



AzaGuard® Botanical Insecticide/Nematicide Specimen Label

ACTIVE INGREDIENT:

Azadirachtin.....3.00%

OTHER INGREDIENTS:.....97.00%

TOTAL:.....100.00%

Contains 0.28 lb. (128 grams) of azadirachtin per gallon.

**KEEP OUT OF REACH OF CHILDREN
CAUTION**

FIRST AID

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.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION: Harmful if inhaled or absorbed through skin. Avoid contact with skin, eyes, or clothing. Avoid breathing spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove contaminated clothing and wash clothing before use.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

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

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

USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to birds 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 disposing of equipment washwater or rinsate. Do not apply when weather conditions favor drift from treated areas. Runoff from treated area may be hazardous to aquatic organisms in neighboring areas.

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 through any irrigation system unless the chemigation instructions on this label are followed. 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 State or Tribal 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 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 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:

- Long-sleeved shirt and long pants, waterproof gloves,
- Socks and shoes

For field sprays:

Keep unprotected persons out of treated areas until sprays have dried.

NON-AGRICULTURAL USE REQUIREMENTS

These requirements apply to uses of this product that are NOT within the 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 treated areas without protective clothing until sprays have dried.

PRODUCT DESCRIPTION

AzaGuard is an emulsifiable concentrate containing 3.0% azadirachtin by weight. It has been evaluated on a wide variety of ornamental, forestry, and food crops. No phytotoxicity at recommended field rates has been observed. AzaGuard is an insect growth regulator and does not control adult insects.

MODE OF ACTION

AzaGuard controls insects in the larval, pupal, and nymphal stages by interfering with the metabolism of ecdysone. Insects typically die between larval to larval, larval to pupal, nymph to nymph molts, or during adult eclosion.

COMPATIBILITY

AzaGuard is compatible with the most commonly used insecticides, fungicides and fertilizers. Check the physical compatibility of AzaGuard before tank mixing with other product(s) or liquid fertilizers, by using the correct proportion of the products in small test containers. Take three one quart jars. Add 1 pint of water into each jar. To the first jar, add AzaGuard equivalent to highest label rate and mix. To the second jar, add tank mix product(s) equivalent to highest label rate and mix. To the third jar, add AzaGuard plus tank mix product(s) equivalent to highest label rate and mix. Let the jars stand for 5 minutes and note any differences between the jars. In the jar that has AzaGuard and tank mix product(s), check for any precipitation, separation, layering, extreme color change, bubbling, heating or other signs of incompatibility. Do not use the mixture if there are signs of incompatibility. If no incompatibility appears in the first 5 mins, let the jars sit for another 25 minutes. If the combination stays mixed or can be remixed, it is physically compatible, and can be sprayed with good agitation. If the tank mix combination is physically compatible, test the combination on a small portion of the crop to be treated to ensure that a phytotoxic response will not occur as a result of application. Avoid mixtures of several materials and very concentrated spray mixtures.

Do not use AzaGuard with Bordeaux mixture, triphenyltin hydroxide, lime sulfur, Rayplex iron or other highly alkaline materials. Use mildly alkaline mixtures immediately after mixing to prevent loss of insecticidal activity.

When using AzaGuard in combination with other products, use AzaGuard at the rate, or half the rate, specified in the Use Rate Recommendation table. Follow the directions for use, precautions and limitations for use on all of the product labels used in the combination. Some tank mix combinations are as follows:

AzaGuard plus non – phytotoxic crop oil*
 AzaGuard plus endosulfan*
 AzaGuard plus chlorpyrifos*
 AzaGuard plus acephate*
 AzaGuard plus Bacillus thuringiensis* (BT)
 AzaGuard plus bifenthrin*
 AzaGuard plus esfenvalerate*
 AzaGuard plus abamectin*
 AzaGuard plus diflubenzuron*
 AzaGuard plus pyrethrum + piperonyl butoxide (for fogging use)*

*Always follow the manufacturer's Directions for Use and Precautionary Statements.

USE SITES:

GREENHOUSE, MUSHROOM HOUSE, HYDROPONIC, AND FIELD GROWN FOOD CROPS: Refer to label for complete list.

GREENHOUSE AND FIELD GROWN ORNAMENTAL PLANTS, TREES AND SHRUBS: Refer to label for complete list.

NON-FOOD USES: such as athletic fields, barrier strips, campsites, cemeteries, farmyards, fence rows, fuel storage areas, grasslands, pastures, rights-of-way, sheds, soil banks, uncultivated or fallow farmland, vegetative barriers and fences, and areas surrounding agricultural farms or other buildings.

COMPOST AND MANURE TREATMENT: Manure or refuse piles, mulches, cull piles, pretreatment for potting soils or compost for greenhouses, soil application with no mention of crops to be grown (potting soil, top soil).

