

AZATIN[®] XL

BIOLOGICAL INSECTICIDE

SPECIMEN LABEL

For Indoor and Outdoor Use on Ornamentals and Horticultural Crops Insect Growth Regulator

ACTIVE INGREDIENT:

Azadirachtin* 3.0%

OTHER INGREDIENTS: 97.0%

TOTAL: 100.0%

*Contains 0.265 pounds (120 grams) of azadirachtin per gallon

EPA Reg. No. 70051-27-59807

EPA Est. No.: 44616-MO-1

If you have questions or comments regarding the use of this product, please call 1-800-356-4647.

KEEP OUT OF REACH OF CHILDREN

CAUTION

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION: Harmful if swallowed or inhaled. Avoid breathing vapors or spray mist. Causes moderate eye irritation. Harmful if absorbed through skin. 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 and wash contaminated clothing before reuse.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- long-sleeved shirt and long pants
- chemical resistant gloves such as barrier laminate or Viton (≥ 14 ml)
- shoes plus socks, and
- protective eye wear.

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

FIRST AID

If swallowed: 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 a poison control center or doctor. Do not give anything to an unconscious person.

If inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

If on skin or clothing: Take off contaminated clothing. 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. Hot Line Number: 1-800-356-4647.

User Safety Recommendations:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

Net Contents: 1 quart (946mL)



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. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. Do not contaminate water when disposing of equipment washwaters or rinsate.

PHYSICAL OR CHEMICAL HAZARDS

Combustible: Do not use or store near heat or open flame.

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.

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

For early entry into 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, wear:

- Coveralls.
- Chemical-resistant gloves, such as barrier laminate or butyl rubber or nitrile rubber or neoprene rubber or polyvinylchloride (PVC) or Viton.
- Shoes plus socks.
- Protective Eyewear

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 Standards for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, or greenhouses. For other uses including golf courses, and other non-agricultural uses, do not enter treated areas without protective clothing until sprays have dried.

Pests controlled by AZATIN® XL

Aphids, such as:

Apple Aphid
Cotton Aphid
Green Peach Aphid
Melon Aphid
Pea Aphid
Potato Aphid
Rose Aphid

Armyworms, such as:

Beet Armyworm
Fall Armyworm
Lawn Armyworm
Southern Armyworm
Yellowstriped Armyworm

Bagworms

Beetles, Grubs and Weevils, such as:

Black Vine Weevil
Colorado Potato Beetle
Elm Leaf Beetle
Flea Beetle
Japanese Beetle
June Beetle
Mexican Bean Beetle
Rose Chafer

Cankerworms, such as:

Fall Cankerworm
Spring Cankerworm

Caterpillar and Loopers, such as:

Cabbage Looper
Corn Earworm
Diamondback Moth
Grapeleaf Skeletonizer
Imported Cabbage Worm
Navel Orange Worm
Soybean Looper
Tent Caterpillar
Tobacco Budworm
Tobacco Hornworm
Tomato Fruitworm
Tomato Pinworm

Chafers, such as:

European Chafer
Northern Masked Chafer
Rose Chafer
Southern Masked Chafer

Cutworms, such as:

Black Cutworm
Citrus Cutworm

Flies, such as:

Caribbean Fruit Fly
Crane Fly
Fungus Gnat
Hessian Fly
Oriental Fruit Fly
Mediterranean Fruit Fly
Melon Fly
Shore Fly
Walnut Husk Fly

Leaf Tiers

Leafhoppers, such as:

Grape Leafhopper
Potato Leafhopper
Variegated Leafhopper

Leafminers, such as:

Citrus Leafminer
Serpentine Leafminer
Vegetable Leafminer

Leafrollers, such as:

Blueberry Leafroller
Filbert Leafroller
Fruitree Leafroller
Grape Leafroller
Oblique Banded Leafroller
Omnivorous Leafroller

Leaf Perforators

Marsh Crane Flies

Mealybugs

Moths, such as:

European Pine Shoot Moth
Pine Tip Moth
Tussock Moth

Psyllids

Sawflies

Thrips, such as:

Citrus Thrips
Flower Thrips
Gladiolus Thrips
Western Flower Thrips

Whiteflies, such as:

Greenhouse Whitefly
Silverleaf Whitefly
Sweetpotato Whitefly

CROPS ON WHICH AZATIN® XL CAN BE USED

Azatin® XL can be used indoors and outdoors. Plants may be potted, grown in the soil or soil-less mixtures or grown hydroponically.

