



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

**OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION**

September 3, 2021

Ms. Donna Bishel  
Director of Regulatory Affairs  
BioSafe Systems, LLC  
22 Meadow Street  
East Hartford, Conn. 06108

Subject: Labeling Notification per Pesticide Registration Notice (PRN) 98-10 – Adding “fruit rot” to chart; minor editorial/typographical changes  
Product Name: ZeroTol 2.0  
EPA Registration Number: 70299-12  
Application Date: 8-5-21  
OPP Submission Number: 1073360  
OPP Case Number: 00315490

Dear Ms. Bishel:

The U.S. Environmental Protection Agency (EPA) is in receipt of your application for notification under Pesticide Registration Notice (PRN) 98-10 for the above referenced product. The Biopesticides and Pollution Prevention Division (BPPD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action requested falls within the scope of PRN 98-10.

The labeling submitted with this application has been stamped “Notification” and will be placed in our records. You must submit one (1) copy of the final printed labeling with the modifications.

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 the Federal Insecticide, Fungicide, and Rodenticide Act (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.

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If you have any questions, please contact Nina Naimy via email at [naimy.nina@epa.gov](mailto:naimy.nina@epa.gov).

Sincerely,

A handwritten signature in blue ink that reads "Andrew C. Bryceland". The signature is fluid and cursive, with the first name "Andrew" and last name "Bryceland" clearly legible.

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

Enclosure

**NOTIFICATION**

70299-12

The applicant has certified that no changes, other than those reported to the Agency have been made to the labeling. The Agency acknowledges this notification by letter dated:

09/03/2021

**MASTER LABEL**

**ZeroTol 2.0™**

**Sublabel A: Horticultural and Turf**  
**Sublabel B: Agricultural**  
**Sublabel C: Aquatic Uses**

*(Alternate Brand Names: "OxiDate® 2.0"; "GreenClean® Liquid 2.0", "ZT 2.0")*

**ACTIVE INGREDIENTS:**

Hydrogen Peroxide.....27.1%

Peroxyacetic Acid ..... 2.0%

**OTHER INGREDIENTS:**..... 70.9%

**TOTAL:**.....100.0%

**EPA Registration No.** 70299-12

**EPA Establishment No.** 067441-IL-001, 082521-GA-001, 92957-MI-001, 70299-NV-2, 70299-NV-1

**Manufactured by:**

BioSafe Systems, LLC

22 Meadow Street

East Hartford, CT 06108

(888) 273-3088 (toll-free)

**Net Contents:** (1, 2.5, 5, 30, 55, 275, 330 gallons)

[Note to Reviewer: Text in brackets [ ] is optional. "This product" may be substituted with actual product name.]

**Sublabel A: Horticultural and Turf**

# ZeroTol 2.0™

[FOR HORTICULTURAL AND TURF USE]

**ACTIVE INGREDIENTS:**

Hydrogen Peroxide.....27.1%  
Peroxyacetic Acid ..... 2.0%  
**OTHER INGREDIENTS:**..... 70.9%  
**TOTAL:**.....100.0%

**KEEP OUT OF REACH OF CHILDREN  
DANGER - PELIGRO**

*Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.  
(If you do not understand this label, find someone to explain it to you in detail.)*

<b>FIRST AID</b>	
<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.</li><li>• 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>
<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 swallowed</b>	<ul style="list-style-type: none"><li>• Call a poison control center or doctor immediately for treatment advice.</li><li>• Have person sip a glass of water if able to swallow.</li><li>• Do not induce vomiting unless told to do so by a poison control center or doctor.</li><li>• Do not give anything by mouth to an unconscious person.</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>HOTLINE NUMBER</b>	
For information on ZeroTol 2.0 (this pesticide product), (including general health concerns or pesticide incidents), call the National Pesticide Information Center at 1-800-858-7378, Monday through Friday, 8:00 AM to 12:00 PM Pacific Standard Time. In the event of a medical emergency, call your poison control center at 1-800-222-1222.	
<b>NOTE TO PHYSICIAN</b>	
Probable mucosal damage may contraindicate the use of gastric lavage.	

See (back) (side) (inside) (panel) (insert) (booklet) (label) for additional precautionary statements (instructions) and directions for use.

**Manufactured by:** BioSafe Systems, LLC, 22 Meadow St. East Hartford, CT 06108; (888) 273-3088 (toll-free)

**EPA Registration No.** 70299-12

Batch Code \_\_\_\_\_

**EPA Establishment No.** 067441-IL-001, 082521-GA-001, 92957-MI-001, 70299-NV-2, 70299-NV-1

**Net Contents:** (1, 2.5, 5, 30, 55, 275, 330 gallons)

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

**CORROSIVE:** Causes irreversible eye damage. Harmful if absorbed through skin. Causes skin burns. May be fatal if swallowed. Harmful if inhaled. Do not breathe vapor. Do not get in eyes, on skin or on clothing. Wear protective eyewear (goggles or face shield) and rubber gloves. 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 reuse.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

Handlers who may be exposed to the undiluted product through mixing, loading, application, or other tasks must wear: coveralls over long-sleeved shirt and long pants, rubber gloves, chemical resistant footwear plus socks, and protective eyewear (goggles or face shield). Handlers who may be exposed to the dilute through application or other tasks must wear: long-sleeved shirt and long pants, and shoes plus socks. Follow manufacturer's instructions for cleaning / maintaining PPE. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product. Do not reuse them. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

**[ENGINEERING CONTROLS**

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.240(d)(4-6)), the handler PPE requirements may be reduced or modified as specified in the WPS.]

**USER SAFETY RECOMMENDATIONS**

Users should remove clothing 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**

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 washwaters or rinsate. Do not apply directly to treated, finished drinking water reservoirs or drinking water receptacles when the water is intended for human consumption. This product is highly toxic to bees and other beneficial insects exposed to direct contact on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are actively visiting the treatment area. Do not apply this product or allow it to drift to crops where beneficials are part of an Integrated Pest Management strategy. This pesticide is toxic to birds who eat treated seed exposed on soil surface. Treated seed exposed on soil surface may be hazardous to birds, wildlife, fish and aquatic invertebrates. Cover or collect seeds spilled during loading.

**PHYSICAL AND CHEMICAL HAZARDS**

**Corrosive.** Strong oxidizing agent. Do not use in undiluted form. Mix only with water in accordance with label instructions. Never bring undiluted product in contact with other pesticides, cleaners or oxidative agents.

**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 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 (PPE), notification to workers, and Restricted-Entry Interval (REI). The requirements in this box only apply to the uses of this product that are covered by the Worker Protection Standard.

#### For enclosed environments:

There is a Restricted Entry Interval (REI) of one (1) hour for this product when applied via fogging or spraying to growing plants, surfaces, equipment, structures and non-porous surfaces in enclosed glasshouses and greenhouses. 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 worn over long-sleeved shirt and pants, waterproof gloves and shoes plus socks.

There is a Restricted Entry Interval (REI) of zero (0) hours for pre-plant dip, seed treatment, soil drench, mop, sponge, dip, soak, rinse or other non-spraying application methods when used in enclosed environments such as glasshouses and greenhouses.

#### For field applications:

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

### **Non-Agricultural Use Requirements**

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

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

### **[INTRODUCTION] [PRODUCT INFORMATION]**

ZeroTol 2.0 is a liquid bactericide/fungicide used to treat and control plant pathogens on indoor, greenhouse, and outdoor-grown: ornamental plants, flowering plants, bedding plants, nursery stock, landscape plants, turf, and all agricultural crops including food crops.

Use ZeroTol 2.0 as a preventative treatment for suppressing the following plant pathogens and diseases: Alternaria – Anthracnose – Aphanomyces – Black Spot - Botrytis (grey mold) - Downy Mildew – Erwinia, Fusarium (root rot) - Leaf Spot - Phytophthora (blights, rots) – Plasmopara - Powdery Mildew - Pseudomonas - Pythium - Rhizoctonia - Rust - Scab - Smut - Thielaviopsis – Uncinula (powdery mildew) – Xanthomonas - Wilts & Blights - Ralstonia solanacearum (brown rot, bacterial wilt) - Sclerotinia sclerotiorum (white mold) - Tobacco mosaic virus.

Use ZeroTol 2.0 to treat/control plant pathogens on bedding plants, flowering plants, roses, poinsettia, ornamentals, nursery stock, trees, turf, cut flowers, bulbs, cuttings, seedlings, seeds and seedbeds.

ZeroTol 2.0 may be used on the following indoor or field-grown crops, including but not limited to: tomato, cucumber, herbs, hops, tobacco and other crops. Apply ZeroTol 2.0 up to and including the day of harvest.

Apply ZeroTol 2.0 to treat/control bacteria, fungi and algae on greenhouse structures, benches, pots, watering systems, evaporative coolers, storage rooms, ventilation equipment, floors and other equipment (*optional text: turf equipment, irrigation systems and structures*).

## APPLICATION METHODS

**Ground:** This product can be applied by commonly used ground equipment, such as hose-end, pressurized, greenhouse and handheld sprayers. Use proper spray pressure, gallonage per acre, nozzles, nozzle spacing and ground speed.

**Chemigation:** This product can be applied through sprinkler (center pivot, lateral move, end tow, side (wheel) roll, traveler, solid set or hand move) or drip-type irrigation systems. Refer to the **Chemigation** section of this label for additional directions and precautions.

### **Solution Preparation:**

ZeroTol 2.0 works best when diluted with water containing low levels of organic or inorganic materials. Measuring total suspended solids and EC (Electrical Conductivity) can help in determining concentration of organic and inorganic content in the water. Thoroughly rinse out mixing tank with water before mixing. ZeroTol 2.0 will readily mix with clean, water and does not require agitation.

ZeroTol 2.0 is formulated with minimal surfactant for plants having waxy or hairy surfaces. In order to increase the effectiveness of ZeroTol 2.0, additional non-ionic surfactant may be added, for treatment of plants with difficult to reach surfaces, or for plants having waxy or hairy surfaces. Only non-ionic surfactants are compatible with ZeroTol 2.0.

ZeroTol 2.0 works by contact with the plants and materials being treated. It is important to ensure that all surfaces are thoroughly wetted. ZeroTol 2.0 does not produce any visible residue, distinct odor or deleterious effects to plants when used in accordance with label directions.

ZeroTol 2.0 is a strong oxidizing agent and may react with residues of metal-based fungicides or supplements. Do not apply ZeroTol 2.0 as a foliar spray immediately following foliar applications of metal-based products. Allow at least 48-72 hrs. after application of metal-based products before applying ZeroTol 2.0 as a foliar spray. Check the label of the metal-based product prior to application for specific instructions for use with other fungicide products.

**Note: Use spray solution the same day it is prepared, do not store and reuse mixed spray solution.**

### **Compatibility:**

ZeroTol 2.0 is compatible as a direct injection or tank-mix with many commonly used pesticides, fertilizers, adjuvants and non-ionic surfactants but has not been fully evaluated with all of these. Do not direct inject or tank mix ZeroTol 2.0 in to the irrigation system or in the spray tank with pesticides, surfactants or fertilizers before conducting a compatibility test to show it is physically compatible, effective and non-injurious under your use conditions. Do not tank mix ZeroTol 2.0 with copper or other pesticides containing metals at a dilution rate stronger than 1:100. Consult your BioSafe Systems technical representative for specific instructions.

To ensure compatibility, evaluate them prior to use as follows: Using a suitable container, add proportional amounts of product to water. Add wettable powders first, followed by water dispersible granules, then by liquid flowables and lastly, emulsifiable concentrates. Mix thoroughly and let stand for at least five minutes. If the combination stays mixed or can be remixed, it 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.

Consult specific product labels for additional information or restrictions concerning tank mixing. Observe the most restrictive limitations and precautions of the labeling of all products used in mixtures.

### **Plant Sensitivity Testing:**

For foliar applications, only use ZeroTol 2.0 at labeled dilutions. Solutions more concentrated than described on this label may result in leaf necrosis for some plants. ZeroTol 2.0 has been designed to provide a balanced source of the active ingredient directly to the plant surface. ZeroTol 2.0 has been used and tested on many varieties of plant material; however, the nature of the target plant, environmental conditions, plant vigor, and the use of other pesticides can all affect plant sensitivity. The safety of ZeroTol 2.0 has not been determined on all plants and crops. Plants grown in greenhouses vary greatly from those grown under field conditions. Determine if ZeroTol 2.0 can be safely used prior to application. Before treating large numbers of plants, test ZeroTol 2.0 or tank mixes of ZeroTol 2.0 and other pesticides or fertilizers at labeled rates on a separate set of plants and observe for symptoms of sensitivity prior to use. Symptoms on foliage include yellow or brown spotting, “burned” tips and/or yellow or brown scorching along the leaf edges.

When using ZeroTol 2.0 for control of organisms living on the plant tissue (such as Downy and Powdery Mildew), treatment may result in lesions on plant tissue. ZeroTol 2.0 will oxidize parasitic organisms living in plant tissue that are not always visible to the naked eye. Resulting oxidative effects may include spotting, or drying of the plant tissue where organisms inhabited tissue.

Read the entire label before using this product. Use only according to label directions. Do not use ZeroTol 2.0 above labeled rates.

## **USE RATES AND DIRECTIONS**

### **INDOOR AND OUTDOOR-GROWN CROPS**

**PREHARVEST INTERVAL: PHI = Zero (0) Days.** ZeroTol 2.0 can be sprayed up to and including the day of harvest.

Use ZeroTol 2.0 to treat plant diseases on indoor and outdoor grown crops through soil drench, irrigation, fog and foliar applications. For specific foliar applications refer to **[Applications] Rates and Directions Chart**.

#### **Aerosol/Fog Treatments For Control of Foliar Diseases in Crops (\*)**

ZeroTol 2.0 can be applied as an aerosol/fog using approved commercial cold or thermo fogging equipment. Use a rate of 5.0-16.0 fl. oz. of ZeroTol 2.0 per 10,000 sq. ft. of greenhouse area mixed in 0.5-1.0 gallon of water. Ensure even distribution of applied fog in the greenhouse to be treated. Always test by fogging a few plants first at these concentrations and ensure no injury to plants before using on a large scale. For crops that are in bloom and/or have low tolerance to ZeroTol 2.0, do not exceed solution concentration of 1:50 (2.56 fl. oz. of ZeroTol 2.0 per 1.0 gallon of water per 10,000 sq. ft.). Repeat applications once every 5-7 days as needed until complete control of disease is achieved. Use an approved and compatible dispersal agent to minimize evaporation of applied aerosol and better deposition on plant surface.