COMMERCIAL AND INDUSTRIAL AREAS: Food and feed processing plants (fresh fruit and vegetable packing and processing), food marketing, food storage, food distribution, feedlot operations, dairy operations and poultry farms to treat manure on and off-site.

LAWNS, TURF AND TURFGRASS (including golf courses and athletic fields): Bentgrass, Bermuda grass, Bluegrass, Centipede grass, Fescue, Rye grass, St. Augustine grass, Wheatgrass, Zoysia grass.

APPLICATION INSTRUCTIONS

READ ALL DIRECTIONS AND PRECAUTIONS BEFORE USE

AzaGuard is exempt from tolerances and may be applied as directed to any food or non-food crop up to and including the day of harvest at a rate not exceeding 22.5 fl. oz. (20 grams active ingredient) per acre per application.

To apply AzaGuard, select a suitable power or pump pressure sprayer or a hand held trigger type sprayer that will deliver a fine spray mist to cover all leaf and fruit surfaces. To get complete spray coverage on waxy or pubescent plant surfaces, the addition of small amount of a suitable sticker agent added to the spray mix at the recommended rates may give better foliage coverage, and insect control.

MIXING: Shake well before mixing. Always use this product promptly after mixing with water. AzaGuard will break down in the spray solution if not used within 8 hours. Never allow tank mix to stand overnight. AzaGuard will break down in spray tank mixtures that have pH values exceeding 7.0. The recommended pH range is between 5.5 and 6.5. For optimum performance, a buffering agent may be used. When mixing with other approved agrichemicals, always ensure proper agitation in the spray tank to ensure uniform application.

Using the use tables below, determine the amount of AzaGuard required for the number of acres to be treated. To a clean spray tank add at least one half the water to be sprayed. Begin agitation and add the determined amount of AzaGuard. Add the remaining water and continue agitation.

AzaGuard disperses freely when added to water. Always use clean equipment. For uniform distribution on plant canopy and proper dilution, always ensure proper agitation in mixing tanks or vessels. When mixing with other agrichemicals, add solid constituents (such as wettable powders, water dispersible granules or micronutrients) last in the form of a slurry.

APPLICATION METHOD AND EQUIPMENT: AzaGuard can be applied as a foliar spray or a drench to soil or soil-less media (e.g., greenhouses and mushroom houses) to control insects and nematodes. When needed, soil drenches can also be used to control soil-borne pests, including soil-borne larvae of foliar insect pests. When applying as a drench, avoid excessive leaching. AzaGuard may be applied through sub-surface soil treatment equipment (e.g. turf grass). AzaGuard can also be injected into mature trees (landscaping, forestry, residential, etc.) using appropriate tree injection equipment. To repel adult flies, apply through fogging equipment. Always follow equipment manufacturers use directions.

AzaGuard may be applied using any powered or manual pesticide application equipment, which includes but is not restricted to: high-volume, low-volume, ultra-low volume, electrostatic, fogging, and chemigation. Follow the original manufacturer's recommendations when using these types of equipment.

Hose End Sprayer: Follow use directions on manufacturers' hose end sprayer. Fill reservoir with AzaGuard. Set sprayer to deliver a rate of 0.08–0.10 fl. oz. per gallon or a 1:1280–1:1600 dilution. Spray this solution on the desired treatment surface.

For outdoor and field applications, apply AzaGuard at the application rates in sufficient water to assure adequate coverage. Conventional application equipment: apply in a minimum 30 gallons of water per acre. Aerial equipment: apply in maximum of 3 gallons of water per acre.

For optimum results, 2 to 3 applications made at 7 to 10 day intervals is recommended, unless otherwise specified. Foliar applications should be made to both sides of leaves. In addition, a surfactant used per the manufacturer's recommendations may improve product performance. The addition of a non-phytotoxic crop oil at rates not exceeding 1.0% (volume/volume) generally enhances insect control.

NOTE: This product has been evaluated for phytotoxicity on a wide range of plants. 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 no phytotoxicity occurs.

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

PLANTS ON WHICH AZAGUARD CAN BE USED

Use AzaGuard indoors and outdoors on the following plants:

Greenhouse food crops: Brassica (Cole) Crops, Cucurbits, Eggplants, Herbs and Spices, Legumes, Peppers, Tomatoes, and other miscellaneous crops grown in greenhouses.

Root and tuber vegetables: Artichokes, Beets, Carrots, Cassava, Ginger, Horseradish, Jicama, Potatoes, Radishes, Rutabagas, Salsify, Sweet Potatoes, Turmeric, Turnips, Yams.

Mushrooms: Agaricus, Enoki, Maitake, Oyster, Shitake, and other specialty mushrooms.

Leafy vegetables (including Brassica Leafy Vegetables): Amaranth, Broccoli, Brussels Sprouts, Cabbage, Cauliflower, Celery, Chervil, Chinese Cabbage, Collards, Cress, Endives, Fennel, Kale, Kohlrabi, Lettuce, Mizuna, Mustard Greens, Parsley, Purslane, Rape Greens, Rhubarb, Spinach, Swiss Chard.