Bedding Plants, Flowers, Potted Plants and Foliage, such as:

Actinopteris
 Aglaonema
 Allamanda
 Algerian Ivy
 Alocasia
 Anthurium
 Aphelandra
 Artemisia
 Aster
 Aucuba Illex
 Azalea
 Baby's Breath
 Begonia
 Bougainvillea
 Boston Fern
 Boxwood
 Brachycome
 Cacti
 Calabrese
 Caladium
 Calla
 Calathea
 Calendula
 Carnation
 Chrysanthemum
 Coleus
 Columbine
 Dahlia
 Daisy
 Daylily
 Delphinium
 Dianthus
 Dieffenbachia
 Dusty Miller
 Easter Lily
 English Ivy
 Euphorbia
 Fern
 Ficus
 Foxglove
 Freesia
 Fuchsia
 Gaillardia
 Gardenia
 Geranium
 Gerbera
 Gladioli
 Gypsophilla
 Hedera
 Hibiscus

Impatiens
 Iris
 Lily
 Manvilla
 Marigold
 Nasturtium
 Pansy
 Pelargonium
 Peony
 Peperomia
 Petunia
 Philodendron
 Phlox
 Photinia
 Pittosporum
 Pinks
 Poinsettia
 Pothos
 Portulaca
 Rosemary
 Rose
 Rubberplant
 Salvia
 Schefflera
 Sedum
 Sempervivum
 Snapdragon
 Spathiphyllum
 Stock
 Syngonium
 Verbena
 Vinca
 Wandering Jew
 Zinnia

Ornamentals, such as:

Ageratum
 Arborvitae
 Aster
 Aucuba Illex
 Azalea
 Begonia
 Boxwood
 Cacti
 Calendula
 Calla
 Camella
 Camellia
 Carnation
 Ceanothus
 Chrysanthemum
 Cineraria
 Coleus

Cotoneaster
 Cyalmen
 Daffodil
 Dahlia
 Delphinium
 Dogwood
 Ficus
 Foliage Plants
 Fuchsia
 Gardenia
 Geranium
 Hyacinth
 Hydrangea
 Iris
 Ivy
 Lily
 Maidenhair Fern
 Marigold
 Narcissus
 Orchid
 Pansy
 Pelargonium
 Peony
 Phlox
 Photinia
 Pittosporum
 Poinsettia
 Pyracantha
 Rhododendron
 Rose
 Rubber Plant
 Snapdragon
 Stock
 Tulip
 Wandering Jew
 White Cedar
 White Pine
 Yew
 Yucca
 Zinnia

Trees and Shrubs, such as:

Andromeda
 Arborvitae
 Ash
 Austrian Pine
 Azalea
 Beech
 Birch
 Birdsnest Spruce
 Blue Spruce
 Boxwood
 Butternut

Cedar
 Chamaecyparis
 Cherry
 Crabapple
 Cotoneaster
 Cyprus
 Dogwood
 Douglas Fir
 Elm
 Euonymus
 Firethorn
 Forsythia
 Hackberry
 Hawthorn
 Hemlock
 Hickory
 Holly
 Honey Locust
 Horse Chestnut
 Juniper
 Larch
 Laurel
 Lilac
 Linden
 London Plane
 Magnolia
 Manvilla
 Maple
 Mimosa
 Mountain Ash
 Myrtle
 Oak
 Pachysandra
 Peach
 Pine
 Planetree
 Poplar
 Privet
 Quince
 Spruce
 Sycamore

Brassica (Cole) Crops, such as:

Broccoli
 Brussels sprouts
 Bok Choy
 Cabbage
 Chinese cabbage
 Cauliflower

Bulb Vegetables, such as:

Garlic
 Leek
 Onion
 Shallot

Citrus Fruits, such as:

Calamandin
 Citrus citron
 Grapefruit
 Kumquat
 Lemon
 Limes
 Mandarin
 (tangerine)
 Orange, sour
 Orange, sweet
 Pummelo
 Satsuma mandarin

Cucurbit Vegetables, such as:

Balsam pear
 (bitter melon)
 Cantaloupe
 Casaba
 Chinese waxgourd
 Citron Melon
 Crenshaw
 Cucumber
 Gherkin
 Gourds
 Honeydew
 Honeyballs
 Mango Melon
 Pumpkin
 Squash
 Watermelon

Fruiting Vegetables, such as:

Eggplant
 Ground Cherry
 Pepinos
 Peppers
 Tomatillo
 Tomato

Herb and Spices such as:

Anise
 Balm
 Basil
 Borage
 Burnet
 Chamomile
 Caraway
 Catnip
 Celery
 Chives

Coriander
 Costmary
 Cumin
 Curry Leaf
 Dandelion
 Dill
 Fennel
 Fenugreek
 Horehound
 Hyssop
 Marigold
 Marjoram
 Mint
 Nasturtium
 Pennyroyal
 Rosemary
 Rue
 Sage
 Savory
 Sweet bay
 Tansy
 Tarragon
 Thyme
 Wintergreen
 Woodruff
 Wormwood

Leafy Vegetables, such as:

Chinese Spinach
 Celery
 Chervil
 Collards
 Corn salad
 Chrysanthemum (edible)
 Cress
 Endive
 Fennel
 Kale
 Kohlrabi
 Lettuce
 Mustard Greens
 Orach
 Parsley
 Rhubarb
 Spinach
 Swiss Chard
 Turnip tops

Nuts, such as:

Almond
 Beach nut
 Brazil nut
 Butternut
 Cashew
 Chestnut

Chinquapin
 Filberts (hazelnuts)
 Hickory nuts
 Lychee
 Macadamia
 Pecan
 Pistachio
 Walnuts

**Pome Fruits,
 such as:**

Apple
 Crabapple
 Loquat
 Mayhaws
 Pear
 Quince
 Jujube

**Root and Tuber
 Crops, such as:**

Beet, red
 Beet, sugar
 Carrot
 Cassava
 Celeriac

Chervil
 Dasheen (taro)
 Ginger
 Horseradish
 Jicama
 Parsnip
 Potato
 Radish
 Radish, Japanese
 (Daikon)

Rutabaga
 Salsify
 Sweet potato
 Turmeric
 Turnip
 Yam
 Yam bean

**Stone Fruits,
 such as:**

Apricot
 Cherry, sour
 Cherry, sweet
 Nectarine
 Peach
 Plum
 Prune

**Miscellaneous
 Crops, such as:**

Artichoke
 Asparagus
 Avocado
 Birdseed
 Coffee
 Cacao
 Edible Flowers
 Feijoa
 Figs
 Hops
 Guayule
 Kiwi
 Okra
 Palm
 Papaya
 Pawpaw
 Persimmon
 Pineapple
 Suger Cane
 Tamarillo
 Tea
 Tobacco
 Waterchestnut
 Watercress

**GENERAL APPLICATION DIRECTIONS
 READ ALL DIRECTIONS BEFORE USING.**

Dilute **Azatin® XL** in water at a rate up to 21 fluid ounces (20 grams active ingredient) per acre. Apply using any suitable ground or aerial equipment, in a manner to obtain uniform and complete plant coverage.

For agronomic crops apply using conventional application equipment in a minimum of 30 gallons of water per acre and aerial application equipment in a minimum of 3 gallons of water per acre.

Avoid over-spraying to the point of excessive runoff.

The maximum application rate is 20 grams of active ingredient or less per acre according to the tolerance exemption (40 CFR 180.1119).

Refer to tables for detailed dilution rates.

Important note: This product has been evaluated for phytotoxicity on a wide range of crops. However, since all combinations or sequences of pesticide sprays including fertilizers, surfactants and adjuvants have not been tested, spray a small area first to make certain that no phytotoxicity occurs.

PREHARVEST INTERVAL

There are no restrictions on applying this product up to the time of harvest. Individual state regulations may vary and should be consulted for allowable pre-harvest interval.

MODE OF ACTION

This product controls targeted insect larvae when they ingest or come in contact with it, by interfering with the insect's ability to molt. It is effective on all larval stages and pupae. It also reduces crop damage by repelling and deterring feeding of all stages of insects.

