION TABEL FOR DRENCH APPLICATIONS</b>					
<b>Gallons of Water</b>	<b>Amount of ZADIRAX</b>			<b>Application Interval</b>	<b>Number of Applications</b>
	<b>0.4%</b>	<b>0.6%</b>	<b>0.8%</b>		
1 gallon	1 Tbs.	1.5 Tbs.	2.0 Tbs.	10 to 14 days	2 to 3
5 gallons	2.5 fl.oz.	4.0 fl.oz.	5.0 fl.oz.	10 to 14 days	2 to 3
10 gallons	5.0 fl.oz.	8.0 fl.oz.	10.0 fl.oz.	10 to 14 days	2 to 3

ZADIRAX can also be applied through sub-surface treatment equipment. Always follow manufacturer's use directions.

### **INSTRUCTIONS FOR GARDEN CROPS, VEGETABLES, HERBS AND SPICES, FRUITS, AND BERRIES**

- For the most effective control, spray the product as soon as possible after pests appear and are in immature stages.
- Spray at an interval of seven to ten days or as the situation warrants. During high pest infestation levels use higher label rates and increase the spray frequency.
- Spraying in the morning or evening hours is recommended.
- Repeat spraying if rain occurs within two to three hours of spraying.

### **SPRAY EQUIPMENT**

Use any suitable application equipment to ensure uniform coverage.

### **USE RATES**

Apply ZADIRAX as directed to any food or non-food crop up to and including the day of harvest, at a maximum rate of 57 fl.oz. (20 grams active ingredient) per acre (1.33 fl.oz. per 1,000 sq.ft.) per application. Rates in Table 6 pertain to typical pest infestations.

Apply ZADIRAX alone to food/garden crops on the day of harvest.

Dilute this product with water at 0.5 to 4.0 tablespoons (Tbs.) per gallon of Water. For hose end sprayers, set the RATE PER GALLON at the dial setting of 1 to 4 Tbs. depending on the crop and pests. Use the lower RATE PER GALLON for low to moderate infestations and use the higher specified RATE PER GALLON for severe infestations.

<b>Table 6. Use rates for garden crops, vegetables, herbs and spices, berries, and fruit.</b>			
<b>CROP</b>	<b>PESTS such as:</b>	<b>Dilution Rate for Sprayers</b>	
		<b>fl.oz. of product per 1,000 sq.ft.</b>	<b>Tbs. of product per 1.0 gallon of water</b>
<i>Leafy Vegetables including but not limited to: Broccoli,</i>	Leafrollers, Cutworms, Loopers, Armyworms	0.19 to 0.96 fl.oz.	3/4 Tbs. to 4 Tbs./gal

ZADIRAX

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Brussels Sprouts, Cabbage, Cauliflower, Collards, Endive, Kale, Lettuce, Spinach	True Bugs, Leafhoppers, Whiteflies, Aphids, Beetles, Weevils, Flies, Thrips, Mites	0.24 to 0.96 fl.oz.	1 Tbs. to 4 Tbs./gal
<i>Root Vegetables, including but not limited to:</i> Beet, Carrot, Horseradish, Parsnip, Potato, Radish, Sweet potato, Turnip, Yams	Beetles, Weevils	0.11 to 0.22 fl.oz.	1/2 Tbs. to 1.5 Tbs./gal
	True Bugs, Leafhoppers, Whiteflies, Aphids, Leafrollers, Cutworms, Loopers, Armyworms, Flies, Thrips, Mites	0.24 to 0.96 fl.oz.	1 Tbs. to 4 Tbs./gal
<i>Fruiting Vegetables including but not limited to:</i> Eggplant, Pepper, Tomatillo, Tomato	Beetles, Weevils Thrips	0.29 to 0.96 fl.oz.	2 Tbs. to 4 Tbs./gal
	True Bugs, Leafhoppers, Whiteflies, Aphids, Leafrollers, Cutworms, Loopers, Armyworms, Flies, Mites	0.29 to 0.96 fl.oz.	2 Tbs. to 4 Tbs./gal
		0.24 to 0.96 fl.oz.	1 Tbs. to 4 Tbs./gal
<i>Cucurbit Vegetables including but not limited to:</i> Cucumber, Gourd (edible), Muskmelon, Pumpkin, Squash, Watermelon, including Cantaloupe, Casaba, Gherkins, Melons (including hybrids), Zucchini	Beetles, Weevils Thrips	0.29 to 0.96 fl.oz.	2 Tbs. to 4 Tbs./gal
	True Bugs, Leafhoppers, Whiteflies, Aphids, Leafrollers, Cutworms, Loopers, Armyworms, Flies, Mites	0.29 to 0.96 fl.oz.	2 Tbs. to 4 Tbs./gal
		0.24 to 0.96 fl.oz.	1 Tbs. to 4 Tbs./gal
<i>Legume Vegetables including but not limited to:</i> <b>Bean</b> , Chickpea, Lentil, <b>Pea</b>	Beetles, Weevils	0.29 to 0.96 fl.oz.	2 Tbs. to 4 Tbs./gal
	Thrips	0.29 to 0.96 fl.oz.	2 Tbs. to 4 Tbs./gal
	True Bugs, Leafhoppers, Whiteflies, Aphids, Leafrollers, Cutworms, Loopers, Armyworms, Flies, Mites	0.24 to 0.96 fl.oz.	1 Tbs. to 4 Tbs./gal