#### **Foliar Spray Treatments**

ZeroTol 2.0 works immediately on contact with any plant surface for control of plant diseases – see **[Applications] Rates and Directions Chart**. Good coverage and wetting of the foliage is required. Do not spray ZeroTol 2.0 during conditions of intense heat, drought or poor plant vigor.

#### **Curative application rates:**

- 1) For best results, apply at first sign of disease. Spray diseased plants using a 1:100 dilution rate, or 128 fl. oz. of ZeroTol 2.0 per 100 gallons of water. Ensure adequate coverage of upper and lower foliage, stems, branches and stalks.
- 2) Spray or mist plants in morning or evening. Apply 50-500 gallons of spray solution per treated acre or 11.5-115 gallons per 10,000 sq. ft., ensuring adequate coverage of upper and lower



foliage, stems, branches and stalks. Final spray solution volume will depend on crop type, canopy size and/or growth stage.

- 3) Maintain a 3 –10 day spray schedule until control is achieved. Under heavy disease pressure or when conditions are favorable for rapid disease development; spray intervals can be shortened to 3–5 days.
- 4) Concentrations up to 1:40 (2.5% v/v) can be used as a rescue treatment on berries (excluding strawberries), citrus crops, cucurbit crops and fruiting vegetables, after testing to ensure the rate is safe on plants. Do not apply 1:40 rate while crops are in bloom. Always test for phytotoxicity by spraying on few plants before using on a large scale.

**Preventative application rates:**

- 1) Begin applications early when plants are small. Use ZeroTol 2.0 at a dilution rate of 1:200-1:400 (64-32 fl. oz. per 100 gallons of water).
- 2) Spray or mist plants in morning or evening. Apply 50-500 gallons of spray solution per treated acre or 11.5-115 gallons per 10,000 sq. ft., ensuring adequate coverage of upper and lower foliage, stems, branches and stalks. Final spray solution volume will depend on crop type, canopy size and/or growth stage.
- 3) Maintain a 5-10 day spray schedule.

**Electrostatic Spray Applications:**

For electrostatic sprayers, use the 1:100-1:300 curative rate applied in 10-25 gallons of spray solution per treated acre or 2.3 to 5.7 gallons per 10,000 sq. ft. Follow spray equipment manufacturer’s instructions for final spray volume to obtain adequate coverage.

**[Applications] Rates and Directions Chart**  
**[Crops and Diseases]**

*[ZeroTol 2.0][This product] can be used on the following crops, including but not limited to:*

Crop	Disease	Application Rates
<b>Cane Berries/Small Fruits</b> <i>Including, but not limited to:</i> Blackberries Blueberries Raspberries	Alternaria Angular Leaf Spot Botrytis Crown Rot Downy Mildew Mummy Berry Disease Leaf Blight Powdery Mildew <b>Fruit Rot</b>	<p><b>Preventative:</b> 1:200-1:400 dilution. Start preventative sprays early when conditions favor disease development. Spray on a 5-10 day schedule with thorough coverage.</p> <p><b>Curative:</b> 1:100 dilution. Use curative rate at first sign/symptom of infection, following 3-5 day spray intervals until control is achieved, or use when conditions favor rapid disease development.</p> <p><b>Rescue:</b> 1:40 dilution. Use a 1:40 dilution rate under severe disease pressure or as a rescue treatment. Test for phytotoxicity prior to using this rate. Apply during the dormant stage to reduce pathogens. <b>DO NOT</b> apply 1:40 rate to blooming crops.</p>

<p><b>Citrus Crops:</b> <i>Including, but not limited to:</i> Citrus Hybrids Grapefruit Kumquat Lemon Limes Orange Tangerine</p>	<p>Alternaria Anthracnose Brown Rot Phytophthora Powdery Mildew Rust Scab  Citrus Canker</p>	<p><b>Preventative:</b> 1:200-1:400 dilution. Start preventative sprays early when conditions favor disease development. Spray on a 5-10 day schedule with thorough coverage.</p> <p><b>Curative:</b> 1:100 dilution. Use curative rate at first sign/symptom of infection, following 3-5 day spray intervals until control is achieved, or use when conditions favor rapid disease development.</p> <p><b>Citrus Canker:</b> Spray entire tree including trunk, branches, leaf canopy. Spray all areas where branches have been pruned, grafted or have become damaged or have apparent lesions or breaks in bark. Make applications immediately after pruning.</p> <p>For Soil Borne Pathogens see <b>Soil Drench Treatments.</b></p> <p><b>Rescue:</b> 1:40 dilution. Use dilution rate under severe disease pressure or as a rescue treatment. Test for phytotoxicity prior to using this rate. DO NOT apply 1:40 rate to blooming crops.</p>
<p><b>Cucurbit Crops:</b> <i>Including, but not limited to:</i> Cucumber Melons</p>	<p>Alternaria Anthracnose Belly Rot Downy Mildew Gummy Stem Blight Leaf Spot Powdery Mildew</p>	<p><b>Preventative:</b> 1:200-1:400 dilution. Start preventative sprays early when conditions favor disease development. Spray on a 5-10 day schedule with thorough coverage.</p> <p><b>Curative:</b> 1:100 dilution. Use curative rate at first sign/symptom of infection, following 3-5 day spray intervals until control is achieved, or use when conditions favor rapid disease development.</p> <p><b>Rescue:</b> 1:40 dilution. Use dilution rate under severe disease pressure or as a rescue treatment. Test for phytotoxicity prior to using this rate. DO NOT apply 1:40 rate to blooming crops.</p>
<p><b>Fruiting Vegetables:</b> <i>Including, but not limited to:</i> Eggplant Peppers Tomatoes Tomatillos</p>	<p>Anthracnose Alternaria Late Blight Bacterial Wilt Bacterial Leaf Spot Bacterial Speck Botrytis - Gray Mold Cladosporium Mold Powdery Mildew Fusarium Pythium Rhizoctonia</p>	<p><b>Preventative:</b> 1:200-1:400 dilution. Start preventative sprays early when conditions favor disease development. Spray on a 5-10 day schedule with thorough coverage.</p> <p><b>Curative:</b> 1:100 dilution. Use curative rate at first sign/symptom of infection, following 3-5 day spray intervals until control is achieved, or use when conditions favor rapid disease development.</p> <p>For Soil Borne Pathogens see <b>Soil Drench Treatments.</b></p> <p><b>Rescue:</b> 1:40 dilution. Use dilution rate under severe disease pressure or as a rescue treatment. Test for phytotoxicity prior to using this rate. DO NOT apply 1:40 rate to blooming crops.</p>
<p><b>Herbs &amp; Spices:</b> <i>Including, but not limited to:</i> Basil Chives Cilantro Coriander Dill Medicinal Mint Oregano Parsley Rosemary Sage <b>Other Miscellaneous Herbs</b></p>	<p>Anthracnose Downy Mildew Powdery Mildew Pythium Rot</p>	<p><b>Preventative:</b> 1:200-1:400 dilution. Start preventative sprays early when conditions favor disease development. Spray on a 5-10 day schedule with thorough coverage.</p> <p><b>Curative:</b> 1:100 dilution. Use curative rate at first sign/symptom of infection, following 3-5 day spray intervals until control is achieved, or use when conditions favor rapid disease development.</p> <p>For Soil Borne Pathogens see <b>Soil Drench Treatments.</b></p>

<b>Hemp</b>	Anthracnose Bacterial Leaf Spot Botrytis Blight/Gray Mold Downy Mildew Fungal Leaf Spot Powdery Mildew Rust	<p><b>Preventative:</b> 1:200-1:400 dilution. Start preventative sprays early when conditions favor disease development. Spray on a 5-10 day schedule with thorough coverage.</p> <p><b>Curative:</b> 1:100 dilution. Use curative rate at first sign/symptom of infection, following 3-5 day spray intervals until control is achieved, or use when conditions favor rapid disease development.</p> <p><b>Rescue:</b> 1:40 dilution. Apply under severe disease pressure or as a rescue treatment. Test for phytotoxicity prior to using this rate. DO NOT apply 1:40 rate to blooming crops.</p>
	Fusarium Wilt	For Soil Borne Pathogens see <b>Soil Drench Treatments</b> .
<b>Leafy Vegetables:</b> <i>Including, but not limited to:</i> Lettuce Microgreens	Brown Rot Botrytis Downy Mildew Early Blight Late Blight Phytophthora Powdery Mildew Rust	<p><b>Preventative:</b> 1:200-1:400 dilution. Start preventative sprays early when conditions favor disease development. Spray on a 5-10 day schedule with thorough coverage.</p> <p><b>Curative:</b> 1:100 dilution. Use curative rate at first sign/symptom of infection, following 3-5 day spray intervals until control is achieved, or use when conditions favor rapid disease development.</p> <p>For Soil Borne Pathogens see <b>Soil Drench Treatments</b> or <b>Hydroponic Application</b> instructions.</p>
<b>Other Miscellaneous Crops:</b> <i>Including, but not limited to:</i> Tobacco Hops	Anthracnose Alternaria Leaf Spot - (Brown Mold) Angular Leaf Spot Frogeye Leaf Spot Botrytis - Gray Mold Downy Mildew Powdery Mildew Blue Mold	<p><b>Preventative:</b> 1:200-1:400 dilution. Start preventative sprays early when conditions favor disease development. Spray on a 5-10 day schedule with thorough coverage.</p> <p><b>Curative:</b> 1:100 dilution. Use curative rate at first sign/symptom of infection, following 3-5 day spray intervals until control is achieved, or use when conditions favor rapid disease development.</p> <p><b>Rescue:</b> 1:40 dilution. Use dilution rate under severe disease pressure or as a rescue treatment. Test for phytotoxicity prior to using this rate. DO NOT apply 1:40 rate to blooming crops.</p>
<b>Strawberries</b>	Alternaria Angular Leaf Spot Botrytis Crown Rot Downy Mildew Mummy Berry Disease Leaf Blight Powdery Mildew Fruit Rot	<p><b>Preventative:</b> 1:200-1:400 dilution. Begin preventative applications prior to disease development and continue throughout the season, maintaining a 5-10 day spray schedule.</p> <p><b>Curative:</b> 1:100 dilution. Use curative rate at first sign/symptom of infection, following 3-5 day spray intervals until control is achieved, or use when conditions favor rapid disease development.</p>

**[OPTIONAL TABLE]**

SMALL FRUITS			
CROP	DISEASE	RATE	DIRECTIONS
Blackberries Blueberries Raspberries	Alternaria Angular Leaf Spot	Preventative 1:200-1:400	Begin at first leaf expansion. Spray preventative rate on a 5-10 day schedule with thorough coverage.
	Botrytis Crown Rot Downy Mildew Mummy Berry Disease Leaf Blight Powdery Mildew Fruit Rot	Curative 1:100	Use curative rate at first sign/symptom of infection, following 3-5 day spray intervals until control is achieved, or use when conditions favor rapid disease development.

		Rescue 1:40	Use a 1:40 dilution rate under severe disease pressure or as a rescue treatment.  Test for phytotoxicity prior to using this rate.  Apply as a clean-up spray during dormant stage.  DO NOT apply 1:40 rate to blooming crops.
Strawberries	Alternaria Angular Leaf Spot Botrytis Crown Rot Downy Mildew Mummy Berry Disease Leaf Blight Powdery Mildew Fruit Rot	Preventative 1:200-1:400  Curative 1:100	Spray on a 5-10 day schedule with thorough coverage.  Use curative rate at first sign/symptom of infection, following 3-5 day spray intervals until control is achieved, or use when conditions favor rapid disease development.

<b>CITRUS CROPS</b>			
<b>CROP</b>	<b>DISEASE</b>	<b>RATE</b>	<b>DIRECTIONS</b>
Citrus Hybrids Grapefruit Kumquat Lemon Limes Orange Tangerine	Alternaria Anthracnose Brown Rot Phytophthora Powdery Mildew Rust Scab  Citrus Canker	Preventative 1:200-1:400	Apply preventative rate on a 5-10 day schedule with thorough coverage.
		Curative 1:100	Use curative rate at first sign/symptom of infection, following 3-5 day spray intervals until control is achieved, or use when conditions favor rapid disease development.  Citrus Canker: Spray entire tree including trunk, branches, leaf canopy. Spray all areas where branches have been pruned, grafted or have become damaged or have apparent lesions or breaks in bark. Make applications immediately after pruning.  For Soil Borne Pathogens see Soil Drench Treatments.
		Rescue 1:40	Use dilution rate under severe disease pressure or as a rescue treatment.  Test for phytotoxicity prior to using this rate.  DO NOT apply 1:40 rate to blooming crops.

<b>HERBS &amp; SPICES</b>			
<b>CROP</b>	<b>DISEASE</b>	<b>RATE</b>	<b>DIRECTIONS</b>
Basil Chives Cilantro	Anthracnose Downy Mildew Powdery Mildew	Preventative 1:200-1:400	Apply preventative rate as new shoots emerge on a 5-10 day schedule with thorough coverage.

Coriander Dill Medicinal Mint Oregano Parsley Rosemary Sage Other miscellaneous herbs	Pythium Rot	Curative 1:100	Use curative rate at first sign/symptom of infection, following 3-5 day spray intervals until control is achieved, or use when conditions favor rapid disease development.  For Soil Borne Pathogens see Soil Drench Treatments.
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<b>CUCURBIT CROPS</b>			
<b>CROP</b>	<b>DISEASE</b>	<b>RATE</b>	<b>DIRECTIONS</b>
Cucumber Melons	Alternaria Anthracnose Belly Rot Downy Mildew Gummy Stem Blight Leaf Spot Powdery Mildew	Preventative 1:200-1:400	Apply preventative rate on a 5-10 day schedule with thorough coverage.
		Curative: 1:100	Use curative rate at first sign/symptom of infection, following 3-5 day spray intervals until control is achieved, or use when conditions favor rapid disease development.
		Rescue 1:40	Use dilution rate under severe disease pressure or as a rescue treatment.  Test for phytotoxicity prior to using this rate.  DO NOT apply 1:40 rate to blooming crops.