Legume vegetables: Beans (Field, Kidney etc.), Chickpeas, Cowpeas, Guar, Jackbeans, Lablab Beans, Lentils, Peas, Pigeon Peas, Soybeans, Sword Beans.

Fruiting vegetables: Eggplants, Ground Cherries, Pepinos, Peppers, Pimentos, Tomatillos, Tomatoes.

Cucurbit vegetables: Bitter Melons, Chayotes, Chinese Wax Gourds, Citron Melons, Cucumbers, Gherkins, Gourds, Muskmelons (Cantaloupes, Casabas Crenshaw), Pumpkins, Squash, and Watermelons.

Citrus fruits: Calamondins, Citrus Citrons, Citrus Hybrids, Grapefruits, Kumquats, Lemons, Limes, Mandarins, Oranges, Pummellos, Satsuma Mandarins.

Pome fruits: Apples, Crabapples, Loquats, Mayhaws, Oriental Pears, Pears, Quinces.

Stone fruits: Apricots, Cherries, Nectarines, Peaches, Plums, Prunes.

Berries: Blackberries and Caneberries, Blueberries, Currants, Elderberries, Gooseberries, Huckleberries, Loganberries, Raspberries, Strawberries, Youngberries.

Cereal grains: Barley, Buckwheat, Corn, Millet, Oats, Popcorn, Rice, Rye, Sorghum, Teosintes, Triticale Hybrids, Wheat, Wild Rice.

Herbs and spices: Allspice, Angelica, Anise, Annatto, Balm, Basil, Black and White Peppers, Borage, Burnet, Camomile, Caper Buds, Cardamom, Caraway, Cassia, Catnip, Celery Seeds, Chervil, Chives, Cinnamon, Clary, Cloves, Coriander (Cilantro), Costmary, Cumin, Curry Leaf, Dills, Fennels, Fenugreek, Grains of Paradise, Horehound, Hyssop, Juniper Berry, Lavender, Lemongrass, Lovage, Mace, Marigolds, Marjoram, Mustard Seeds, Nasturtium, Nutmeg, Parsley, Pennyroyal, Poppy Seeds, Rosemary, Rue, Saffron, Sage, Savory, Sweet Bay (Bay Leaf), Tansy, Tarragon, Thyme, Vanilla, Wintergreen, Woodruff, Wormwood.

Bulb vegetables: Garlic, Leeks, Onions, Shallots.

Nuts: Almonds, Beechnuts, Brazil Nuts, Butternuts, Cashews, Chestnuts, Chinquapin, Filberts, Hickory Nuts, Lychee Nuts, Macadamias, Pecans, Pistachios, Walnuts.

Oilseed crops: Canola, Castor, Crambe, Guar, Jojoba, Peanut, Rape, Safflower, Sesame, Soybean, Sunflower.

Tropical fruits: Atemoya, Banana, Breadfruit, Cherimoya, Durian, Guava, Malanga, Mango, Papaya, Passionfruit, Starfruit.

Miscellaneous food and non-food crops: Asparagus, Avocado, Birdseed, Cacao, Coffee, Edible Flowers, Feijoa, Figs, Ginseng, Grapes, Guayule, Hops, Kiwi, Okra, Olives, Palms, Papaya, Pawpaw, Persimmon, Pineapple, Rambutan, Sugarcane, Tamarillo, Tea, Tobacco, Water Chestnut, Watercress.

Bedding Plants, Flowers, Ornamental Plants, Potted Plants and Foliage: Actinopterus, African Violets, Ageratum, Aglaonema, Allamanda, Algerian Ivy, Alocasia, Anthurium, Aphelandra, Artemisia, Aster, Aucuba Azalea, Baby's Breath, Begonia, Bougainvillea, Boston Fern, Boxwood, Brachycome, Cacti, Calabrese, Caladium, Calla, Calathea, Calendula, Carnation, Chrysanthemum, Cineraria, Coleus, Columbine, Cotoneaster, Cyclamen, Daffodil, Dahlia, Daisy, Daylily, Delphinium, Dianthus, Dieffenbachia, Dusty Miller, Easter Lily, English Ivy, Euphorbia, Fern, Ficus, Foxglove, Freesia, Fuchsia, Gaillardia, Gardenia, Geranium, Gerbera, Gladioli, Gloxinia

Gypsophilla, Hedera, Hibiscus, Hyacinth, Hydrangea, Impatiens, Iris, Ivy, Lily, Maidenhair Fern, Mandevilla, Marigold, Narcissus, Nasturtium, Orchid, Pansy, Pelargonium, Peony, Peperomia, Petunia, Philodendron, Phlox, Photinia, Pittosporum, Pinks, Poinsettia, Pothos, Portulaca, Pyracantha, Rosemary, Rose, Rubberplant, Salvia, Schefflera, Sedum, Sempervivum, Snapdragon, Spathiphyllum, Stock, Syngonium, Tulip, Verbena, Vinca, Wandering Jew, Yew, Yucca, Zinnia.