<b>Table 6. Use rates for garden crops, vegetables, herbs and spices, berries, and fruit.</b>			
<b>CROP</b>	<b>PESTS such as:</b>	<b>Dilution Rate for Sprayers</b>	
		<b>fl.oz. of product per 1,000 sq.ft.</b>	<b>Tbs. of product per 1.0 gallon of water</b>
<i>Bulb Vegetables including but not limited to:</i> <b>Garlic, Onion, Shallot</b>	Beetles, Weevils Thrips	0.29 to 0.96 fl.oz.	2 Tbs. to 4 Tbs./gal
	True Bugs, Leafhoppers, Whiteflies, Aphids, Leafrollers, Cutworms, Loopers, Armyworms,	0.29 to 0.96 fl.oz.	2 Tbs. to 4 Tbs./gal
	Flies, Mites	0.24 to 0.96 fl.oz.	1 Tbs. to 4 Tbs./gal
<i>Berries including but not limited to:</i> <b>Blackberry, Blueberry, Raspberry, Strawberry, others include: Boysenberry, Currants, Dewberry, Elderberry, Gooseberry, Loganberry</b>	Beetles, Weevils Thrips True Bugs,	0.29 to 0.96 fl.oz.	2 Tbs. to 4 Tbs./gal
	Leafhoppers, Whiteflies, Aphids, Leafrollers, Cutworms, Loopers, Armyworms, Flies,	0.29 to 0.96 fl.oz.	2 Tbs. to 4 Tbs./gal
	Mites	0:24 to 0.96 fl.oz.	1 Tbs. to 4 Tbs./gal

**Table 6. Use rates for garden crops, vegetables, herbs and spices, berries, and fruit.**

CROP	PESTS such as:	Dilution Rate for Sprayers	
		fl.oz. of product per 1,000 sq.ft.	Tbs. of product per 1.0 gallon of water
<i>Herbs and Spices including but not limited to:</i> <b>Chive, Dill, Fennel, Mustard, Sage, Sweet bay, others include: Anise, Balm, Basil, Black pepper, Borage, Caraway, Catnip, Chamomile, Coriander, Cumin, Curry leaf, Dandelion, Fenugreek, Horehound, Hyssop, Marjoram, Marigold, Mint, Nasturtium, Pennyroyal, Peppermint, Rosemary, Savory, Spearmint, Tansy, Tarragon, Thyme, Wintergreen, Woodruff, Wormwood</b>	Beetles, Weevils Thrips True Bugs, Leafhoppers, Whiteflies, Aphids, Leafrollers, Cutworms, Loopers, Armyworms, Flies, Mites	0.29 to 0.96 fl.oz.	2 Tbs. to 4 Tbs./gal
		0.29 to 0.96 fl.oz.	2 Tbs. to 4 Tbs./gal
		0.24 to 0.96 fl.oz.	1 Tbs. to 4 Tbs./gal
<i>Nut Trees including but not limited to:</i> <b>Almond, Brazil nut, Filbert, Hickory nut, Pecan, Pistachios, Walnut</b>	Beetles, Weevils Thrips True Bugs, Leafhoppers, Whiteflies, Aphids, Leafrollers, Cutworms, Loopers, Armyworms, Flies, Mites	0.29 to 0.96 fl.oz.	2 Tbs. to 4 Tbs./gal
		0.29 to 0.96 fl.oz.	2 Tbs. to 4 Tbs./gal
		0.24 to 0.96 fl.oz.	1 Tbs. to 4 Tbs./gal