<b>FRUITING VEGETABLES</b>			
<b>CROP</b>	<b>DISEASE</b>	<b>RATE</b>	<b>DIRECTIONS</b>
Eggplant Peppers Tomatoes Tomatillos	Anthracnose Alternaria Late Blight Bacterial Wilt Bacterial Leaf Spot Bacterial Speck Botrytis - Gray Mold Cladosporium Mold Powdery Mildew Fusarium Pythium Rhizoctonia	Preventative 1:200-1:400	Apply preventative rate on a 5-10 day schedule with thorough coverage.
		Curative 1:100	Use curative rate at first sign/symptom of infection, following 3-5 day spray intervals until control is achieved, or use when conditions favor rapid disease development.  For Soil Borne Pathogens see Soil Drench Treatments.
		Rescue 1:40	Use dilution rate under severe disease pressure or as a rescue treatment.  Test for phytotoxicity prior to using this rate.  DO NOT apply 1:40 rate to blooming crops.

LEAFY VEGETABLES			
CROP	DISEASE	RATE	DIRECTIONS
Lettuce Microgreens	Brown Rot Botrytis Downy Mildew Early Blight Late Blight Phytophthora Powdery Mildew Rust	Preventative 1:200-1:400  Curative 1:100	Apply preventative rate on a 5-10 day schedule with thorough coverage.  Use curative rate at first sign/symptom of infection, following 3-5 day spray intervals until control is achieved, or use when conditions favor rapid disease development.  For Soil Borne Pathogens see Soil Drench Treatments

OTHER MISCELLANEOUS CROPS			
CROP	DISEASE	RATE	DIRECTIONS
Tobacco Hops	Anthracnose Alternaria Leaf Spot - (Brown Mold) Angular Leaf Spot Frogeye Leaf Spot Botrytis - Gray Mold Downy Mildew Powdery Mildew Blue Mold	Preventative 1:200-1:400  Curative 1:100	Apply preventative rate on a 5-10 day schedule with thorough coverage.  Use curative rate at first sign/symptom of infection, following 3-5 day spray intervals until control is achieved, or use when conditions favor rapid disease development.
		Rescue 1:40	Use dilution rate under severe disease pressure or as a rescue treatment.  Test for phytotoxicity prior to using this rate.  DO NOT apply 1:40 rate to blooming crops.

### Soil Drench Treatments

ZeroTol 2.0 is effective for the control of soil-borne plant diseases such as *Pythium*, *Phytophthora*, *Rhizoctonia*, *Thielaviopsis* or *Fusarium*. Use as a soil drench at the time of seeding or transplanting, as well as a periodic drench throughout the plant's life. Use ZeroTol 2.0 on potting soil and growing mediums prior to planting.

- 1) Use a dilution of 1:100-1:500 or (12.8-64 fl. oz. of ZeroTol 2.0 per 50 gallons of water) on potting soil and growing mediums prior to planting.
- 2) Use a rate of 1:200-1:500 when plants are present.
- 3) Apply to soil or growing media to the point of saturation.
- 4) Wait fifteen minutes before planting or watering.
- 5) Apply every 5-7 days as a preventive treatment.

### Boom Irrigation Treatments

When using boom irrigation, inject ZeroTol 2.0 as a continuous application at a dilution rate of 1:2,500-1:5,000.

### Pre-harvest Clean-up Sprays for Spoilage and Decay Causing Organisms

Use ZeroTol 2.0 as a foliar spray for control of spoilage and decay causing organisms prior to harvest. Use a 1% (1:100) solution. Ensure good coverage and wetting of the food crop. For increased coverage, adhesion and penetration of spray, use a compatible non-ionic wetting agent/surfactant spreader/sticker.

### Seed Treatments

Use ZeroTol 2.0 as a surface seed treatment to reduce disease causing fungi and bacterial pathogens on or in seeds.

- 1) Use ZeroTol 2.0 a dilution of 1:100 (64 fl. oz. per 50 gallons of water).
- 2) Immerse seeds and let soak for at least two minutes; remove and allow to drain. Do not rinse. Plant seed according to seed package directions.

### ORNAMENTALS, BEDDING PLANTS, FLOWERING PLANTS, SHRUBS, AND TREES ~~APPLICATIONS~~ GROWN IN GREENHOUSES

Use ZeroTol 2.0 as a liquid bactericide/fungicide used to treat and control plant pathogens on ornamentals, bedding plants, flowering plants, shrubs, and trees grown in greenhouses.

### Foliar Spray Treatments

ZeroTol 2.0 works immediately on contact with any plant surfaces for the control/suppression of fungi and bacteria such as *Botrytis*, Downy Mildew, Powdery Mildew, *Xanthomonas*. To ensure that this contact fungicide is effective, thorough coverage and wetting of the foliage is necessary.

#### Initial (Curative) application rates:

- 1) For best results, apply at first sign of disease. Use ZeroTol 2.0 at a dilution rate of 1:100 (1¼ fl. oz. per gallon of clean water). Do not store and reuse mixed spray solution, prepare a fresh solution daily.
- 2) Prior to treating large numbers of plants, spray a small group of test plants and observe for signs of phytotoxicity.
- 3) Spray, mist or fog plants in early morning or late evening. Thoroughly wet all surfaces of plant, upper and lower foliage, including stems, branches and stalks to ensure full contact with plant and flower tissue.
- 4) Apply 50-500 gallons of spray solution per treated acre or 11.5-115 gallons of spray solution per 10,000 sq. ft.
- 5) Maintain a 3-10 day spray schedule until control is achieved. Under heavy disease pressure or when conditions are favorable for rapid disease development; spray intervals can be shortened to 3-5 days until control is achieved.

#### Preventative Application Rates:

- 1) Use ZeroTol 2.0 at a dilution rate of 1:200-1:400 (⅓ to ⅔ fl. oz. per gallon of clean water).
- 2) Spray, mist or fog plants. Thoroughly wet all surfaces of plant, upper and lower foliage, including stems, branches and stalks.
- 3) Apply 50-500 gallons of spray solution per treated acre or 11.5-115 gallons of spray solution per 10,000 sq. ft.
- 4) Spray every 5-10 days as a preventive treatment.
- 5) At the first sign of disease spray daily with a 1¼ fl. oz. per gallon of water for three consecutive days and then resume preventative treatment.

### Aerosol/Fog Treatments For Control of Foliar Diseases (\*)

ZeroTol 2.0 can be applied as an aerosol/fog using approved commercial cold or thermo fogging equipment. Use a rate of 5.0-16.0 fl. oz. of ZeroTol 2.0 per 10,000 sq. ft. of greenhouse area mixed in 0.5-1.0 gallon of water. Ensure even distribution of applied fog. Always test by fogging on few plants first at these concentrations and ensure no injury to plants before using on large scale. For crops that are in bloom and/or have low tolerance to ZeroTol 2.0, do not exceed solution concentration of 1:50 (2.56 fl. oz. of ZeroTol 2.0 per 1.0 gallon of water per 10,000 sq. ft.). Repeat applications once every 5-7 days as needed until complete control of disease is achieved. Use an approved and compatible dispersal agent to minimize evaporation of applied aerosol and better deposition on plant surface.

**Soil Or Media Drench Treatments** ZeroTol 2.0 is effective for the control / suppression of soil borne plant diseases such as *Pythium*, *Phytophthora*, *Rhizoctonia*, *Thielaviopsis* or *Fusarium*. Use as a soil

drench at the time of seeding or transplanting, as well as a periodic drench throughout the plant's life. ZeroTol 2.0 can also be used on potting soil and growing mediums prior to planting.

- 1) Use ZeroTol 2.0 at a dilution rate of 1:100 (1¼ fl. oz. per gallon of clean water).
- 2) Apply to soil or growing media to the point of saturation.
- 3) Wait fifteen minutes before planting or watering.
- 4) Apply every 5-7 days as a preventative treatment.

### **For Mist Propagation of Cuttings And Plugs**

Inject ZeroTol 2.0 into misting systems to control/suppress algae, fungi and bacterial disease from becoming established on plant material. Inject ZeroTol 2.0 using a 1:1,000 dilution rate, for four to ten days on a consecutive basis. Reduce concentration to 1:5,000 and maintain continuous application throughout propagation cycle. At the first sign of disease, increase the concentration of ZeroTol 2.0 to 1:1,000.

### **As A Pre-Plant Dip Treatment**

Use ZeroTol 2.0 for the control/suppression of damping-off, root and stem rot diseases such as *Pythium*, *Phytophthora*, *Rhizoctonia*, *Fusarium*, *Penicillium* (\*), or *Thielaviopsis* on ornamental and nursery plants, seed beds, seeds, seedlings, bulbs, or cuttings.

- 1) Use ZeroTol 2.0 at a dilution rate of 1:100 (64 fl. oz. per 50 gallons of water).
- 2) Immerse plants or cuttings. Remove and allow to drain. Do not rinse.

### **HYDROPONIC APPLICATIONS (\*)**

For control of root diseases: *Pythium* (Root Rot and Damping off), *Phytophthora* (Blight), *Fusarium* (Wilt), *Verticillium* (Wilt), *Rhizoctonia* (Root Rot/Bottom Rot), *Thielaviopsis* (Root Rot) in hydroponic systems.

### **Nutrient/Reservoir Tank**

Use ZeroTol 2.0 at a dilution rate of 1:2,000-1:10,000 (0.128-0.64 fl. oz. per 10 gallons of water). Use lower rates (1:5,000 or less) for seedlings and/or plants with sensitive root systems. Recharge as needed when fresh water is added, or at least once every 5-7 days.

### **Media Drench**

Use ZeroTol 2.0 at a dilution rate of 1:1,500-1:2,000 (0.085-0.064 fl. oz. per gallon of water). Apply to soil or growing media to the point of saturation. Repeat once every 7-10 days as needed.

**Foliar Spray** For control of foliar diseases: Powdery Mildew, Downy Mildew, Botrytis Grey Mold, Leaf Spots and Blights (Bacterial and Fungal), Stem Blight(s).

Use ZeroTol 2.0 at a dilution rate of 1:100-1:500 (1.28-0.256 fl. oz. per gallon of water). Start sprays at first sign/symptoms of diseases and maintain 5-7 day spray interval until complete control is achieved. Use higher rates (1:40-1:100) only when disease pressure is high and/or conditions are favorable for rapid disease development. Always test for phytotoxicity by spraying a few plants before using on a large scale.

### **Aerosol/Fog Treatments For Control of Foliar Diseases in Crops**

ZeroTol 2.0 can be applied as an aerosol/fog using approved commercial cold or thermo fogging equipment. Use a rate of 5.0-16.0 fl. oz. of ZeroTol 2.0 per 10,000 sq. ft. of greenhouse area mixed in 0.5-1.0 gallon of water. Ensure even distribution of applied fog in the greenhouse to be treated. Always test by fogging a few plants first at these concentrations and ensure no injury to plants before using on a large scale. For crops that are in bloom and/or have low tolerance to ZeroTol 2.0, do not exceed solution concentration of 1:50 (2.56 fl. oz. of ZeroTol 2.0 per 1.0 gallon of water per 10,000 sq. ft.). Repeat applications once every 5-7 days as needed until complete control of disease is achieved. Use an approved and compatible dispersal agent to minimize evaporation of applied aerosol and better deposition on plant surface.



NOTE: When using ZeroTol 2.0 on hydroponic growing systems as a foliar treatment, follow the label directions for foliar treatments. Use ZeroTol 2.0 as a water treatment only after a water sample has been submitted to BioSafe Systems for analysis and special direction is provided for dosing recommendations. Inert growing media in a hydroponic growing system provide special conditions that the grower needs to adjust for due to the unbuffered water conditions. Water pH, EC and supplements such as fertilizer, biological loading and minor elements are factors that need to be considered before determining correct water treatment rates.

**For Cut Flowers**

Use ZeroTol 2.0 to prevent *Botrytis*, Downy Mildew and Powdery Mildew on flowers in cold storage or in transit. Use a dilution of 1:500 or ¼ fl. oz. per gallon of clean water. Spray flowers after grading and prior to storage or shipment. Repeat weekly for flowers in storage.

**FOR GREENHOUSE SURFACES AND EQUIPMENT**

Use ZeroTol 2.0 to suppress/control bacteria, fungi and slime forming algae on greenhouse glazing, plastic, benches, walkways, floors, walls, fan blades, ventilation ducts, watering systems, coolers, storage rooms, and equipment.

- 1) Sweep and remove all plant debris. Use power sprayer to wash all surfaces to remove loose dirt.
- 2) Use a dilution of 1:100, or 1¼ fl. oz. per gallon of clean water on pre-cleaned surfaces. Use a dilution of 1:50 or 2½ fl. oz. of ZeroTol 2.0 per gallon of clean water if surfaces have not been pre-cleaned with water to remove organic deposits. Additional surfactant may be used.
- 3) Apply solution with mop, sponge, power sprayer or fogger to thoroughly wet all surfaces.
- 4) Scrub off heavy growths of algae and fungi following application. Use a solution of ZeroTol 2.0 to wash away dead growth.
- 5) Reapply as often as needed for control.

**Foaming Applications (\*)**

Apply ZeroTol 2.0 as a foam treatment to enhance contact on porous surfaces and irregular surfaces, where contact is difficult to maintain with spray treatments. Use a dilution of 1:50-1:100, or 2½-1¼ fl. oz. of ZeroTol 2.0 per gallon of clean water. Use the 1:50 dilution rate if surfaces to be treated have not been pre-cleaned with water to remove organic deposits. Add a surfactant foaming agent to the spray tank that contains the diluted ZeroTol 2.0 spray solution. Follow all mixing instructions on the label. Apply foam until the surface treated is completely covered. Allow foam treated surface to air dry. Do not rinse.