Ornamental Trees And Shrubs: Andromeda, Arborvitae, Ash, Austrian Pine, Azalea, Beech, Birch, Birds Nest Spruce, Blue Spruce, Bougainvillea, Boxwood, Butternut, Camellia, Cedar, Chamaecyparis, Cherry, Crabapple, Cyprus, Dogwood, Douglas Fir, Elm, Euonymus, Firethorn, Forsythia, Hackberry, Hawthorn, Hemlock, Hickory, Holly, Honey Locust, Horse Chestnut, Ilex, Juniper, Larch Laurel, Lilac, Linden, London Plane, Magnolia, Maple, Mimosa, Mountain Ash, Myrtle, Oak, Pachysandra, Peach Pine, Photinia, Plane Tree, Pines, Poplar, Privet, Quince, Rhododendron, Roses, Spruce, Sycamore, White Cedar, White Pine.

Turf And Turfgrass: Bentgrass, Bermuda Grass, Bluegrass, Centipede Grass, Fescue, Ryegrass St. Augustine, Wheatgrass, Zoysia Grass.

USE RATES FOR LISTED PESTS BY USE SITE

AzaGuard is intended for use on outdoor plants and food crops, mushroom houses, plants grown indoors or in greenhouses, shade cloth, interiorscapes and nurseries. It can be used to control any of the insects and nematodes listed below.

Outdoor Plants - Food Crops, Trees, Turf, Nursery, Ornamentals

Use the tables below to determine the appropriate use rate for your site/pest combination. Rates provided are in ounces of AzaGuard per area or row-length.

Foliar Spray: Apply AzaGuard at the application rates in sufficient water to assure adequate coverage.

Conventional application equipment: Apply in a minimum of 30 gallons of water per acre. Aerial equipment/low/ultra low volume: Apply AzaGuard at recommended rates in a minimum of 3 gallons of water per acre.

High volume: when plant foliage is dense or infestation is heavy, use the higher label rate and increase spray gallonage to assure uniform coverage. Treat early for best control. When combining with other insecticides, use half the recommended rate of AzaGuard. For optimum results, ensure uniform and complete plant coverage.

AzaGuard can also be injected into mature trees (landscaping, forestry, residential, etc.) using appropriate tree injection equipment. Inject at a rate of 0.30–0.75 oz. per tree trunk diameter, and repeat application as needed.

NOTE: When infestation is heavy, or when plant canopy is dense, AzaGuard may be used at a rate up to twice (2X) that shown in the Use Rate Table, not to exceed 22.5 oz. AzaGuard/acre. When combining with other insecticides, use half the recommended rate of AzaGuard.

USE RATES FOR OUTDOOR PLANTS INCLUDING: FOOD CROPS, TREES, TURFGRASS, NURSERY, AND ALL OUTDOOR ORNAMENTAL PLANTS		
Pest	Rate oz. of AzaGuard/Acre	Remarks
WHITEFLIES: Greenhouse whiteflies, Silverleaf whiteflies, Woolly whiteflies	8–21 fl. oz.	Use in combination with 0.25–1.0% non-phytotoxic crop oil in sufficient water to cover undersides of leaves.
LEAFMINERS: Azalea leafminers, Birch Leafminers, Citrus leafminers, Serpentine leafminers, Vegetable leafminers.	10–16 fl. oz.	
SCALES: Brown soft scales, California red scales, Coffee scales, Olive scales, San Jose scales		Use in combination with 0.25–1.0% non-phytotoxic crop oil in sufficient water to cover twigs and leaves.
MEALY BUGS: Citrus Mealybugs		Spray when pests first appear. <u>For food crops:</u> Repeat application after 7–10 days. Use in combination with 0.25–1.0% non-phytotoxic crop oil in sufficient water to cover undersides of leaves. <u>For non-food crops:</u> Repeat application every 5–7 days.
GRASSHOPPERS and LOCUSTS		
MITES: Banks mite, Clover mite, Citrus Rust mite, Citrus Red mite, European Red Mite, Hemlock Rust mite, Honey Locust mite, Pacific mite, Spruce mite, Two-spotted Spider mite		Use in combination with 0.25–1.0% non-phytotoxic crop oil in sufficient water to cover twigs and leaves.

