



Active Ingredient: Heat-killed *Burkholderia spp.* strain A396 cells and spent fermentation media* 94.46%

Other ingredients: 5.54%

Total:100.00%

*Contains not less than 1,500 Beet Armyworm Killing Units (BAWKU)/mg. Note: The percent active ingredient does not indicate product performance and potency measurements are not federally standardized.

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.

HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-222-1222 for emergency medical treatment information.

EPA Reg. No.: 84059-14

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Manufactured by:



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ZELTO_EM012017_1017_V1

Lot No: Printed on Container

PN 61600

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS - CAUTION. Causes moderate eye irritation. Avoid contact with eyes or clothing. Wear goggles or safety glasses. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before use.

PERSONAL PROTECTIVE EQUIPMENT (PPE): Applicators and other handlers must wear: long-sleeved shirt and long pants, waterproof gloves, shoes plus socks, and protective eyewear. Mixers/loaders and applicators must wear a NIOSH-approved particulate respirator with any P or R filter with NIOSH approval number prefix TC-84A or a NIOSH-approved powered air purifying respirator with a HE filter with NIOSH approval number prefix TC-21C. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization. Follow manufacturer's instructions for cleaning and maintaining PPE. If there are no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS: Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Users should 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: For terrestrial uses: Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean highwater mark. Do not contaminate water when disposing of equipment washwaters or rinsate. See the Directions for Use section of this label for application instructions that minimize risk to bees and other beneficial insects, including those used in Integrated Pest Management (IPM) programs or organic agriculture.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. For any requirements specific to your State or Tribe, consult the State or Tribal agency responsible for pesticide regulation. 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.

DO NOT APPLY THIS PRODUCT BY AERIAL APPLICATION.

- In New York State, application is prohibited within 100 feet of any surface water.

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

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

- Protective eyewear
- Coveralls
- Chemical resistant gloves (made from any waterproof material)
- Shoes plus socks

EXCEPTION: If the product is soil incorporated or soil injected, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

For non-WPS uses: Keep unprotected persons out of treated areas until sprays have dried.

PRODUCT INFORMATION

ZELTO™ is a biological insecticide containing killed cells of *Burkholderia spp.* strain A396 and spent fermentation media, for use on agricultural crops against the pests listed in the Directions for Use section. ZELTO™ controls insect pests by enzymatic degradation of exoskeletal structures and interference with the molting process leading to mortality through contact and/or ingestion. ZELTO™ controls or suppresses many foliar feeding pests including caterpillars and foliage feeding coleopteran and many soft-bodied insects such as aphids, whiteflies and plant sucking mites infesting labeled crops and plants. For insect control, the concentrate of ZELTO™ must be mixed with water and applied as a foliar spray with ground equipment equipped for conventional insecticide spraying.

GENERAL USE INSTRUCTIONS – FOR INSECT CONTROL

ZELTO™ is an insecticide for use against listed insects. Close scouting and early attention to infestations is highly recommended. Proper timing of application targeting newly hatched larvae is important for optimal results.

Thorough coverage of infested plant parts is necessary for effective control. ZELTO™ does not have systemic activity.

Under heavy pest populations, use the higher label rates, shorten the spray interval, increase the spray volume to improve coverage, and/or apply in tank mixture with another product that has activity on the target pest.

Repeat applications at an interval sufficient to maintain control, usually 3-10 days depending upon plant growth rate, insect and mite activity, and other factors. If attempting to control an insect population with a single application, make the treatment when egg hatch is essentially complete but before economic damage occurs.

The use of adjuvants with ZELTO™ is not recommended, except to improve control of insect pests in situations where achieving uniform plant coverage is difficult such as closed canopy, dense foliage and penetration into waxy leaf surfaces.

Bees and beneficial insects:

- To minimize potential exposure to bees and other pollinating insects, do not apply while bees are foraging.
- Do not allow product to drift to blooming crops or weeds if bees are foraging.
- Minimize spray drift away from the target area to reduce effects to other non-target insects.

ZELTO™ has been evaluated for toxicity to non-target insects in a variety of bioassays and on a variety of crops under various normal growing conditions. However, testing all beneficial insects, in all situations, mixtures and combinations, is not feasible. Prior to treating an entire field or crop where the release of beneficial insects serve as part of an Integrated Pest Management (IPM) program, consult with an extension specialist, a pest control advisor (PCA) or with the product manufacturer.

ZELTO™ has been evaluated for phytotoxicity on a variety of crops under various normal growing conditions. However, testing all crop varieties, in all mixtures and combinations, is not feasible. Prior to treating entire crop, test a small portion of the crop for sensitivity.

Mixing directions

Important – Do not add ZELTO™ to the mix tank before introducing the desired amount of water. Add water to the mix tank. Start the mechanical or hydraulic agitation to provide moderate circulation before adding ZELTO™. Add the desired volume of ZELTO™ to the mix tank and continue circulation. Maintain circulation while loading and spraying. Do not mix more ZELTO™ than can be used in 24 hours. Use a strainer no finer than 50 mesh in conventional spray systems.

Tank mixing

Do not combine ZELTO™ in the spray tank with other pesticides, surfactants, adjuvants, or fertilizers if there has been no previous experience or use of the combination to show it is physically compatible, effective, or non-injurious under your use conditions.