<b>Table 6. Use rates for garden crops, vegetables, herbs and spices, berries, and fruit.</b>			
<b>CROP</b>	<b>PESTS such as:</b>	<b>Dilution Rate for Sprayers</b>	
		<b>fl.oz. of product per 1,000 sq.ft.</b>	<b>Tbs. of product per 1.0 gallon of water</b>
<i>Pome Fruits including but not limited to:</i> <b>Apple, Pear, Quince</b>	Beetles, Weevils	0.29 to 0.96 fl.oz.	2 Tbs. to 4 Tbs./gal
	Thrips		
	True Bugs, Leafhoppers, Whiteflies, Aphids, Leafrollers, Cutworms, Loopers, Armyworms, Flies, Mites	0.29 to 0.96 fl.oz.	2 Tbs. to 4 Tbs./gal
<i>Stone Fruits including but not limited to:</i> <b>Apricot, Cherry, Nectarine, Peach, Plum</b>	Beetles, Weevils	0.29 to 0.96 fl.oz.	2 Tbs. to 4 Tbs./gal
	Thrips		
	True Bugs, Leafhoppers, Whiteflies, Aphids, Leafrollers, Cutworms, Loopers, Armyworms, Flies, Mites	0.29 to 0.96 fl.oz.	2 Tbs. to 4 Tbs./gal
<i>Citrus Fruits including but not limited to:</i> <b>Grapefruit, Lemon, Lime, Orange</b> <b>others include:</b> <b>Citrus, Citron, Mandarin (tangerine), Nectarine, Satsuma (orange mandarin), Tangerine</b>	Beetles, Weevils	0.29 to 0.96 fl.oz.	2 Tbs. to 4 Tbs./gal
	Thrips		
	True Bugs, Leafhoppers, Whiteflies, Aphids, Leafrollers, Cutworms, Loopers, Armyworms, Flies, Mites	0.29 to 0.96 fl.oz.	2 Tbs. to 4 Tbs./gal
		0.24 to 0.96 fl.oz.	1 Tbs. to 4 Tbs./gal

#### TRIGGER SPRAYERS

Use trigger sprayers for foliar sprays of individual plants. Apply this product when pests are expected to appear or as soon as possible after pests appear and are in immature stages.

Direct the spray to the target pests and provide uniform coverage of the plants. Thorough coverage of the upper and lower leaf surfaces is critical for effective levels of control. Spray at intervals of seven (7) to ten (10) days or as the situation warrants.

Prepare only the amount of spray solution needed for the individual plants to be treated. Refer to the chart below for the amounts of ZADIRAX required to prepare a spray concentration of 1.70% vol/vol for 1 pint to 1 gallon of spray solution.

DILUTION TABLE FOR TRIGGER SPRAYERS			
Amount of Water	Amounts of ZADIRAX		
	Fluid ounces (fl.oz.)	Millimeters (ml)	Tablespoons (Tbs.)
1 pint	0.28	8	1/2
2 pints	0.56	16	1
4 pints	1.12	34	2
6 pints	1.68	50	3
8 pints, 1 gallon	2.24	66	4
Equal measures: 0.5 fl.oz. = 15 ml = 1 Tbs.			

## STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE:** Keep containers tightly closed and in original containers when not in use. Store in a cool, dry place, away from direct sunlight, feed or foodstuffs. Do not store below 50°F (10°C) or above 95 °F (35°C).

**PESTICIDE DISPOSAL AND CONTAINER HANDLING:** Nonrefillable container. Do not reuse or refill this container. **If empty:** Place in trash or offer for recycling if available. **If partially full:** Call your local solid waste agency or go to their website for disposal instructions. Never place unused product down any indoor or outdoor drain.

## LIMITED WARRANTY AND DISCLAIMER

FOR USE ONLY AS DIRECTED. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE MANUFACTURER NEITHER MAKES NOR INTENDS ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE HEREBY EXPRESSLY DISCLAIMED. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, IN NO CASE SHALL THE MANUFACTURER BE LIABLE FOR INCIDENTAL, CONSEQUENTIAL, OR SPECIAL DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT. If these terms are not acceptable, return this product unopened immediately to the point of purchase, and the purchase price will be refunded in full. The terms of this LIMITED WARRANTY AND DISCLAIMER cannot be varied by any written or verbal statements or agreements at the point of sale or elsewhere.

## APPENDIX

1. Statements which may appear on different label components depending on packaging configuration.
  - See next panel for additional Precautionary Statements and First Aid
  - Net Contents:
  - EPA Est. No.
  
2. Advertising claims that may be presented on container labeling, advertisements, brochures, and other marketing/sales promotional materials:
  - Botanical insecticide, repellent, anti-feedant and insect growth regulator (IGR)
  - Biological product for control of insects on indoor and outdoor trees, shrubs, flowers, fruit and nut trees, garden vegetables and plants.
  - Indoor and outdoor vegetables, ornamental flowers, trees, turfgrass, shrubs and plants, including plants grown in containers, interiorscapes, home and garden use.
  - Controls mites, caterpillars, whiteflies, thrips, aphids, and other insects as listed on this label.
  - Controls chewing and sucking insects
  - Seven to Fourteen (7 to 14) day residual
  - CAUTION signal word
  - Low-odor formulation
  - Broad-spectrum control
  - Can be applied the day of harvest
  - For use on a wide variety of trees, shrubs, flowers, fruit and nut trees, garden vegetables and plants
  - Low (Mild) odor
  - Not persistent in the environment
  - Organic Materials Review Institute (OMRI) Certified
  - Can be used in Organic Gardening
  - Distributed exclusively by AgroPlantae, Inc.