THRIPS: Citrus Thrips, Onion Thrips, Thrips Palmi	10–16 fl. oz.	Spray when pests first appear. Repeat every 5–7 days.
APHIDS: Cotton Aphids, Green peach Aphids, Pea Aphids, Potato Aphids		Spray when pests first appear. <u>For food crops:</u> Repeat application after 7–10 days. Use in combination with 0.25–1.0% non-phytotoxic crop oil in sufficient water to cover undersides of leaves. <u>For non-food crops:</u> Repeat application every 5–7 days.
PSYLLIDS: Pear Psylla	8–16 fl. oz.	Spray nymphs early.
LEAFHOPPERS: Grape Leafhoppers, Potato Leafhopper, Variegated Leafhopper	10–16 fl. oz.	Spray when pests first appear. Repeat application every 5–7 days.
BUGS: Boxelder Bugs, Chinch Bugs, Lygus Bugs, Spittle Bugs, Stink Bugs		Spray nymphs early.
CHAFFERS: European Chafer, Northern Masked Chafer, Rose Chafer		Spray when pests first appear. Repeat application every 5–7 days.
FLIES: Blueberry Maggots, Cherry Maggots, Crane Flies, Fruit Flies, Midges, Onion Maggots, Walnut Husk Flies, Fungus Gnat, Hessian Fly, Marsh Crane Fly, Melon Fly, Shore Fly		<u>For food crops:</u> Spray when pests first appear. <u>For non-food crops:</u> Drench soil to kill larvae.
SAWFLIES: European Pine Sawflies, Yellow Headed Pine Sawflies		Treat larvae early.
CATERPILLARS and MOTHS: Armyworms, Beet Armyworm, Fall Armyworm, Lawn Armyworm, Southern Armyworm, Yellow-striped Armyworm, Artichoke plume moths, Bagworms, Black Cutworm, Bollworms, Budworms, Cabbage butterflies, Cabbage Loopers, Cankerworms, Caseworms, Citrus Cutworm, Corn earworms, Cutworms, Diamond-backed moths, European Pine Shoot Moth, Fall Cankerworm, Fruitworms, Grapeleaf skeletonizers, Gypsy moths, Hickory shuckworms, Hornworms, Imported cabbage worms, Leaf perforators, Leafrollers, Melonworms, Navel Orange worms, Oblique banded leafrollers, Omnivorous leafrollers, Oriental fruit moths, Pickle worms, Pine tip moths, Pinworms, Red-banded leaf rollers, Sod webworms, Soybean loopers, Spring Cankerworm, Tent caterpillars, Tobacco budworms, Tobacco Hornworm, Tomato Fruitworm, Tomato Pinworm, Tussock moths.	8–16 fl. oz.	Spray when pests first appear. <u>For food crops:</u> Repeat application after 7–10 days. Use in combination with 0.25–1.0% non-phytotoxic crop oil in sufficient water to cover undersides of leaves. <u>For non-food crops:</u> Repeat application every 5–7 days.
BETLES and GRUBS: Bark Beetles, Blueberry flea beetles, Boll weevils, Colorado potato beetles, Flea beetles, Japanese beetles, Leaf beetles, Mexican bean beetles, Pepper weevils, Phylloxera, Rose Chafers, Twig girdlers, Elm Leaf Beetle, Cucumber Beetle, June Beetle.	10–16 fl. oz.	Make foliar applications to deter adult feeding. Make at least 3–4 applications 10 days apart.
WEEVILS: Black Vine Weevils, Strawberry Vine Weevils		Spray soon after egg hatch. <u>For food crops:</u> Use in combination with 0.25%–1.0% non-phytotoxic crop oil in sufficient water to cover undersides of leaves.
BORERS: Peach Twig Borers, Peachtree Borers, Dogwood Borers, Cranberry Borers		Spray nymphs soon after egg hatch.
MOLE CRICKETS	15 fl. oz.	Apply in sufficient amount of water to penetrate in the soil to a depth of 12 inches. Repeat applications every 3 or 4 weeks or as needed.
NEMATODES: Burrowing nematodes, Dagger nematodes, Golden nematodes, Root knot nematodes		

*When infestation is heavy, or when plant canopy is dense, AzaGuard may be used at a rate up to twice (2X) that shown in the above table, not to exceed 22.5 oz/acre. When combining with other insecticides, half the rate of AzaGuard is recommended.

USE DIRECTIONS FOR TREE TRUNK INJECTION OR TREE TREATMENT		
Pest	Rate oz./Inch tree trunk diameter	Remarks
EMERALD ASH BORER, GYPSY MOTH, SPRUCE BUDWORM, JACK PINE BUDWORM, TENT CATERPILLARS, LEAF MINERS, SAWFLIES, WHITEFLIES, APHIDS, SCALES, PSYLLIDS, MEALYBUGS, HEMLOCK WOOLY ADELGID	0.30–0.75 fl. oz.	<p>Measure tree diameter in inches at breast height (DBH) which is approximately 4.0–5.0 feet from the ground. If measuring the circumference of the tree, divide circumference by 3 to get DBH.</p> <p>Inject with suitable equipment that ensures uniform and slow delivery of the product. Evenly space drill holes (3/16" diameter) approximately 3–5 inches apart and 2–5 feet above the ground. The holes should extend into the bark and be approximately ½–1 inch into sapwood of the tree.</p> <p>If the product is too viscous to inject directly, dilute with small amount of water before injection.</p> <p>To determine dosage per injection site, divide total dose by number of injection sites.</p>