Application Rates for Whitefly and Other Greenhouse (including Lath and Shade), Nursery and Interiorscape Pests		
Apply Azatin® XL at the dilution rate in 100 gallons of water to assure adequate plant coverage (use 1-2 gallons of spray solution / 1,000 sq. feet).		
Pests controlled by Azatin® XL	Rate of Azatin® XL per 100 gallons water	Remarks
Aphids	12 to 16 fl.oz.	Suppression and adult feeding deterrence.
Armyworms	10 to 16 fl.oz.	Foliar application to larvae.
Black Vine Weevil	21 fl. oz. / acre	Soil and foliar application to larvae.
Fungus Gnats	8 fl. oz.	Apply as soil drench for maggot control.
Leafminers	10 to 16 fl.oz.	Foliar application to larvae.
Western Flower Thrips	12 to 16 fl.oz.	Suppression of larvae and adult feeding deterrence.
Sweetpotato Whitefly	10 to 16 fl.oz.	Foliar application to larvae and nymphs.
Silverleaf Whitefly	10 to 16 fl.oz.	Foliar application to larvae and nymphs.
Greenhouse Whitefly	10 to 16 fl.oz.	Foliar application to larvae and nymphs.
Others Bagworms Cankerworms Cutworms Leafhoppers Leafrollers Sawflies Tent Caterpillars	10 to 16 fl.oz.	Foliar application to nymphs / larvae.

Azatin Application Rates for Key Insect Pests in Vegetables, Fruits, and Nut Crops

Apply **Azatin® XL** at the application rates in sufficient water to assure adequate coverage. (Conventional application equipment: apply in a minimum of 30 gallons water per acre). (Aerial application equipment: apply in a minimum of 3 gallons water per acre).

Pests controlled by Azatin® XL	Rate Azatin® XL per acre	Remarks
Aphids, such as: Cotton Aphid Green Peach Aphid Hop Aphid Potato Aphid	10 to 16 fl.oz.	Foliar application, for suppression only
Armyworms, such as: Beet Armyworm Fall Armyworm Southern Armyworm Yellowstriped Armyworm	5 to 16 fl.oz.	Foliar application to larvae
Beetles, such as: Colorado Potato Beetle	5 to 16 fl.oz.	Foliar application to larvae
Caterpillars, such as: Corn Earworm Diamondback Moth Imported Cabbageworm Navel Orangeworm Tobacco Budworm Tobacco Hornworm Tomato Fruitworm Western Grapeleaf Skeletonizer	10 to 21 fl.oz. 10 to 16 fl.oz. 5 to 16 fl.oz. 10 to 21 fl.oz. 5 to 16 fl.oz. 5 to 16 fl.oz. 5 to 16 fl.oz. 5 to 16 fl.oz.	Foliar application to larvae
Cutworms, such as: Citrus Cutworm Black Cutworm	5 to 16 fl.oz. 5 to 10 fl.oz.	Foliar application to larvae
Loopers, such as: Cabbage Looper Soybean Looper	5 to 10 fl.oz.	Foliar application to larvae
Leafminers, such as: Citrus Leafminer Serpentine Leafminer Vegetable Leafminer	10 to 16 fl.oz.	Foliar application to larvae. Use with oil.
Leafhoppers, such as: Grape Leafhopper Variegated Leafhopper	10 to 16 fl.oz.	Foliar application to nymphs. Use equipment to target the underside of leaves.
Whiteflies, such as: Greenhouse Whitefly Silverleaf Whitefly Sweetpotato Whitefly	10 to 21 fl.oz.	Foliar application to nymphs. Use equipment to target undersides of leaves.
*When using lower rates (less than 10 fl.oz.), combine AZATIN® XL with an approved adjuvant such as a non-phytotoxic crop oil, up to 1%. Always ensure good coverage by adjusting spray gallonage. Treat early for best control. Do NOT use less than 10 fl.oz. in California.		

Make applications when pests first appear and are in their early larval stages. Repeat applications every 7 days or as needed.

For best results, add a spreader-sticker at the label rates.

Maintain dilute solutions containing **Azatin® XL** at a pH between 3 and 7, and apply soon after preparation. Do not store for later use.

This product may be pre-mixed in a supply tank with water, fertilizer or other appropriate agricultural chemicals. Agitation is necessary (See Mixing Directions). Crop injury or lack of effectiveness can result if uniform distribution is not achieved.