**TREATMENT OF CLEAN, HARD, NON-POROUS SURFACES**

Use ZeroTol 2.0 to suppress/control bacteria, fungi and slime-forming algae on the following surfaces:

<b>SURFACE</b>	<b>USE RATE</b>	<b>INSTRUCTIONS</b>
<b>Pots, Flats, Trays</b>	1:50-1:100, or 2½-1¼ fl. oz. per gallon of clean water.	Spray until runoff. Add additional surfactant if needed. Allow surfaces to remain wet for 10 minutes.
<b>Cutting Tools</b>	1:50-1:100, or 2½-1¼ fl. oz. per gallon of clean water.  Tobacco Mosaic Virus control: 1:50-1:100 or 2½-1¼ fl. oz. per gallon of clean water.	Soak tools to ensure complete coverage. Add additional surfactant if needed. Allow surfaces to remain wet for 10 minutes.  Use ZeroTol 2.0 to prevent the spread of Tobacco Mosaic Virus on cutting tools. Allow surfaces to remain wet for 1 minute.
<b>Benches and Work Areas</b>	Pre-cleaned surfaces: 1:100 or 1¼ fl. oz. per gallon of clean water.	Sweep and remove all plant debris. Use power sprayer to wash all surfaces to remove loose dirt. Add additional

	Unclean surfaces: 1:50 or 2½ fl. oz. per gallon of clean water if surfaces have not been pre-cleaned with water to remove organic deposits.	surfactant if needed. Allow surfaces to remain wet for 10 minutes.
<b>Foot Bath Mats</b> Foot pads and walk-through trays	1:100-1:170 or 1¼-¾ fl. oz. per gallon of water.	Apply ZeroTol 2.0 to prevent the tracking and spread of dirt and microorganisms. Make a solution of ZeroTol 2.0 per gallon of water and fill foot bath mat, foot pad or walk-through tray to capacity. Allow treated surface to remain wet with solution for 10 minutes. Change solution as needed.
<b>Evaporative Coolers</b>	Contaminated surfaces- 1:25 - 1:100 or 5-1¼ fl. oz. per gallon of clean water. Add a foaming agent to the spray tank that contains the diluted solution. (*) Cooler water shock treatment: 1:100 or 1¼ fl. oz. for every gallon of cooler water.  Cooler water continuous treatment:1:200-1:500 or ⅔ -¼ fl. oz. per gallon of cooler water.	Apply foam solution until the surface treated is completely covered. Turn off coolers for 20 minutes to allow foam to work. Allow foam-treated surfaces to air dry. Do not rinse.  Treat cooler water weekly as a preventative shock treatment.  Continuously inject ZeroTol 2.0 to prevent algae and slime contamination.
<b>Irrigation Systems</b> Flooded floors, flooded benches, recycled water systems, capillary mats, humidification and misting systems	Contaminated water: 1:500  Clean water: 1:10,000	Treat contaminated water with a dilution of 1:500 or ¼ fl. oz. for every gallon of water.  Treat clean water with a dilution of 1:10,000 or one gallon of ZeroTol 2.0 per 10,000 gallons of water.

## FOLIAR SPRAY TREATMENT IN FIELD NURSERIES

ZeroTol 2.0 works immediately on contact with any plant surface for control/suppression of disease. Apply ZeroTol 2.0 to nursery stock such as: woody ornamentals, bedding plants, flowering plants, roses, container plants, azaleas, rhododendrons, conifers, and shade trees. Good coverage and wetting of the foliage is necessary.

### Initial (Curative) Application Rates:

- 1) Use ZeroTol 2.0 at a dilution rate of 1:100 (1¼ fl. oz. per gallon of clean water). Do not store and reuse mixed spray solution, prepare a fresh solution daily.
- 2) Spray plants and trees, including applications through irrigation or chemigation systems.
- 3) Apply in 50-500 gallons of water per acre (11.5-115 gallons per 10,000 sq. ft.). Thoroughly wet all surfaces of plant, upper and lower foliage, including stems, branches and stalks to ensure full contact with plant and flower tissue.
- 4) Maintain a 3-10 day spray schedule until control is achieved. Under heavy disease pressure or when conditions are favorable for rapid disease development; spray intervals can be shortened to 3 -5 days until control is achieved.

### **Preventative Application Rates:**

- 1) Use ZeroTol 2.0 at a dilution rate of 1:200 to 1:400 ( $\frac{1}{3}$  to  $\frac{2}{3}$  fl. oz. per gallon of clean water).
- 2) Spray, mist or fog plants and trees, including applications through irrigation or chemigation systems.
- 3) Apply in 50-500 gallons of water per acre (11.5-115 gallons per 10,000 sq. ft.). Thoroughly wet all surfaces of plant, upper and lower foliage, including stems, branches and stalks.
- 4) Spray every 5-10 days as a preventative treatment.
- 5) At the first sign of disease spray daily with a dilution of 1:100 ( $1\frac{1}{4}$  fl. oz. per gallon of water) for three consecutive days and then resume preventative treatment.

### **For Bareroot Nursery Stock**

Use ZeroTol 2.0 to prevent *Botrytis* on budwood and nursery stock in storage. Use ZeroTol 2.0 at a dilution rate of 1:100 ( $1\frac{1}{4}$  fl. oz. per gallon of water). Dip plants or spray until dripping wet. Repeat weekly if necessary.

### **For Seed Bed Treatment**

Use ZeroTol 2.0 for the control/suppression of disease as follows:

- 1) Prior to sowing seed, use ZeroTol 2.0 at a dilution rate of 1:100-1:200 (1.3-0.64 fl. oz. per gallon of clean water). Thoroughly wet or drench the seedbed, to the point of saturation, with 60-100 gallons of dilute solution per 1000 square feet. Let sit for one hour then immediately seed soil.
- 2) After seeds have germinated, use ZeroTol 2.0 at a dilution rate of 1:100-1:200 (1.3-0.64 fl. oz. per gallon of clean water). Lightly spray or irrigate the soil and seedlings until thoroughly wetted. Retreat once per week until seed is well established.

### **For Soil Treatment, Pre-Inoculation With Beneficial Organisms**

Use ZeroTol 2.0 to reduce the number of plant pathogenic organisms in the soil. Use ZeroTol 2.0 at a dilution rate of 1:100-1:200 (1.3-0.64 fl. oz. per gallon of clean water). Pre-treat soil by thoroughly wetting or drenching with ZeroTol 2.0, wait one day following treatment before inoculating the soil with beneficial organisms.

### **TREATMENT OF WATER USED FOR PESTICIDE SPRAY SOLUTIONS**

Use ZeroTol 2.0 as a bactericide/microbiocide to treat and suppress algae, bacteria and fungi in water collected from open or closed sources including but not limited to wells, ditches, canals, reservoirs, and ponds, used for pesticide spray solutions and mixtures. Add ZeroTol 2.0 at a dilution rate of 1:300-1:1,000 (42.6-12.8 fl. oz. per 100 gallons of water) to water in spray or mix tank. Mix and allow a contact time of 3-5 minutes **before adding other pesticides to spray solution.**

### **Tank Mixing Instructions**

1. **Before adding other pesticides to the spray solution,** mix ZeroTol 2.0 first and allow a contact time of 3–5 minutes.
2. **When used with Conventional Bactericides/Fungicides/Insecticides/Miticides:** Use ZeroTol 2.0 at a dilution rate of 1:500-1:1,000 (0.2-0.1%; 0.26-0.13 fl. oz per gallon or 26-13 fl. oz. per 100 gallons of water). This rate range can be used with pesticides with or without metal ion(s).
3. **When used with Organic (Biorational/Botanical/Biological) Bactericides/ Fungicides/ Insecticides:** Use ZeroTol 2.0 at a dilution rate of 1:1,000 (0.1% v/v; 0.13 fl. oz. per gallon or 13 fl. oz per 100 gallons of water). Spray Tank Water treatment can be used on Biorational/Botanical based Bactericides/Fungicides/Insecticides/Miticides (Ex. Neem Oil, Sulfur, Plant Extracts etc.), *Bacillus* based Bio-Fungicides (spore containing or spent fermented media), Bt based Bio-Insecticides, Copper based Bactericides/Fungicides **Do not use ZeroTol 2.0 with Mycoinsecticides (*Beauveria*, *Metarhizium*, *Isaria* based) or with other biological active ingredients not listed above.**
4. **When used with Micro-Foliar Fertilizers:** Use ZeroTol 2.0 at a dilution rate of 1:500-1:1,000 (0.2-0.1%; 0.26-0.13 fl. oz. per gallon or 26-13 fl. oz. per 100 gallons of water).

## TREATMENT OF WATER DRAWN FROM OPEN AND CLOSED WATER SOURCES USED FOR DUST ABATEMENT

Use ZeroTol 2.0 at the following rates to suppress/control slime-forming bacteria, algae and fungi/oomycetes in water drawn from open and closed water sources such as wells, streams, ponds, reservoirs, irrigation canals, irrigation water and drainage ditches used to control dust on unpaved gravel and dirt roads.

- Bacteria: 15.6–128 fl. oz. per 1,000 gallons of water (1:8200–1:1000 dilution)
- Algae: 38.8–160 fl. oz. per 1,000 gallons of water (1:3300–1:800 dilution)
- Fungi/oomycetes: 52.3–160 fl. oz. per 1,000 gallons of water (1:2450–1:800 dilution)

Prepare the mixture at least 3–5 minutes prior to application for dust abatement. Apply to the road surface using a water truck (or tractor or spraying device) with equipped with a watering system. Prepared solution must be used day of treatment, and new solution should be prepared for each treatment.

## TURF TREATMENT

Use on well-established lawns, athletic fields, golf course fairways, greens and tees of Bentgrass, Bluegrass, Bermudagrass, Fescue, Ryegrass, St. Augustine grass and their mixtures to control / suppress algae, bacterial and fungal diseases, and the odors and conditions that these organisms may cause.

- 1) Use ZeroTol 2.0 to treat/prevent the bacterial/fungal conditions caused by Anthracnose, Brown Patch, Dollar Spot, Copper Spot, Summer Patch, Strip Smut, Take-All Patch, Leaf Spot, *Fusarium*, Fairy Ring, Pink Snow Mold, *Pythium*, *Phytophthora*, *Rhizoctonia*.
- 2) Average treatment rates involve treating approximately 1000 square feet (sq. ft.) of turf area with 5 gallons of diluted solution. Add a spreader surfactant for best results. Optimum treatment time is early morning or late afternoon.
- 3) For best results, apply immediately after grass has been cut. Applications can be made during wet or rainy weather.
- 4) Inject ZeroTol 2.0 through automatic irrigation systems in turf areas. Refer to Chemigation Directions for Use for specific instructions on using this product through irrigation systems.

### Curative Rate:

Apply ZeroTol 2.0 at a dilution rate of 1:50 (2.56 fl. oz. per gallon) and use 2-5 gallons of mix solution per 1,000 sq. ft. Curative control will require consecutive treatments to eradicate disease. Apply treatment until disease is controlled. Once control is achieved, follow directions for preventative rate. Combine with a systemic fungicide for residual suppression.

- For increased coverage, adhesion and penetration of spray, use a compatible non-ionic wetting agent/spreader/sticker.

### Preventative Rate:

Apply ZeroTol 2.0 at a dilution rate of 1:100 (1.28 fl. oz. per gallon) and use 2-5 gallons of mix solution per 1,000 sq. ft. Reapply as disease pressure warrants. This product may be tank mixed with compatible residual fungicides.

- For increased coverage, adhesion and penetration of spray, use a compatible non-ionic wetting agent/spreader/sticker.
- For soil-borne diseases, drench the soil to saturate the root systems in the areas affected, and use 5-10 gallons per 1,000 sq. ft.
- **For Pink Snow Mold:** spray in early fall to reduce the number of dormant spores. Treat throughout the winter. May be applied to frozen ground.
- For heavy algae growth, apply a dilution rate of 1:50 (2.56 fl. oz. per gallon) and use 2-5 gallons of mix solution per 1,000 sq. ft.

## ARTIFICIAL TURF TREATMENT (\*)

Use ZeroTol 2.0 for the prevention and control of algae, fungi, moss, slime molds and their spores.

### **Application Directions**

- 1) Make a liquid solution of ZeroTol 2.0 at a dilution rate of 1.25 fl. oz. per gallon of water.
- 2) Spray evenly over area to be treated.
- 3) Allow treated area to remain wet for five minutes.
- 4) Allow to dry thoroughly before use.
- 5) Repeat treatment as needed.

### **CHEMIGATION:**

#### **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, drip (trickle) or drip-type 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, 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 as needed.
- 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 must 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 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 must 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 filled 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, a 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 until no scale or pesticide residues are present. 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 amount of water and then adding product as required. ZeroTol 2.0 may be direct injected from the original container. The product will immediately go into solution without any agitation.
- 4) ZeroTol 2.0 may be applied in conjunction with other pesticides or fertilizers. For injection of ZeroTol 2.0 with metal-based fungicides and biological based pesticides consult your BioSafe Systems technical representative for specific instructions.

#### **STORAGE AND DISPOSAL**

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

**PESTICIDE STORAGE:** Store in original container in a cool, dry well-vented area, away from direct sunlight. Do not allow product to become overheated in storage. Do not store in a manner where cross-contamination with other pesticides or fertilizers could occur.

**PESTICIDE DISPOSAL:** Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. Dispose of all excess treated seed by burying seed away from bodies of water. Dispose of seed packaging or containers in accordance with local requirements. If these wastes cannot be disposed of by use 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:**

**Non-refillable containers 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. 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. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. If burned, stay out of smoke.

**Non-refillable 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 ¼ 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. 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. Do not burn, unless allowed by state and local ordinances. If burned, stay out of smoke.

**For refillable containers:** Refillable container. Refill this container with pesticide 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 this rinsing procedure two more times.

### 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, 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, to the extent consistent with applicable law.

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. To the extent consistent with applicable law. 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 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 LLC 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.

BIOSAFE SYSTEMS LLC and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of BIOSAFE SYSTEMS LLC.



## Sublabel B: Agricultural

# ZeroTol 2.0™

FOR AGRICULTURAL USE

### ACTIVE INGREDIENTS:

Hydrogen Peroxide.....27.1%

Peroxyacetic Acid ..... 2.0%

**OTHER INGREDIENTS:**..... 70.9%

**TOTAL:**..... 100.0%

### KEEP OUT OF REACH OF CHILDREN DANGER - PELIGRO

*Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.*  
(If you do not understand this label, find someone to explain it to you in detail.)

FIRST AID	
<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.</li><li>• 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>
<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 swallowed</b>	<ul style="list-style-type: none"><li>• Call a poison control center or doctor immediately for treatment advice.</li><li>• Have person sip a glass of water if able to swallow.</li><li>• Do not induce vomiting unless told to do so by a poison control center or doctor.</li><li>• Do not give anything by mouth to an unconscious person.</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>HOTLINE NUMBER</b> For information on ZeroTol 2.0 (this pesticide product), (including general health concerns or pesticide incidents), call the National Pesticide Information Center at 1-800-858-7378, Monday through Friday, 8:00 AM to 12:00 PM Pacific Standard Time. In the event of a medical emergency, call your poison control center at 1-800-222-1222.	
<b>NOTE TO PHYSICIAN</b> Probable mucosal damage may contraindicate the use of gastric lavage.	

See (back) (side) (inside) (panel) (insert) (booklet) (label) for additional precautionary statements (instructions) and directions for use.