USE DIRECTIONS FOR MUSHROOMS		
Pest	Rate oz. of AzaGuard/ 1,000 sq. ft.	Remarks
MUSHROOM FLIES, NEMATODES, PHORID FLIES	0.5 fl. oz.	Apply as drench to the casing layer, media or compost. Make at least 4–5 applications 7–10 days apart. To repel adults, apply with fogging equipment at first sign of activity. For mushroom house use: mix into the casing layer or into media during the spawn run. Can be applied between breaks until the final flush.

USE DIRECTIONS FOR MANURE PILES		
Pest	Rate oz. of AzaGuard/ 1,000 sq. ft.	Remarks
MUSHROOM FLIES, NEMATODES, PHORID FLIES	0.5 fl. oz.	For Manure Piles and Compost: Surface treat and incorporate using appropriate equipment when the manure piles are moist. Avoid treating when manure is too wet. Directly spray on to areas where flies are actively breeding.

USE DIRECTIONS FOR TURFGRASS		
Pest	Rate oz. of AzaGuard/ 1,000 sq. ft.	Remarks
SOD WEBWORMS, ARMYWORMS, GRUBS, CUTWORMS, APHIDS, CINCHBUGS, BILLBUGS, LEAF-HOPPERS, ANTS, & CHIGGERS	8–21 fl. oz.	Irrigate well before applying. Use a suitable pressure sprayer and mix ½–¾ tablespoon in 3 gal. of water and apply to 2,500 sq. ft. of turf. Apply when insect larvae first appear. Repeat application in 10–14 days if necessary. The use of an approved "spreader sticker" may help the spray to penetrate turf down to the larvae/worm feeding area.
NEMATODES	15 fl. oz.	Apply in sufficient amount of water to penetrate in the soil to a depth of 12 inches. Repeat applications every 3 or 4 weeks or as needed.

AzaGuard can also be applied through sub-surface soil treatment equipment (e.g. turf grass).

FOR USE INDOORS OR IN GREENHOUSES

Use the table below to determine the appropriate use rate for each pest.

Application Methods

Foliar spray: Individual plants should be sprayed to thoroughly wet both sides of the leaves without causing runoff. Groups of potted plants should be sprayed at a rate of one gallon of finished spray for 500 square feet. For best results, ensure uniform and complete plant coverage.

Hose End Sprayer: Follow use directions on manufacturers hose end sprayer. Fill reservoir with AzaGuard. Set sprayer to deliver a rate of 0.08–0.10 fl. oz. per gallon or a 1:1,280–1:1,600

dilution. Spray this solution on the desired treatment surface.

Soil Drench: This product is effective as a soil drench for controlling larvae and other immature stages of soil borne insect pests such as, but not limited to larvae of leaf miners, cutworms, beetle grubs, fungus gnats, mushroom flies, etc. and also nematodes.

Dilute AzaGuard with water at a rate of 0.15%–0.30%. Rate table below provides the amount of AzaGuard for different drench volumes of water.

Mix the solution thoroughly and apply to moderately moist soils at a rate of 1 pint of finished solution for each gallon of soil in the pot or 45–55 gallons of mixed solution per 1,000 sq.ft. of soil. Use volumes that thoroughly wet the soil, but do not cause significant surface runoff or excessive drip from pots. Make 3–5 applications at 7–10 day interval until pest pressure subsides.

Use higher rates (0.2%–0.3%) and apply at shorter intervals (7 days) for difficult to control insect pests and nematodes and/or when pest infestation is high.

AZAGUARD RATES FOR SOIL DRENCH APPLICATIONS

GALLONS OF WATER	AMOUNT OF AZAGUARD (FL. OZ.)		
	0.15%	0.20%	0.30%
1.0	0.192	0.256	0.384
5.0	0.96	1.28	1.92
10.0	1.92	2.56	3.84
100.0	19.2	25.6	38.4

Hydroponic Applications: Use AzaGuard for control of immature stages (larvae/nymphs) of foliar and soil-borne insect pests in hydroponic systems.

Dilute AzaGuard with water at a rate of 0.10%–0.25% v/v. Rate table below provides AzaGuard amounts for different volumes of water.

Mix or agitate treated water thoroughly for uniform distribution across the entire hydroponic system. After adding AzaGuard, solution may need to be buffered to a pH ideal for crop growth and applications be made during early morning hours to maximize root uptake. Repeat applications at 7–10 day intervals as necessary until sufficient control of pest pressure subsides.

Use higher rates (0.2%–0.25%) and apply at shorter intervals (7 days) for difficult to control insect pests and/or when pest infestation is high.