When pest populations are high, use the higher label rates.

SPRAY:

High volume - When plant foliage is dense, use the higher label **Azatin® XL** rates and increase spray gallonage to obtain uniform and complete coverage.

Aerial / low / ultra low volume - Apply **Azatin® XL** at rates of 5 to 21 fl.oz. / acre (10-21 fl.oz. in California) in a minimum of 3 gallons of water per acre. For best results, ensure uniform and complete plant coverage.

DRENCH / CHEMIGATION:

This product is effective as a soil drench for controlling soil-borne insect larvae (e.g. Fungus Gnats).

It is also effective as a soil drench for controlling foliar and soil-borne pests, particularly when alternated with **Azatin® XL** foliar sprays.

Apply **Azatin® XL** in sufficient water and for sufficient duration so as to distribute the application rate evenly to the entire treated area.

Apply to moderately moist soils. Use volumes that thoroughly wet the soil, but do not cause significant surface runoff or excessive drip from pots.

CHEMIGATION:

Refer to supplemental labeling entitled "OHP's Chemigation Bulletin" for use directions for chemigation. Do not apply this product through any irrigation system unless the supplemental labeling on chemigation is followed.

SPRAY EQUIPMENT

Use suitable equipment that allows for uniform coverage of the targeted treatment area, such as hand or power operated spray equipment.

MIXING DIRECTIONS

Azatin® XL WITH WATER:

For best results,

1. Use clean equipment.
2. Fill tank 1/2 full to 3/4 full with water and begin agitation.
3. Add pesticide to the tank.
4. Fill the tank completely with water and mix thoroughly before applying.
5. Adjust spray solution to between 3 to 7 pH, if necessary.
6. Apply pesticide mix immediately after mixing.
7. If the mixture is not applied immediately, agitate before application.
8. Thoroughly clean equipment following application.

TANK MIXTURES OR FLUID FERTILIZERS:

1. Before using this product in a tank mix with fertilizer or registered pesticide, determine compatibility by conducting a compatibility test with a small amount of each product.
2. Observe all cautions and limitations on labels of all products used in combination.
3. Follow all tank mix directions and observe limitations listed in the combination product(s) label.

COMPATIBILITY TEST

Perform a compatibility test before tank mixing this product with other product(s) or liquid fertilizer(s). Fill three separate 1 quart jars with 1 pint of water and fertilizer. To a first jar add this product and mix well. To a second jar, add the desired other tank mix

product(s) and mix well. To a third jar, combine this product with the other tank mix product(s) and mix well. If more than one product is used, add them separately with dry formulations first, flowables next, and emulsifiable concentrates last. After each addition, shake or stir gently to thoroughly mix. For the appropriate amount of product for this test use the following:

DRY PRODUCTS - For each pound to be applied per acre, add 1.5 level teaspoons to each jar.

LIQUID PRODUCTS - For each pint to be applied per acre, add 0.5 teaspoons or 2.5 ml to each jar.

Note any differences between the mixtures in the jars (compounds alone vs mixtures) after 15 minutes. Look for evidence of physical incompatibility such as clumping, precipitation, oily residues on the sides of the glass or other signs of incompatibility. If either mixture separates, but can be readily re-mixed, the mixture can be sprayed as long as good agitation is used. If the mixtures are incompatible, do not use the mixture.

WARRANTY

OHP, Inc. warrants that the material contained herein conforms to the description on the label and is reasonably fit for the purposes referred to in the directions for use. Timing and method of application, weather, watering practices, nature of soil, the insect problem, condition of the crop, incompatibility with other chemicals not specifically recommended, and other influencing factors in the use of this product are beyond the control of the seller. Buyer assumes all risks of use, storage or handling of this material not in strict accordance with directions given herein. **NO OTHER EXPRESS OR IMPLIED WARRANTY OF THE FITNESS OR MERCHANTABILITY IS MADE.**

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Do not store above 100 degrees F or below -20 degrees F for extended periods of time. Keep containers tightly closed when not in use.

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

CONTAINER DISPOSAL: Triple rinse (or equivalent). Then offer for recycling or reconditioning, 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.

Azatin is a registered trademark of Certis USA, LLC.

Manufactured for:
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