**Manufactured by:** BioSafe Systems, LLC, 22 Meadow Street, East Hartford, CT 06108 (888) 273-3088 (toll-free)

**EPA Registration No.** 70299-12

Batch Code \_\_\_\_\_

**EPA Establishment No.** 067441-IL-001, 082521-GA-001, 92957-MI-001, 70299-NV-2, 70299-NV-1

**Net Contents:** (2.5, 5, 30, 55, 275, 330 gallons)

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

**CORROSIVE:** Causes irreversible eye damage. Harmful if absorbed through skin. Causes skin burns. May be fatal if swallowed. Harmful if inhaled. Do not breathe vapor. Do not get in eyes, on skin or on clothing. Wear protective eyewear (goggles or face shield) and rubber gloves. 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 reuse.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

Handlers who may be exposed to the undiluted product through mixing, loading, application, or other tasks must wear: coveralls over long-sleeved shirt and long pants, rubber gloves, chemical resistant footwear plus socks, and protective eyewear (goggles or face shield). Handlers who may be exposed to the dilute through application or other tasks must wear: long-sleeved shirt and long pants, and shoes plus socks. Follow manufacturer's instructions for cleaning and maintaining PPE. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product. Do not reuse them. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

**[ENGINEERING CONTROLS**

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.240(d)(4-6)), the handler PPE requirements may be reduced or modified as specified in the WPS.]

**USER SAFETY RECOMMENDATIONS**

Users should remove clothing 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**

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 washwaters or rinsate. Do not apply directly to treated, finished drinking water reservoirs or drinking water receptacles when the water is intended for human consumption. This product is highly toxic to bees and other beneficial insects exposed to direct contact on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are actively visiting the treatment area. Do not apply this product or allow it to drift to crops where beneficials are part of an Integrated Pest Management strategy. This pesticide is toxic to birds who eat treated seed exposed on soil surface. Treated seed exposed on soil surface may be hazardous to birds, wildlife, fish and aquatic invertebrates. Cover or collect seeds spilled during loading.

**PHYSICAL AND CHEMICAL HAZARDS**

**Corrosive.** Strong oxidizing agent. Do not use in undiluted form. Mix only with water in accordance with label instructions. Never bring undiluted product in contact with other pesticides, cleaners or oxidative agents.

**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 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 (PPE), notification to workers, and Restricted-Entry Interval (REI). The requirements in this box only apply to the uses of this product that are covered by the Worker Protection Standard.

Handlers who may be exposed to the undiluted product through mixing, loading, application, or other tasks must wear: coveralls over long-sleeved shirt and long pants, rubber gloves, chemical resistant footwear plus socks, and protective eyewear (goggles or face shield). Handlers who may be exposed to the dilute through application or other tasks must wear: long-sleeved shirt and long pants, and shoes plus socks.

#### For enclosed environments:

There is a Restricted Entry Interval (REI) of one (1) hour for this product when applied via fogging or spraying to growing plants, surfaces, equipment, structures and non-porous surfaces in enclosed environments such as glasshouses and greenhouses. 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 worn over long-sleeved shirt and pants, waterproof gloves and shoes plus socks.

There is a Restricted Entry Interval (REI) of zero (0) hours for pre-plant dip, seed treatment, soil drench, mop, sponge, dip, soak, rinse or other non-spraying or fogging application methods when used in enclosed environments such as glasshouses and greenhouses.

#### For field applications:

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

### Non-Agricultural Use Requirements

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

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

### [INTRODUCTION] [PRODUCT INFORMATION]

ZeroTol 2.0 is a liquid bactericide/fungicide used to treat and control plant pathogens on field grown crops. Apply ZeroTol 2.0 up to and including the day of harvest.

Use ZeroTol 2.0 as a treatment for the prevention and control of plant pathogens on surfaces, equipment and structures used in processing post-harvest commodities.

Apply ZeroTol 2.0 to treat/control bacteria, fungi and algae in greenhouse structures and equipment, storage sites and irrigation systems.

A treatment for the prevention and control of algae & cyanobacteria in waters, including rice and wild rice fields/paddies.

### APPLICATION METHODS

**Ground:** This product can be applied by commonly used ground equipment, such as hose-end, pressurized, greenhouse and handheld sprayers. Use proper spray pressure, gallonage per acre, nozzles, nozzle spacing and ground speed.

**Chemigation:** This product can be applied through sprinkler (center pivot, lateral move, end tow, side (wheel) roll, traveler, solid set or hand move) or drip-type irrigation systems. Refer to the **Chemigation** section of this label for additional directions and precautions.

**Aerial:** This product can be applied by aerial application. Refer to the **Aerial Spray Treatments** section of this label for additional directions and precautions. Use the application rate, indicated for the appropriate crop in the **Application Rates and Directions Chart**, in sufficient water to achieve thorough coverage, typically between 3–20 gallons of water per acre depending upon the crop.

**Solution Preparation:**

ZeroTol 2.0 works best when diluted with water containing low levels of organic or inorganic materials. Measuring total suspended solids and EC (Electrical Conductivity) can help in determining concentration of organic and inorganic content in the water. Thoroughly rinse out mixing tank with water before mixing. ZeroTol 2.0 will readily mix with clean, water and does not require agitation.

ZeroTol 2.0 is formulated with minimal surfactant for plants having waxy or hairy surfaces. In order to increase the effectiveness of ZeroTol 2.0, additional non-ionic surfactant may be added, for treatment of plants with difficult to reach surfaces, or for plants having waxy or hairy surfaces. Only non-ionic surfactants are compatible with ZeroTol 2.0.

ZeroTol 2.0 works by surface contact with the plants and materials being treated. It is important to ensure that all surfaces are thoroughly wetted. ZeroTol 2.0 does not produce any visible residue, distinct odor or deleterious effects to plants when used in accordance with label directions.

ZeroTol 2.0 is a strong oxidizing agent and may react with residues of metal-based fungicides or supplements. Do not apply ZeroTol 2.0 as a foliar spray immediately following foliar applications of metal-based products. Allow at least 48-72 hrs. after application of metal-based products before applying ZeroTol 2.0 as a foliar spray. Check the label of the metal-based product prior to application for specific instructions for use with other fungicide products.

**Note: Use spray solution the same day it is prepared, do not store and reuse mixed spray solution.**

**Compatibility:**

ZeroTol 2.0 is compatible as a direct injection or tank-mix with many commonly used pesticides, fertilizers, adjuvants and non-ionic surfactants but has not been fully evaluated with all of these. Do not direct inject or tank mix ZeroTol 2.0 in to the irrigation system or in the spray tank with pesticides, surfactants or fertilizers before conducting a compatibility test to show it is physically compatible, effective and non-injurious under your use conditions. Do not tank mix ZeroTol 2.0 with copper or other pesticides containing metals at a dilution rate stronger than 1:100. Consult your BioSafe Systems technical representative for specific instructions.

To ensure compatibility, evaluate them prior to use as follows: Using a suitable container, add proportional amounts of product to water. Add wettable powders first, followed by water dispersible granules, then by liquid flowables and lastly, emulsifiable concentrates. Mix thoroughly and let stand for at least five minutes. If the combination stays mixed or can be remixed, it 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.

Consult specific product labels for additional information or restrictions concerning tank mixing. Observe the most restrictive limitations and precautions of the labeling of all products used in mixtures.

**Plant Sensitivity Testing:**

For foliar applications, only use ZeroTol 2.0 at labeled dilutions. Solutions more concentrated than described on this label may result in leaf necrosis for some plants. ZeroTol 2.0 has been designed to

provide a balanced source of the active ingredient directly to the plant surface. ZeroTol 2.0 has been used and tested on many varieties of plant material; however, the nature of the target plant, environmental conditions, plant vigor, and the use of other pesticides can all affect plant sensitivity. The safety of ZeroTol 2.0 has not been determined on all plants and crops. Plants grown in greenhouses vary greatly from those grown under field conditions. Determine if ZeroTol 2.0 can be safely used prior to application. Before treating large numbers of plants, test ZeroTol 2.0 or tank mixes of ZeroTol 2.0 and other pesticides or fertilizers at labeled rates on a separate set of plants and observe for symptoms of sensitivity prior to use. Symptoms on foliage include yellow or brown spotting, “burned” tips and/or yellow or brown scorching along the leaf edges.

When using ZeroTol 2.0 for control of organisms living on the plant tissue (such as Downy and Powdery Mildew), treatment may result in lesions on plant tissue. ZeroTol 2.0 will oxidize parasitic organisms living in plant tissue that are not always visible to the naked eye. Resulting oxidative effects may include spotting, or drying of the plant tissue where organisms inhabited tissue.

Read the entire label before using this product. Use only according to label directions. Do not use ZeroTol 2.0 above labeled rates.

### **FOLIAR APPLICATIONS**

~~Use Rates and Directions for Foliar Applications on [Field Grown], [Fruit and Vegetables], [Tree], [Vine] [And All Other [Field Grown] Crops.~~

**PREHARVEST INTERVAL: PHI = Zero (0) Days.** ZeroTol 2.0 can be sprayed up to and including the day of harvest.

### **Application Rates and Directions**

#### **Pre-Plant Dip Treatment**

Use ZeroTol 2.0 for the control of damping-off, root disease and stem rot disease caused by *Pythium*, *Phytophthora*, *Rhizoctonia*, *Fusarium* or *Thielaviopsis*, on seeds, seedlings, bulbs, or cuttings. **Remove dead or dying foliage prior to dipping.**

- 1) Use ZeroTol 2.0 at a dilution rate of 1:100 (64 fl. oz. per 50 gallons of water).
- 2) Immerse plants or cuttings; remove and allow to drain. Do not rinse.
- 3) Excessive foaming or bubbling during the dipping process is an indication of high levels of disease contamination.

#### **Seed Treatment**

Use ZeroTol 2.0 for the control of damping-off, root disease and stem rot disease caused by *Pythium*, *Phytophthora*, *Rhizoctonia*, *Fusarium* or *Thielaviopsis*, on seeds of seed sprout crops such as mung bean, red clover, soybeans and alfalfa, and on crops grown exclusively for seed for planting.

- 1) Use ZeroTol 2.0 at a dilution rate of 1:100 (64 fl. oz. per 50 gallons of water).
- 2) Immerse seeds and let soak for two minutes; remove and allow to drain. Do not rinse. Plant seed according to seed package directions.

Treated seeds exposed on soil surface may be hazardous to wildlife. Cover or collect treated seeds spilled during loading and planting (such as in row ends).

#### **Bean Sprout Production**

Use ZeroTol 2.0 to prevent bacterial and fungal diseases in bean sprout production process and packing lines. Treat tank and spray system water with ZeroTol 2.0 at a dilution rate of 1:1,000 (1.28 fl. oz. for every 10 gallons of water). Allow a minimum contact time of one (1) minute with the solution.

### **FIELD APPLICATIONS**

Use ZeroTol 2.0 to treat plant diseases on field grown crops and tree crops, through soil drench, irrigation and foliar applications. For specific foliar applications refer to **Application Rates and Directions Chart**.

### Soil Drench

ZeroTol 2.0 is effective for the control of soil-borne plant diseases such as *Pythium*, *Phytophthora*, *Rhizoctonia*, *Thielaviopsis* or *Fusarium*. Use as a soil drench at the time of seeding or transplanting, as well as a periodic drench throughout the plant's life. Use ZeroTol 2.0 on potting soil and growing mediums prior to planting.

- 1) Use ZeroTol 2.0 at a dilution rate of 1:100-1:500 (12.8-64 fl. oz. per 50 gallons of water) on potting soil and growing mediums prior to planting.
- 2) Use a rate of 1:200-1:500 when plants are present.
- 3) Apply to soil or growing media to the point of saturation.
- 4) Wait fifteen minutes before planting or watering.
- 5) Apply every 5-7 days as a preventative treatment.

### To Treat Setting Water

Add ZeroTol 2.0 to transplant water or starter fertilizer and make in-furrow or dibble application at the time of plant set.

- 1) Use ½-1 gallon of ZeroTol 2.0 per treated acre in 50-200 gallons of water.
- 2) Add ZeroTol 2.0 to transplant water or starter fertilizer and make in furrow or dibble applications just prior to seed drop or plant set.
- 3) In fields with a history of disease pressure, use the high rate.

### Surface or Banded Applications

- 1) Use ⅓-1 gallon of ZeroTol 2.0 per 100 gallons of water.
- 2) Apply ZeroTol 2.0 as a foliar spray with sufficient water to achieve runoff to soil.
- 3) Repeat applications every 7 days through infectious season.
- 4) Typical applications use 30-100 gallons of spray solution per acre.
- 5) During periods of wet, cloudy or rainy weather, use stronger rates and volumes and reduce spray intervals.

### To Apply Through Irrigation Systems

- 1) Use ½-1 gallon of ZeroTol 2.0 per treated acre in 500-1,000 gallons of water.
- 2) Apply through drip trickle, center pivot, lateral move, end tow, side wheel roll, traveler, solid set, hand move or flood basin irrigation systems. Refer to **Chemigation Directions** for Use for specific instructions on using this product through irrigation systems.

### **FOLIAR APPLICATIONS**

Use Rates and Directions for Foliar Applications on [Field Grown], [Fruit and Vegetables], [Tree], [Vine] [And All Other [Field Grown] Crops.

### Foliar Spray Treatments For Field Grown Crops

ZeroTol 2.0 works immediately on contact with any plant surface for control of plant diseases – see **Application Rates and Directions Chart** . Good coverage and wetting of the foliage is required. For increased coverage and penetration of spray, use a compatible non-ionic wetting agent/surfactant. For increased coverage, adhesion and penetration of spray, use a compatible non-ionic wetting agent/spreader/sticker. Do not spray ZeroTol 2.0 during conditions of intense heat, drought or poor plant vigor.

### **Preventative application rates:**

- 1) Begin applications early in season. Use ZeroTol 2.0 at a dilution rate of 1:200-1:400 (64-32 fl. oz. per 100 gallons of water).
- 2) Apply 30-500 gallons of spray solution per treated acre. Ensure adequate coverage of upper and lower foliage, stems, branches and stalks.
- 3) Maintain a 5-10 day spray schedule.

### **Curative application rates:**

- 1) For best results, apply at first sign of disease. Spray diseased plants using ZeroTol 2.0 at a dilution rate of 1:100 (128 fl. oz. per 100 gallons of water).
- 2) Apply 30-500 gallons of spray solution per treated acre. Ensure adequate coverage of upper and lower foliage, stems, branches and stalks.
- 3) Maintain a 3-5 day spray interval until control is achieved.