AZAGUARD RATES FOR HYDROPONIC APPLICATIONS

GALLONS OF WATER	AMOUNT OF AZAGUARD (FL. OZ.)		
	0.10%	0.20%	0.35%
1.0	0.192	0.256	0.384
5.0	0.96	1.28	1.92
10.0	1.92	2.56	3.84
100.0	19.2	25.6	38.4

USE RATES FOR ANY PLANT GROWN INDOORS OR IN GREENHOUSES, SHADECLOTH, INTERIORSCAPE AND NURSERIES

Pest	Rate oz. of AzaGuard/ 100 sq. ft.	Remarks
WHITEFLIES: Greenhouse whiteflies, Silverleaf whiteflies, Sweet potato whitefly, Woolly whiteflies	10–16 fl. oz. for 50,000 sq. ft.	Ensure good coverage to top and bottom of leaves against larvae and pupae. Can be applied after bract formation on poinsettias (test for phytotoxicity prior to large scale use).
LEAFMINERS: Serpentine leafminers		Spray early. Make 2–3 applications in rotation with adulticides such as pyrethroids
SOFT SCALES		Use in combination with 0.5–1.0% non-phyto-toxic crop oil in sufficient water to cover twigs and leaves.
MEALY BUGS	8–16 fl. oz. for 50,000 sq. ft.	Always use in combination with 0.5–1.0% non-phytotoxic crop oil.
THRIPS: Western flower thrips		Spray when pests first appear. Repeat every 5–7 days.

MITES: Banks mite, Clover mite, Citrus Rust mite, Citrus Red mite, European Red mite, Hemlock Rust mite, Honey Locust mite, Pacific mite, Spruce mite, Two-spotted Spider mite	10–16 fl. oz.	Use in combination with 0.25–1.0% non-phyto-toxic crop oil in sufficient water to cover twigs and leaves.
APHIDS: Green peach aphids, Pea aphids, Cotton aphids, Rose aphids, Apple aphid, Melon aphid, Potato aphid	8–16 fl. oz. for 40,000 sq. ft.	Spray when pests first appear. Addition of 0.5–1.0% non-phytotoxic crop oil will enhance efficacy.
LACEWINGS: Azalea lacewings		Spray when pests first appear.
FLIES: Crane flies, Fungus gnats, Shore flies, Blueberry maggots, Caribbean Fruit Fly, Cherry maggots, Fruit flies, Hessian Fly, Marsh Crane Fly, Melon Fly, Midges, Onion maggots, Walnut husk fly		Add at least 1 pint of mixture per gallon per gallon pot as soil drench. Repeat application every 7 days for 3 weeks. For poinsettias, lilies and bedding plants, also make 1 application 10–15 days prior to shipping plants to prevent adult emergence.
CATERPILLARS: Armyworms, Bagworms, Cutworms, Leafhoppers, Leafrollers, Loopers, Spruce budworms, Webworms	8–16 fl. oz. for 40,000 sq. ft.	Spray when pests first appear.
BORERS: Peachtree borers	10–16 fl. oz. for 50,000 sq. ft.	Spray when pests first appear. Repeat as needed.
BEETLES: Bark beetles, Flea beetles, Japanese beetles, Cucumber beetle		
WEEVILS: Black vine weevils, Strawberry vine weevils	8–16 fl. oz. for 40,000 sq. ft.	Make foliar applications to deter adult feeding. Drench soil at a rate of 1 pint per gallon pot during spring and fall periods to control larvae. Make at least 3–4 applications 10 days apart.
NEMATODES: Burrowing nematodes, Dagger nematodes, Golden nematodes, Root knot nematodes		Drench at least 1 pint of mixture per gallon pot once a week for 4 weeks. Avoid leaching – drench until moist to the touch. For heavy infestations, use twice the rate and drench more frequently.

CHEMIGATION

GENERAL INFORMATION

This product may be applied only through drip (trickle) or sprinkler (center pivot, lateral move, end tow, side roll, traveler, big gun, solid set, or hand move), flood (basin) irrigation systems. Do not apply this product through any other type of irrigation system.

Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water. If you have questions about calibration, you should contact State Extension Service Specialists, equipment manufacturers or other experts. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place. A person knowledgeable of the chemigation system and responsible for its operation or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

Dilute AzaGuard with water before introduction into the system; use the diluted mixture within 8 hours. Do not apply in irrigation water if the pH exceeds 7.0. The optimum pH for application is a range of 5.5 to 6.5. If needed, the pH of the irrigation water can be adjusted by use of a suitable buffering agent. Agitation is necessary. Apply at the rate recommended in the Directions for Use using sufficient water to achieve an even distribution within an 8 hour period. Do not apply AzaGuard at a rate that exceeds 20 grams active ingredient per acre (22.5 fl oz of AzaGuard). If applying AzaGuard in combination with other products refer to the compatibility statement in the DIRECTIONS FOR USE section.