To ensure compatibility of tank-mix combinations they must be evaluated prior to use. To determine the physical compatibility of this product with other products use a jar test. Using a quart jar, add the proportionate amounts of the products to one quart of water with agitation. Add dry formulations first, then flowables, then emulsifiable concentrates last. After thoroughly mixing, let this mixture stand for 5 minutes. If the combination remains mixed or can be readily remixed, it is physically compatible. Once compatibility has been proven, use the same procedure for adding required ingredients to the spray tank.

GROUND APPLICATION

Apply ZELTO™ in ground equipment with quantities of water sufficient to provide thorough coverage of infested plant parts. Attention should be given to sprayer speed and calibration, wind speed, and foliar canopy to ensure adequate spray coverage. For turf applications, apply ZELTO™ in a minimum of 1.5 gallons of water per 1000 square feet (65 gallons water per acre). For foliar applications using broadcast application equipment, apply ZELTO™ in a minimum of 30 gallons of water per acre. For dilute applications to bedding plants, trees and shrubs, apply ZELTO™ at a dilution of 2 to 8 quarts per 100 gallons of water. Use of a quality surfactant will aid performance. Do not use carrier volumes and/or adjuvants that create spray runoff or drip-accumulation at the base of the commercial commodity.

Do not spray when wind speed favors drift beyond the area intended for use.

Avoiding spray drift is the responsibility of the applicator.

CHEMIGATION USE – DIRECTIONS FOR INSECT CONTROL

Apply this product only through sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move irrigation systems. Do not apply this product through any other type of irrigation system. Do not connect an irrigation system (including greenhouse systems) used for pesticide applications to a public water system.

Spray preparation

First prepare a suspension of ZELTO™ in a mix tank. Fill tank 1/2 to 3/4 the desired amount of water. Start mechanical or hydraulic agitation. Add the required amount of ZELTO™, and then the remaining volume of water. Then set the sprinkler to deliver a minimum of 0.1 to 0.3 inch of water per acre. Start sprinkler and uniformly inject the suspension of ZELTO™ into the irrigation water line so as to deliver the desired rate per acre. Inject the suspension of ZELTO™ with a positive displacement pump into the main line ahead of a right angle turn to insure adequate mixing. Any questions on calibration should be directed to your State Extension Service Specialists, to equipment manufacturers or other experts.

Do not combine ZELTO™ with pesticides, surfactants or fertilizers for application through chemigation equipment unless prior experience has shown the combination physically compatible, effective and non-injurious under conditions of use. ZELTO™ has not been fully evaluated for compatibility with all adjuvants or surfactants. It is advisable to conduct a spray compatibility test if a mixture with adjuvants or surfactants is planned.

General Requirements

- 1) Apply this product only through sprinkler, including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move 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.

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 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 flow 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.

Application Instructions for All Types of Chemigation

- 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. Utilize agitation to keep solution in suspension.

SHAKE WELL BEFORE USE

FOR USE ON THE FOLLOWING SITES FOR CONTROL OF INSECTS AND MITES

FOR USE ON THE FOLLOWING CROPS FOR CONTROL OR SUPPRESSION OF INSECTS AND MITES

[Pre-harvest Interval (PHI) = 0 days]

Turfgrass and Ornamental grasses

2-4 quarts for armyworm, cutworms, and sod webworms. 4 quarts for bluegrass billbug

4 quarts ZELTO™ per acre

Chinch bug, leafhoppers, annual bluegrass weevil – suppression

Flowers, Bedding Plants and Ornamentals

1-4 quarts of ZELTO™ per acre or 1-4 quarts of ZELTO™ per 100 gallons of water

Loopers, tobacco budworm, omnivorous looper, omnivorous leafroller, diamondback moth, armyworms, ello moth, lo moth, oleander moth, azalea caterpillar

2-4 quarts of ZELTO™ per acre or 2-4 quarts of ZELTO™ per 100 gallons of water

Aphids, azalea lace bug, lygus, mites, thrips, whiteflies

Tree Farms and Plantations*

Conifers, Including Christmas Trees and Deciduous Trees

2-4 quarts ZELTO™ per acre

Bagworm, fall webworm, gypsy moth, hemlock looper, jackpine budworm, pine tip moth, redhumped caterpillar, spruce budworm, tent caterpillar, tussock moths

*=not labeled for this use in California

STORAGE AND DISPOSAL

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

Pesticide Storage: Store in a cool, dry place. Do not freeze.

Pesticide Disposal: To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry).

Container Handling: For plastic containers less than or equal to 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. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. **For plastic containers 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. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. **For plastic, refillable containers: Refillable container.** Refill this container with ZELTO™ only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10 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 rinsing procedure two more times.

Marrone Bio Innovations is a member of the Ag Container Recycling Council.

Visit <http://www.acrecycle.org/contact.html> for information on how to arrange pick-up of this empty pesticide container.



Marrone Bio Innovations WARRANTY

To the extent permitted by applicable law, the seller makes no warranty, expressed or implied, of merchantability, fitness or otherwise concerning use of this product. The user assumes all risks of use, storage or handling that are not in accordance with the accompanying directions.