**Rescue treatment rates:** (See **Application Rates and Directions Chart** for complete list.)

- 1) Concentrations up to 1:40 can be used as a rescue treatment for severe infestations.
- 2) Always test for phytotoxicity by spraying on a few plants before using this rate on a large scale. Do not apply 1:40 rescue treatment rate while crops are in bloom.
- 3) Spray plants in morning or evening. Apply in 30-500 gallons of water per acre, ensuring adequate coverage of upper and lower foliage, stems, branches and stalks. Final spray solution volume will depend on crop type, canopy size and/or growth stage.
- 4) Maintain a 3-5 day spray schedule until control is achieved.

**Electrostatic Spray Applications**

For electrostatic sprayers, use the 1:100 curative rate applied in 10-25 gallons of spray solution per treated acre. Follow spray equipment manufacturer’s instructions for final spray volume to obtain adequate coverage.

**Aerial Spray Treatments For Field-Grown Crops And Tree Crops**

**Spray Drift Management-** Avoiding spray drift is the responsibility of the applicator.

- Do not apply when wind conditions favor drift away from the intended area for treatment. Many factors including droplet size, equipment type and weather related factors determine the potential for spray drift.
- To ensure optimum product performance, use at the foliar application rate indicated in sufficient water for adequate coverage of plant foliage. Apply between 3-20 gallons per acre of total spray solution. Do not make applications at a height greater than 10 ft. above the plant canopy, unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to wind and evaporation. Do not exceed the maximum application rate or apply more often than labeled in the Application Instructions for that crop.

**Application Rates and Directions**

Run a plant sensitivity test when considering using higher spray concentrations ( $\geq 1.0\%$  v/v (1:100)) by following instructions under “plant sensitivity testing”. If plants show symptoms of phytotoxicity, decrease the spray solution concentration to a level that does not demonstrate symptoms.

See *Application Rates and Directions Chart for Disease list and Additional Instructions.*

Dilution Rate Of ZeroTol 2.0	Amount of ZeroTol 2.0 in Gallons					
	Spray Volume (Gallons/Acre)					
	30.0	50.0	75.0	100.00	400.00	500.00
<b>1:40 (2.5% v/v)</b>	0.75	1.25	1.875	2.5	10.0	12.5
<b>1:100 (1.0% v/v)</b>	0.3	0.5	0.75	1.0	4.0	5
<b>1:200 (0.5% v/v)</b>	0.15	0.25	0.375	0.5	2.0	2.5
<b>1:400 (0.25% v/v)</b>	0.075	0.125	0.1875	0.25	1.0	1.25

## Application Rates and Directions Chart

[[ZeroTol 2.0]]*[This product] can be used on the following crops including but not limited to:*

<b>Crops</b>	<b>Disease</b>	<b>Application Rates</b>
<b>Alfalfa</b>	Cercospora Leaf Spot	<p><b>Preventative:</b> 1:200-1:400 dilution. Start preventative sprays early when conditions favor disease development. Spray on a 5-10 day schedule with thorough coverage.</p> <p><b>Curative:</b> 1:100 dilution. Apply at first sign/symptom of infection, following 3-5 day spray intervals until control is achieved, or use when conditions favor rapid disease development.</p>
<b>Asparagus</b>	Phytophthora	<p><b>Preventative:</b> 1:200-1:400 dilution. Dip the asparagus crowns prior to planting in 1:200 solution of ZeroTol 2.0 for 3-5 minutes.</p> <p><b>Curative:</b> 1:100 dilution. Prior to planting, treat the Phytophthora infested soil with a 1:100 solution.</p> <p>Post-Planting, treat the soil as needed using a 1:300-1:400 solution of ZeroTol 2.0.</p>
<b>Avocado</b>	Anthraxnose Blotch	<p><b>Preventative:</b> 1:200-1:400 dilution. Apply preventative sprays when bloom buds swell and continue on a 5-7 day schedule through bloom.</p> <p><b>Curative:</b> 1:100 dilution. Apply at first sign/symptom of infection, following 3-5 day spray intervals until control is achieved, or use when conditions favor rapid disease development.</p>
<b>Bananas Plantains</b>	Sigatoka	<p><b>Preventative:</b> 1:200-1:400 dilution. Apply preventative sprays on a 5-10 day schedule with thorough coverage. Can be applied in combination or alternation with a protectant fungicide.</p> <p><b>Curative:</b> 1:100 dilution. Apply at first sign/symptom of infection, following 3-5 day spray intervals until control is achieved, or use when conditions favor rapid disease development.</p>
<b>Bulb Vegetables- Including, but not limited to:</b> Garlic Green Onions Leeks Onions Scallions Shallots	Botrytis Blight Downy Mildew Powdery Mildew Bacterial Soft Rot	<p><b>Preventative:</b> 1:200-1:400 dilution. Start preventative sprays early when conditions favor disease development. Spray on a 5-10 day schedule with thorough coverage.</p> <p><b>Curative:</b> 1:100 dilution. Apply at first sign/symptom of infection, following 3-5 day spray intervals until control is achieved, or use when conditions favor rapid disease development.</p> <p><b>Rescue:</b> 1:40 dilution. Apply under severe disease pressure or as a rescue treatment. Test for phytotoxicity prior to using this rate. Apply during dormancy to reduce pathogens. DO NOT apply 1:40 rate to blooming crops.</p>



<p><b>Cane Berries- Including, but not limited to:</b> Blackberry Blueberry Raspberry</p>	<p>Alternaria Angular Leaf Spot Botrytis Blight Crown Rot Downy Mildew Mummy Berry Disease Leaf Blight Powdery Mildew Rust Fruit Rot Bacterial Canker (<i>Pseudomonas</i>)</p>	<p><b>Preventative:</b> 1:200-1:400 dilution. Start preventative sprays early when conditions favor disease development. Spray on a 5-10 day schedule with thorough coverage.</p> <p><b>Curative:</b> 1:100 dilution. Apply at first sign/symptom of infection, following 3-5 day spray intervals until control is achieved, or use when conditions favor rapid disease development.</p> <p><b>Rescue:</b> 1:40 dilution. Apply under severe disease pressure or as a rescue treatment. Test for phytotoxicity prior to using this rate. Apply during dormancy to reduce pathogens. NOT apply 1:40 rate to blooming crops.</p>
<p><b>Cereal Grains &amp; Commodities- Including, but not limited to:</b> Barley Corn (field) Millet Oats Popcorn Rice Rye Sorghum (Milo) Sweet Corn Wheat Wild Rice</p>	<p>Anthraxnose Bacterial Blight Bacterial Leaf Blight Blast Brown Leaf Spot Common Rust Common Smut Downey Mildew Head Smut Leaf Smut Sheath Blight Sorghum Downey Mildew Southern Blight Stem Canker Stem Rot Goss's Wilt</p>	<p><b>Preventative:</b> 1:200-1:400 dilution. Start preventative sprays early when conditions favor disease development. Spray on a 5-10 day schedule with thorough coverage.</p> <p><b>Curative:</b> 1:100 dilution. Apply at first sign/symptom of infection, following 3-5 day spray intervals until control is achieved, or use when conditions favor rapid disease development.</p> <p><b>Rescue:</b> 1:40 dilution. Apply under severe disease pressure or as a rescue treatment. Test for phytotoxicity prior to using this rate. DO NOT apply 1:40 rate to blooming crops.</p>
<p><b>Citrus Crops- Including, but not limited to:</b> Citrus Hybrids Grapefruit Kumquat Lemon Limes Orange Tangerine</p>	<p>Alternaria Anthraxnose Brown Rot Phytophthora Powdery Mildew Rust Scab Citrus Canker</p>	<p><b>Preventative:</b> 1:200-1:400 dilution. Start preventative sprays early when conditions favor disease development. Spray on a 5-10 day schedule with thorough coverage.</p> <p><b>Curative:</b> 1:100 dilution. Apply at first sign/symptom of infection, following 3-5 day spray intervals until control is achieved, or use when conditions favor rapid disease development.</p> <p>For specific application instructions, see <a href="#">Citrus Canker Treatment Application Instructions</a>.</p> <p><b>Rescue:</b> 1:40 dilution. Apply under severe disease pressure or as a rescue treatment. Test for phytotoxicity prior to using this rate. DO NOT apply 1:40 rate to blooming crops.</p>
<p><b>Coffee</b></p>	<p>Bacterial Blight Leaf Rust Coffee Berry Disease (*)</p>	<p><b>Preventative:</b> 1:200-1:400 dilution. Start preventative sprays early when conditions favor disease development. Spray on a 5-10 day schedule with thorough coverage.</p> <p><b>Curative:</b> 1:100 dilution. Apply at first sign/symptom of infection, following 3-5 day spray intervals until control is achieved, or use when conditions favor rapid disease development.</p>
<p><b>Cole Crops- Including, but not limited to:</b> Broccoli Brussels Sprouts Cabbage Cauliflower Collards Kale</p>	<p>Alternaria Leaf Spot Bacterial Leaf Spot Black Rot Downy Mildew Early Blight Late Blight Powdery Mildew</p>	<p><b>Preventative:</b> 1:200-1:400 dilution. Start preventative sprays early when conditions favor disease development. Spray on a 5-10 day schedule with thorough coverage.</p> <p><b>Curative:</b> 1:100 dilution. Apply at first sign/symptom of infection, following 3-5 day spray intervals until control is achieved, or use when conditions favor rapid disease development.</p>

<b>Cotton</b>	Fusarium Pythium Rhizoctonia Cotton Root Rot Thielaviopsis Bacterial Blight	For specific application instructions, see <u><a href="#">Cotton - Application Instructions</a></u> .
<b>Cranberries</b>	Fruit Rot Leaf Blight Bacterial Stem Canker	<p><b>Preventative:</b> 1:200-1:400 dilution. Start preventative sprays early when conditions favor disease development. Spray on a 5-10 day schedule with thorough coverage.</p> <p><b>Curative:</b> 1:100 dilution. Apply at first sign/symptom of infection, following 3-5 day spray intervals until control is achieved, or use when conditions favor rapid disease development.</p> <p><b>Rescue:</b> 1:40 dilution. Apply under severe disease pressure or as a rescue treatment. Test for phytotoxicity prior to using this rate. DO NOT apply 1:40 rate to blooming crops.</p>
<b>Cucurbit Crops- Including, but not limited to:</b> Cucumber Melons Pumpkin Squash	Alternaria Anthracnose Belly Rot Downy Mildew Fusarium Wilt Gummy Stem Blight Leaf Spot Phytophthora Powdery Mildew Pythium Rot Rhizoctonia Root Rots	For specific application instructions, see <u><a href="#">Cucurbit Application Instructions</a></u> .

<b>Fruiting Vegetables- Including, but not limited to:</b> Eggplant Peppers Tomatoes Tomatillos	Anthracnose Early Blight (Alternaria) Late Blight Bacterial Wilt Bacterial Leaf Spot Bacterial Speck Gray Mold (Botrytis) Cladosporium Mold Powdery Mildew Fusarium Pythium Rhizoctonia	For specific application instructions, see <u><i>Fruiting Vegetables Application Instructions</i></u> .  <b>Rescue:</b> 1:40 dilution. Apply under severe disease pressure or as a rescue treatment. Test for phytotoxicity prior to using this rate. DO NOT apply 1:40 rate to blooming crops.
<b>Globe Artichokes</b>	Black Rot Botrytis Blight Crown Rot Grey Mold Powdery Mildew	<b>Preventative:</b> 1:200-1:400 dilution. Start preventative sprays early when conditions favor disease development. Spray on a 5-10 day schedule with thorough coverage.  <b>Curative:</b> 1:100 dilution. Apply at first sign/symptom of infection, following 3-5 day spray intervals until control is achieved, or use when conditions favor rapid disease development.
<b>Grapes</b>	Black Rot Botrytis Downy Mildew Phomopsis Blight Powdery Mildew Sour Rot	<b>Preventative:</b> 1:200-1:400 dilution. Start preventative sprays early when conditions favor disease development. Spray on a 5-10 day schedule with thorough coverage.  <b>Curative:</b> 1:100 dilution. Apply at first sign/symptom of infection, following 3-5 day spray intervals until control is achieved, or use when conditions favor rapid disease development.  <b>Rescue:</b> 1:40 dilution. Apply under severe disease pressure or as a rescue treatment. Test for phytotoxicity prior to using this rate. Apply during dormancy to reduce pathogens. DO NOT apply 1:40 rate to blooming crops.
<b>Grasses grown for seed or sod</b>	Grey Leaf Spot Leaf Rust Leaf Spot Stem Rust	<b>Preventative:</b> 1:200-1:400 dilution. Use sufficient water to achieve good coverage. Begin preventative applications during stem elongations. Repeat weekly or as needed. Livestock can graze treated areas.  <b>Curative:</b> 1:100 dilution. Apply at first sign/symptom of infection, following 3-5 day spray intervals until control is achieved, or use when conditions favor rapid disease development.
<b>Herbs and Spices- Including, but not limited to:</b> Basil Chives Cilantro Coriander Dill Mint Oregano Parsley Rosemary Sage	Anthracnose Downy Mildew Powdery Mildew Pythium Rot	<b>Preventative:</b> 1:200-1:400 dilution. Start preventative sprays early when conditions favor disease development. Spray on a 5-10 day schedule with thorough coverage.  <b>Curative:</b> 1:100 dilution. <del>Use curative rate</del> Apply at first sign/symptom of infection, following 3-5 day spray intervals until control is achieved, or use when conditions favor rapid disease development.  <b>For control of Pythium Root Rot:</b> Prior to planting, treat the <i>Pythium</i> infested soil with a 1:40-1:100 solution.  Post-Planting, treat the soil as needed using a 1:300-1:400 solution of ZeroTol 2.0.