GENERAL REQUIREMENTS

- 1) Apply this product only through a drip system or sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, hand move, flood (basin), furrow, border or drip (trickle) irrigation systems. Do not apply this product through any other type of irrigation system.
- 2) Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.
- 3) If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.
- 4) 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.

- 5) A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.
- 6) Posting of areas to be chemigated is required when 1) any part of a treated area is within 300 feet of sensitive areas such as residential areas, labor camps, businesses, day care centers, hospitals, in-patient clinics, nursing homes or any public areas such as schools, parks, playgrounds, or other public facilities not including public roads, or 2) when the chemigated area is open to the public such as golf courses or retail greenhouses.
- 7) Posting must conform to the following requirements. Treated areas shall be posted with signs at all usual points of entry and along likely routes of approach from the listed sensitive areas. When there are no usual points of entry, signs must be posted in the corners of the treated areas and in any other location affording maximum visibility to sensitive areas. The printed side of the sign should face away from the treated area towards the sensitive area. The signs shall be printed in English. Signs must be posted prior to application and must remain posted until foliage has dried and soil surface water has disappeared. Signs may remain in place indefinitely as long as they are composed of materials to prevent deterioration and maintain legibility for the duration of the posting period.
- 8) All words shall consist of letters at least 2.5 inches tall, and all letters and the symbol shall be a color which sharply contrasts with their immediate background. At the top of the sign shall be the words KEEP OUT, followed by an octagonal stop sign symbol at least 8 inches in diameter containing the word STOP. Below the symbol shall be the words PESTICIDES IN IRRIGATION WATER.

SPECIFIC REQUIREMENTS FOR CHEMIGATION SYSTEMS CONNECTED TO PUBLIC WATER SYSTEMS

- 1) Public water system means a system for the provision to the public of piped water for human consumption if such a system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
- 2) Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
- 3) The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 4) The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 5) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 6) Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- 7) Do not apply when wind speed favors drift beyond the area intended for treatment.

SPECIFIC REQUIREMENTS FOR SPRINKLER CHEMIGATION

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

SPECIFIC REQUIREMENTS FOR FLOOD (BASIN), FURROW AND BORDER CHEMIGATION

- 1) Systems using a gravity flow pesticide dispensing system must meter the pesticide into the water at the head of the field and downstream of a hydraulic discontinuity such as a drop structure or weir box to decrease potential for water source contamination from backflow if water flow stops.

2) The systems utilizing a pressurized water and pesticide injection system must meet the following requirements:

- a. 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.
- b. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- c. 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.
- d. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- e. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- f. 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 filled with a system interlock.

SPECIFIC REQUIREMENTS FOR DRIP (TRICKLE) CHEMIGATION

- 1) The system must contain a functional check valve, vacuum relief valve and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- 2) The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 3) The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 4) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- 5) The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 6) Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump), effectively designed and constructed of materials that are compatible with pesticides and capable of being filled with a system interlock.

APPLICATION INSTRUCTIONS

- 1) Remove scale, pesticide residues, and other foreign matter from the chemical supply tank and entire injector system. Flush with clean water. Failure to provide a clean tank, void of scale or residues may cause product to lose effectiveness or strength.
- 2) Determine the treatment rates as indicated in the directions for use and make proper dilutions.
- 3) Prepare a solution in the chemical tank by filling the tank with the required water and then adding product as required. The product will immediately go into suspension without any required agitation.
- 4) Do not apply AzaGuard in conjunction with any other pesticides or fertilizers; this has the potential to cause reduced performance of the product. Avoid application in this manner.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Store in original containers in a cool, well-vented area, away from direct sunlight. Do not allow product to become overheated in storage. This may cause increased degradation of the product, which will decrease product effectiveness. In case of spill, flood area with large quantities of water.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Open dumping is prohibited. If wastes cannot be disposed of according to label directions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

CONTAINER HANDLING: 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 ¼ 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. Offer for recycling if available.

WARRANTY

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of BIOSAFE SYSTEMS LLC or Seller. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold BIOSAFE SYSTEMS LLC and Seller harmless for any claims relating to such factors.

BIOSAFE SYSTEMS LLC warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above when used in accordance with directions under normal use conditions. This warranty does not extend to the use of the product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller or BIOSAFE SYSTEMS LLC, and Buyer and User assume the risk of any such use. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BIOSAFE SYSTEMS LLC MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE, NOR ANY OTHER EXPRESSED OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE. To the extent consistent with applicable law, in no event shall BIOSAFE SYSTEMS LLC or Seller be liable for any incidental, consequential or special damages resulting from the use or handling of this product. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF BIOSAFE SYSTEMS AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF BIOSAFE SYSTEMS LLC OR SELLER, THE REPLACEMENT OF THE PRODUCT.

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Manufactured by:

BiSafe Systems® LLC

22 Meadow Street • East Hartford, CT 06108 1.888.273.3088 (toll-free)

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