<b>Hemp</b>	Anthracnose Bacterial Leaf Spot Botrytis Blight/Gray Mold Downy Mildew Fungal Leaf Spot Powdery Mildew Rust	<p><b>Preventative:</b> 1:200-1:400 dilution. Start preventative sprays early when conditions favor disease development. Spray on a 5-10 day schedule with thorough coverage.</p> <p><b>Curative:</b> 1:100 dilution. Apply at first sign/symptom of infection, following 3-5 day spray intervals until control is achieved, or use when conditions favor rapid disease development.</p> <p><b>Rescue:</b> 1:40 dilution. Apply under severe disease pressure or as a rescue treatment. Test for phytotoxicity prior to using this rate. DO NOT apply 1:40 rate to blooming crops.</p>
<b>Hops</b>	Downy Mildew Powdery Mildew	<p><b>Preventative:</b> 1:200-1:400 dilution. Start preventative sprays early when conditions favor disease development. Spray on a 5-10 day schedule with thorough coverage.</p> <p><b>Curative:</b> 1:100 dilution. Apply at first sign/symptom of infection, following 3-5 day spray intervals until control is achieved, or use when conditions favor rapid disease development.</p> <p><b>Rescue:</b> 1:40 dilution. Apply under severe disease pressure or as a rescue treatment. Test for phytotoxicity prior to using this rate. DO NOT apply 1:40 rate to blooming crops.</p>
<b>Leafy Vegetables- Including, but not limited to:</b> Arugula Celery Chicory Root Endive Fennel Frisee Lettuce Mizuna Spinach Rhubarb Radicchio Swiss Chard	Brown Rot Botrytis Blight Downy Mildew Early Blight Late Blight Phytophthora Powdery Mildew Rust	<p><b>Preventative:</b> 1:200-1:400 dilution. Start preventative sprays early when conditions favor disease development. Spray on a 5-10 day schedule with thorough coverage.</p> <p><b>Curative:</b> 1:100 dilution. Apply at first sign/symptom of infection, following 3-5 day spray intervals until control is achieved, or use when conditions favor rapid disease development.</p> <p>For control of Phytophthora Root Rot: Prior to planting, treat the Phytophthora infested soil with a 1:40-1:100 solution.</p> <p>Post-Planting, treat the soil as needed using a 1:300-1:400 solution of ZeroTol 2.0.</p>

<p><b>Legumes- Including, but not limited to:</b> Chick Peas Dry Beans Lima Beans Peas Snap Beans Soy Beans</p>	<p>Anthrachnose Bacterial Leaf Blight Botrytis Blight Downy Mildew Early &amp; Late Blight Fusarium Phytophthora Powdery Mildew Pythium Rhizoctonia Sclerotinia Rust White Mold</p>	<p>For specific application instructions, see <u><a href="#">Legumes Application Instructions</a></u>.</p>
<p><b>Mushrooms</b></p>	<p>Bacterial Blotch Mycogone Necrotic Spot Trichoderma Verticillium Spot</p>	<p>Spray mushrooms using 1:400 dilution (0.32 fl. oz. per gallon of water) on 5-7 day intervals. Begin at pinning stage and continue through harvest.</p> <p>For Bacterial Blotch control, spray surface of mushrooms.</p>
<p><b>Papaya</b></p>	<p>Anthrachnose Phytophthora</p>	<p><b>Preventative:</b> 1:200-1:400 dilution. Start preventative sprays early when conditions favor disease development. Spray on a 5-10 day schedule with thorough coverage.</p> <p><b>Curative:</b> 1:100 dilution. Apply at first sign/symptom of infection, following 3-5 day spray intervals until control is achieved, or use when conditions favor rapid disease development.</p> <p>For control of Phytophthora Blight, treat the soil prior to planting with a 1:40-1:100 solution.</p> <p>Post-Planting, treat the soil as needed using a 1:300-1:400 solution of ZeroTol 2.0.</p>
<p><b>Peanuts</b></p>	<p>Early Blight Late Blight Rust Leaf Spot</p>	<p><b>Preventative:</b> 1:200-1:400 dilution. Start preventative sprays early when conditions favor disease development. Spray on a 5-10 day schedule with thorough coverage.</p> <p><b>Curative:</b> 1:100 dilution. Apply at first sign/symptom of infection, following 3-5 day spray intervals until control is achieved, or use when conditions favor rapid disease development.</p> <p><b>Rescue:</b> 1:40 dilution. Apply under severe disease pressure or as a rescue treatment. Test for phytotoxicity prior to using this rate. DO NOT apply 1:40 rate to blooming crops.</p>

<p><b>Pome Fruit- Including, but not limited to:</b> Apples Pears Loquats Mayhaws Quince</p>	<p>Fire Blight Powdery Mildew Rusts Scab Flyspeck Sooty Blotch</p>	<p><b>Preventative:</b> 1:200-1:400 dilution. Start preventative sprays early when conditions favor disease development. Spray on a 5-10 day schedule with thorough coverage.</p> <p><b>Curative:</b> 1:100 dilution. Apply at first sign/symptom of infection, following 3-5 day spray intervals until control is achieved, or use when conditions favor rapid disease development.</p> <p>For Fire Blight control, make 2-4 applications during Bloom and Petal Fall stages.</p> <p><b>Rescue:</b> 1:40 dilution. Apply under severe disease pressure or as a rescue treatment. You may apply rescue rate during dormancy to reduce pathogens. Test for phytotoxicity prior to using this rate. DO NOT apply 1:40 rate to blooming crops.</p>
<p><b>Root &amp; Tuber Vegetables Including, but not limited to:</b> Artichokes Beets Carrots Ginseng Horseradish Parsnip Potatoes Radish Rutabaga Sugar Beets Sweet Potatoes Taro Turnips Yams</p>	<p>Alternaria Bacterial Leaf Spot Crown Rot Early Blight Late Blight Leaf Blight Leaf Spot Powdery Mildew Rhizoctonia Potato Brown Rot</p>	<p><b>Preventative:</b> 1:200-1:400 dilution. Start preventative sprays early when conditions favor disease development. Spray on a 5-10 day schedule with thorough coverage.</p> <p><b>Curative:</b> 1:100 dilution. Apply at first sign/symptom of infection, following 3-5 day spray intervals until control is achieved, or use when conditions favor rapid disease development.</p> <p><b>Rescue:</b> 1:40 dilution. Apply under severe disease pressure or as a rescue treatment. Test for phytotoxicity prior to using this rate. DO NOT apply 1:40 rate to blooming crops.</p>
<p><b>Stone Fruit:- Including, but not limited to:</b> Apricots Cherries Nectarines Peaches Plums Prunes</p>	<p>Brown Rot Downy Mildew Powdery Mildew Bacterial Canker (Pseudomonas)</p>	<p><b>Preventative:</b> 1:200-1:400 dilution. Begin preventative applications at ¼ - ½ inch green tip and continue on a 5-7 day schedule through bloom.</p> <p><b>Curative:</b> 1:100 dilution. Apply at first sign/symptom of infection, following 3-5 day spray intervals until control is achieved, or use when conditions favor rapid disease development.</p> <p><b>Rescue:</b> 1:40 dilution. Apply under severe disease pressure or as a rescue treatment. Test for phytotoxicity prior to using this rate. You may apply rescue rate during dormancy to reduce pathogens. DO NOT apply 1:40 rate to blooming crops.</p>

<b>Strawberries</b>	Alternaria Angular Leaf Spot Botrytis Blight Crown Rot Downy Mildew Fruit Rot Leaf Blight Powdery Mildew	For specific application instructions, see <a href="#"><u>Strawberry Application Instructions</u></a> .
<b>Sugarcane (*)</b>	Leaf Blight Brown Spot Downy Mildew Fusarium Eyespot Orange Rust Red Rot Rhizoctonia Rust Smut	<b>Preventative:</b> 1:200-1:400 dilution. Start preventative sprays early when conditions favor disease development. Spray on a 5-10 day schedule with thorough coverage.  <b>Curative:</b> 1:100 dilution. Apply at first sign/symptom of infection, following 3-5 day spray intervals until control is achieved, or use when conditions favor rapid disease development.  <b>Rescue:</b> 1:40 dilution. Apply under severe disease pressure or as a rescue treatment. Test for phytotoxicity prior to using this rate. DO NOT apply 1:40 rate to blooming crops.
<b>Tobacco (Field)</b>	Anthracnose Alternaria Leaf Spot -(Brown Mold) Angular Leaf Spot Botrytis - Gray Mold Frogeye Leaf Spot Downy Mildew Powdery Mildew  Blue Mold  Tobacco Mosaic Virus	<b>Preventative:</b> 1:200-1:400 dilution. Start preventative sprays early when conditions favor disease development. Spray on a 5-10 day schedule with thorough coverage.  <b>Curative:</b> 1:100 dilution. Apply at first sign/symptom of infection, following 3-5 day spray intervals until control is achieved, or use when conditions favor rapid disease development.  For Blue Mold, start sprays early when conditions are favorable for disease development.  To prevent Tobacco Mosaic Virus, thorough sanitation of tools and implements is necessary. Treat seed by soaking in a solution with a dilution rate of 1:50-1:00 for 10-15 minutes.
<b>Tobacco (Float Beds)</b>	Root Rot diseases, such as <i>Pythium</i> spp.	For specific application instructions, see <a href="#"><u>Tobacco (Float Beds) Application Instructions</u></a> .
<b>Tree Nuts- Including, but not limited to:</b> Almonds Brazil Nuts Cashews Filberts Macadamias Pecans Pistachios Walnuts	Alternaria Anthracnose Brown Rot Bacterial Blight Bacterial Canker E. Filbert Blight Jacket Rot Almond Leaf Scorch (*)	<b>Preventative:</b> 1:200-1:400 dilution. Begin preventative applications at ¼ - ½ inch green tip and continue on a 5-7 day schedule through bloom.  <b>Curative:</b> 1:100 dilution. Apply at first sign/symptom of infection, following 3-5 day spray intervals until control is achieved, or use when conditions favor rapid disease development.  <b>Rescue:</b> 1:40 dilution. Apply under severe disease pressure or as a rescue treatment. Test for phytotoxicity prior to using this rate. DO NOT apply 1:40 rate to blooming crops.

<b>Tropical/Sub Tropical Fruit- Including, but not limited to:</b> Casaba Coconut Dates Guava Kiwi Mango Olive Passion Fruit Pineapple Poi Star Fruit	Alternaria Anthracnose Leaf Blight Powdery Mildew Rhizoctonia Sooty Mold Stem Rot	<p><b>Preventative:</b> 1:200-1:400 dilution. Begin preventative applications early in the season when conditions favor disease development and continue on a 5-7 day schedule through bloom.</p> <p><b>Curative:</b> 1:100 dilution. Apply at first sign/symptom of infection, following 3-5 day spray intervals until control is achieved, or use when conditions favor rapid disease development.</p> <p><b>Rescue:</b> 1:40 dilution. Apply under severe disease pressure or as a rescue treatment. Test for phytotoxicity prior to using this rate. DO NOT apply 1:40 rate to blooming crops.</p>
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## Crop Specific Rates and Usage Directions

### Fruiting Vegetables Application Instructions:

#### Seed Treatment

**Surface seed treatment to reduce disease causing fungi and bacterial pathogens on or in seed.**

Rate	Application	Notes
1:50-1:100 or 1-2 gallons of ZeroTol 2.0 to 100 gallons of water.	If the seed company has not treated seed, immerse seed in the ZeroTol 2.0 solution for one minute (up to ten minutes), remove seed and allow to drain.	Rinsing of the seed after application is not required. Treated seeds exposed on soil surface may be hazardous to wildlife. Cover or collect treated seeds spilled during loading and planting (such as in row ends).

#### Seedling Production Treatment

**For control of seedling diseases (pre and post emergence damping off) caused by fungi: Pythium, Phytophthora, Rhizoctonia, and Fusarium.**

Rate at Seeding	Application	Notes
½ -1¼ fl. oz. of ZeroTol 2.0 per gallon of water.	Apply ZeroTol 2.0 to the point of saturation.	Apply on newly seeded plug trays, seed flats or beds with the initial watering.
Rate for Post Emergence Treatment	Application	Notes
½ fl. oz. of ZeroTol 2.0 per gallon of water.	Apply ZeroTol 2.0 at the 2 to 4 true leaf stage as a foliar spray with sufficient water to achieve complete coverage, or to the soil directly via drip trickle, in furrow or flood basin.	Repeat at 5-7 day intervals.

#### At Planting Application

**For prevention, suppression and control of soil-borne diseases caused by Pythium, Phytophthora, Rhizoctonia and Fusarium.**

Rate	Application	Notes
½ -1 gallon of ZeroTol 2.0 per treated acre in 50-200 gallons of water.	Add ZeroTol 2.0 to transplant water or starter fertilizer and make in-furrow or dribble application just prior to plant set.	In fields with a history of disease pressure, use the high rate.



## Foliar Applications

For control of foliar diseases caused by bacteria and fungi that attack stems, leaves and fruit during crop growth: Anthracnose, Bacterial Speck and Spot, Botrytis Blight, Early Blight, Late Blight, and Powdery Mildew.

Rate – Foliar Spray	Application	Notes
Preventative: 1:200-1:400 or 64-32 fl. oz. of ZeroTol 2.0 per 100 gallons of water.  Curative: 1:100 or 1 gallon of ZeroTol 2.0 per 100 gallons of water.  Rescue: 1:40 or 2.5 gallons of ZeroTol 2.0 per 100 gallons of water.	Begin preventative applications of ZeroTol 2.0 prior to disease development and continue throughout the season, maintaining a 5-10 day spray schedule.  Spray curative applications at first appearance of disease or when conditions are favorable for disease development. Repeat applications at 3 to 5 day intervals until control is achieved using sufficient water to obtain complete coverage.  Use 1:40 dilution rate under severe disease pressure or as a rescue treatment. Test for phytotoxicity prior to using this rate. DO NOT apply 1:40 rate to blooming crops.	Under severe disease conditions and during periods of rainy weather, apply immediately following each rain, reduce spray intervals and use stronger dilution rate. Use sufficient water to obtain complete coverage.  Do not spray ZeroTol 2.0 during conditions of intense heat, drought or poor plant vigor.
Irrigation Application Rate	Application	Notes
½-3.0 gallons of ZeroTol 2.0 per treated acre in 500-1000 gallons of water.	Apply through center pivot, lateral move, end tow, side-wheel roll, traveler, solid set, or hand move irrigation systems.	Do not spray ZeroTol 2.0 during conditions of intense heat, drought or poor <u>plant vigor</u> .

## Cotton Application Instructions:

### At Planting Application

For control of Cotton Root Rot, Fusarium Wilt, Pythium, Thielaviopsis, and Rhizoctonia.

Rate	Application	Notes
1:40-1:400 or ½-3.0 gallons of ZeroTol 2.0 per treated acre in 50-200 gallons of water.	Make in-furrow applications just before seed is covered. Make band applications to soil surface after seed is covered.	In fields with a history of disease pressure, use higher rates.

### Banded Application

For control of Cotton Root Rot, Fusarium Wilt, Pythium, Thielaviopsis and Rhizoctonia.

Rate for Spray Application	Application	Notes
½-3.0 gallons of ZeroTol 2.0 per 100 gallons of water.	Apply ZeroTol 2.0 as a foliar spray with sufficient water to achieve runoff to soil when vines begin to run. Repeat every 7 days through infectious season.	Typical applications use 30-100 gallons of spray per acre. During periods of wet, cloudy or rainy weather, use stronger rates and volumes and reduce spray intervals.
Irrigation Application Rate	Application	Notes

½-3.0 gallons of ZeroTol 2.0 per treated acre in 500-1,000 gallons of water.	Apply through drip trickle, center pivot, lateral move, end tow, side wheel roll, traveler, solid set, hand move or flood basin irrigation systems.	Do not spray ZeroTol 2.0 during conditions of intense heat, drought or poor plant vigor.
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### Foliar Applications

#### For control of Bacterial Blight

Rate for Spray Application	Application	Notes
Preventative: 1:200-1:400 or 64-32 fl. oz. per 100 gallons of water.  Curative: 1:100 or 1 gallon per 100 gallons of water.  Rescue: 1:40 or 2.5 gallons per 100 gallons of water.	Begin preventative applications of ZeroTol 2.0 prior to disease development and continue throughout the season, maintaining a 5-10 day spray schedule.  Spray curative applications at first appearance of disease or when conditions are favorable for disease development. Repeat at 3-5 day intervals using sufficient water to obtain complete coverage.  Use 1:40 dilution rate under severe disease pressure or as a rescue treatment. Test for phytotoxicity prior to using this rate. DO NOT apply 1:40 rate to blooming crops.	Under severe disease conditions and during periods of rainy weather, apply immediately following each rain, reduce spray intervals and use stronger dilution rate.  Do not spray ZeroTol 2.0 during conditions of intense heat, drought or poor plant vigor.
Irrigation Application Rate	Application	Notes
½-3.0 gallons of ZeroTol 2.0 per treated acre in 500-1000 gallons of water.	Apply through center pivot, lateral move, end tow, side-wheel roll, traveler, solid set, or hand move irrigation systems.	Do not spray ZeroTol 2.0 during conditions of intense heat, drought or poor plant vigor.

### Cucurbit Application Instructions:

#### At Planting Application

#### For control of Belly Rot, Root Rots, Fusarium Wilt, Pythium, Phytophthora, and Rhizoctonia.

Rate	Application	Notes
½-3.0 gallons of ZeroTol 2.0 per treated acre in 50-200 gallons of water.	Make in-furrow applications just before seed is covered. Make band applications to soil surface after seed is covered.	In fields with a history of disease pressure, use higher rates.

#### Banded Application

#### For control of Belly Rot, Root Rots, Fusarium Wilt, Pythium, Phytophthora, and Rhizoctonia

Rate for Spray Application	Application	Notes
½-2.5 gallons of ZeroTol 2.0 per 100	Apply ZeroTol 2.0 as a foliar spray with sufficient water to achieve runoff	Typical applications use 30-100 gallons of spray per acre. During

gallons of water.	to soil when vines begin to run.  Repeat every 7 days through infectious season.	periods of wet, cloudy or rainy weather, use stronger rates and volumes and reduce spray intervals.
<b>Irrigation Application Rate</b>	<b>Application</b>	<b>Notes</b>
½-3.0 gallons of ZeroTol 2.0 per treated acre in 500-1000 gallons of water.	Apply through drip trickle, center pivot, lateral move, end tow, side wheel roll, traveler, solid set, hand move or flood basin irrigation systems.	

### Foliar Applications

#### Alternaria, Anthracnose, Downy Mildew, Gummy Stem Blight, Leaf Spot, and Powdery Mildew.

Rate for Spray Application	Application	Notes
Preventative: 1:200-1:400 or 64-32 fl. oz. per 100 gallons of water.  Curative: 1:100 or 1 gallon per 100 gallons of water.	Begin preventative applications of ZeroTol 2.0 prior to disease development and continue throughout the season, maintaining a 5-10 day spray schedule.  Spray curative applications at first appearance of disease or when conditions are favorable for disease development. Repeat at 3-5 day intervals using sufficient water to obtain complete coverage.	Under severe disease conditions and during periods of rainy weather, apply immediately following each rain, reduce spray intervals and use stronger dilution rate.
Rescue: 1:40 or 2.5 gallons per 100 gallons of water.	Use 1:40 dilution rate under severe disease pressure or as a rescue treatment. Test for phytotoxicity prior to using this rate. DO NOT apply 1:40 rate to blooming crops.	Do not spray ZeroTol 2.0 during conditions of intense heat, drought or poor plant vigor.
<b>Irrigation Application Rate</b>	<b>Application</b>	<b>Notes</b>
½-3.0 gallons of ZeroTol 2.0 per treated acre in 500-1,000 gallons of water.	Apply through center pivot, lateral move, end tow, side-wheel roll, traveler, solid set, or hand move irrigation systems.	Do not spray ZeroTol 2.0 during conditions of intense heat, drought or poor plant vigor.

### Legumes Application Instructions:

#### At Planting Application

#### For control of Early Blight, Late Blight, Phytophthora, Pythium, Rhizoctonia, Fusarium Root-Rot and Sclerotinia.

Rate	Application	Notes
½-2.5 gallons of ZeroTol 2.0 per treated acre in 50-200 gallons of water.	Add ZeroTol 2.0 to setting water or starter fertilizer and make in-furrow application just prior to seed drop.	In fields with a history of disease pressure, use the high rate. Before tank mixing ZeroTol 2.0 with other fertilizers, fungicides or

		bactericides, conduct a compatibility test for each combination. Make a test solution and shake or stir vigorously. Excessive bubbling and/or pressure are an indication of incompatibility.
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### Surface Application

#### Early Blight, Late Blight, Phytophthora, Pythium, Rhizoctonia, Fusarium Root-Rot and Sclerotinia.

Rate – Foliar Spray	Application	Notes
1/3-2.5 gallons of ZeroTol 2.0 per 100 gallons of water.	Apply ZeroTol 2.0 as a foliar spray with sufficient water to achieve runoff to soil.  Repeat applications every 7 days through infectious season.	Typical applications use 30-100 gallons of spray solution per acre. During periods of wet, cloudy or rainy weather, use stronger rates and volumes and reduce spray intervals.
Irrigation Application Rate	Application	Notes
1/2-3.0 gallons of ZeroTol 2.0 per treated acre in 500-1000 gallons of water.	Apply through drip trickle, center pivot, lateral move, end tow, side-wheel roll, traveler, solid set, hand move or flood basin irrigation systems.	

### Foliar Application

#### For control of Anthracnose, Bacterial blights, Botrytis, Powdery Mildew, Rhizoctonia, Rust, and White mold.

Rate – Foliar Spray	Application	Notes
Preventative: 1:200-1:400 or 64-32 fl. oz. per 100 gallons of water.  Curative: 1:100 or 1 gallon per 100 gallons of water.  Rescue: 1:40 or 2.5 gallons per 100 gallons of water.	Begin preventative applications of ZeroTol 2.0 prior to disease development and continue throughout the season, maintaining a 5-10 day spray schedule.  Spray curative applications at first appearance of disease or when conditions are favorable for disease development. Repeat at 3-5 day intervals using sufficient water to obtain complete coverage.  Use a 1:40 dilution rate under severe disease pressure or as a rescue treatment. Test for phytotoxicity prior to using this rate. DO NOT apply 1:40 rate to blooming crops.	Under severe disease conditions and during periods of rainy weather, apply immediately following each rain, reduce spray intervals and use stronger dilution rate.
Irrigation Application Rate	Application	Notes
1/2-3.0 gallons of ZeroTol 2.0 per treated acre in 500-1000 gallons of water.	Apply through drip trickle, center pivot, lateral move, end tow, side-wheel roll, traveler, solid set, hand move or flood basin irrigation systems.	Do not spray ZeroTol 2.0 during conditions of intense heat, drought or poor plant vigor.

## Strawberry Application Instructions:

### Pre-Plant Dip or Spray

For control of Botrytis, Crown Rot and Powdery Mildew.

Rate	Application	Notes
½-1.0 gallon of ZeroTol 2.0 per 100 gallons of water.	Thoroughly wet transplants by dipping or spraying prior to planting.	Excessive foaming or bubbling during the dipping process is an indication of high levels of disease contamination.  Remove dead or dying foliage prior to dipping.

### Setting Water Application

For control of Botrytis.

Rate	Application	Notes
½-2.5 gallons of ZeroTol 2.0 in 50-200 gallons of water per treated acre.	Add ZeroTol 2.0 to transplant water or starter fertilizer and make in-furrow or dibble application at the time of plant set.	ZeroTol 2.0 is chemically compatible with most water-soluble fertilizers.

### At-Planting Foliar Application

For control of Powdery Mildew, Leaf Blight, Angular Leaf Spot, Crown Rot and Botrytis.

Rate	Application	Notes
1.0 gallon of ZeroTol 2.0 per 100 gallons of water. Complete coverage is essential.	Immediately following planting, apply ZeroTol 2.0 as a foliar spray with sufficient water to achieve runoff to soil or plastic, or to the soil directly via drip trickle, in furrow or flood basin.	Typical applications use 30-100 gallons of spray solution per treated acre, or 10-25 gallons of spray solution in low volume sprayers.

### Existing Plantings- Foliar and Crown Disease Control

Powdery Mildew, Leaf Blight, Angular Leaf Spot, Crown Rot and Botrytis.

Rate – Foliar Spray	Application	Notes
Preventative: 1:200-1:400 or 64-32 fl. oz. per 100 gallons of water.  Curative: 1:100 or 1 gallon per 100 gallons of water.	Begin preventative applications of ZeroTol 2.0 prior to disease development and continue throughout the season, maintaining a 5-10 day spray schedule.  Spray curative applications at first appearance of disease or when conditions are favorable for disease development. Repeat at 3 to 5 day intervals using sufficient water to obtain complete coverage.	Typical applications use 30-100 gallons of spray solution per treated acre or 10-25 gallons of spray solution in low volume sprayers.  Under severe disease conditions and during periods of rainy weather, apply immediately following each rain, reduce spray intervals and use 1:100 dilution rate.  Use sufficient water to obtain complete coverage.  ZeroTol 2.0 may be applied up to and including the day of harvest.

### Botrytis Control on Existing Plantings

Rate – Foliar Spray	Application	Notes
40 fl. oz. to 1.0 gallon of ZeroTol 2.0 per 100	Apply ZeroTol 2.0 at the first growth flush. Repeat applications at 10%	Typical applications use 30-100 gallons of spray solution per treated acre. Use

gallons of water. Complete coverage is essential.	bloom, full bloom and at late or extended bloom.  Use additional sprays in late winter just after plant bed cleaning.	sufficient water to obtain complete coverage.  Remove dead plant growth from the beds immediately prior to making a ZeroTol 2.0 application. Before tank mixing ZeroTol 2.0 with other fertilizers, fungicides or bactericides, conduct a compatibility test for each combination. Make a test solution and shake or stir vigorously. Excessive bubbling and/or pressure are an indication of incompatibility.
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### Tobacco (Float Beds) Application Instructions:

#### Water Treatment

For control of Root Rot diseases caused by pathogens such as *Pythium spp.*

Rate	Application	Notes
1:5,000-1:10,000	2.56-1.28 fl. oz. of ZeroTol 2.0 per 100 gallons of water.	Initial treatment of float bed water at 1:5000 dilution rate 24 hours prior to putting the trays in the float beds followed by periodic treatment of water with 1:10,000 dilution rate during the crop growing season.

### Citrus Canker Application Instructions:

#### Existing Plantings – Foliar and Tree Treatment

For control of Citrus Canker on citrus crops: grapefruit, kumquat, lemons, limes, oranges and tangerines.

Rate – Foliar Spray	Application	Notes
20 fl. oz. to 2.5 gallons ZeroTol 2.0 per 100 gallons of water. Complete coverage is essential.	Begin applications of ZeroTol 2.0 prior to or in the early stages of disease development and continue throughout the season. Spray at first appearance or when conditions are favorable for disease development. Repeat applications at 7 day intervals.	Spray diseased plants using ZeroTol 2.0 treatment solution for one to three consecutive days and continue treatments on 5-7 day intervals. Spray entire tree including trunk, branches, leaf canopy. Spray all areas where branches have been pruned, grafted or have become damaged or have apparent lesions or breaks in bark. In groves with a history of disease pressure, use the stronger rate. Typical applications use 30 to 100 gallons of spray solution per treated acre. Under severe disease conditions and during periods of wet, cloudy or rainy weather, apply immediately following each rain, reduce spray intervals and use stronger dilution rate. Use sufficient water to obtain complete coverage. ZeroTol 2.0 may be applied up to and including the day of harvest.

### **Specific Directions For Algae Control In Rice/Wild Rice Fields And Paddies**

Use ZeroTol 2.0 to suppress / control algae in rice fields and paddies. Apply ZeroTol 2.0 at a rate of 5-10 gallons of ZeroTol 2.0 per surface acre using conventional sprayer equipment or aerial application. Apply at the first signs of algae. Applications are most effective when made before rice rises to the water surface. Apply ZeroTol 2.0 as needed to control and prevent algae growth; apply more often in times of higher water temperatures.

### **Pre-harvest sprays for treatment of spoilage and decay causing organisms on crops**

Use ZeroTol 2.0 as a foliar spray for control of spoilage and decay causing organisms up to and including day of harvest. Use a 1% v/v (1:100) solution. Use adequate spray solution to ensure complete coverage of foliage and plant material. For increased coverage, adhesion and penetration of spray, use a compatible non-ionic wetting agent/surfactant/spreader/sticker.

### **TREATMENT OF WATER USED FOR PESTICIDE SPRAY SOLUTIONS**

Use ZeroTol 2.0 as a bactericide/microbiocide to treat and suppress algae, bacteria and fungi in water collected from open or closed sources including but not limited to wells, ditches, canals, reservoirs, and ponds, used for pesticide spray solutions and mixtures. Add ZeroTol 2.0 at a 1:300-1:1,000 dilution rate (42.6-12.8 fl. oz. of ZeroTol 2.0 per 100 gallons of water) to water in spray or mix tank. Mix and allow a contact time of 3-5 minutes **before adding other pesticides to spray solution.**

#### **Tank Mixing Instructions**

1. **Before adding other pesticides to the spray solution,** mix ZeroTol 2.0 first and allow a contact time of 3–5 minutes.
2. **When used with Conventional Bactericides/Fungicides/Insecticides/Miticides:** Use ZeroTol 2.0 at a dilution rate of 1:500-1:1,000 (0.2-0.1%; 0.26-0.13 fl. oz. per gallon or 26-13 fl. oz. per 100 gallons of water). This rate range can be used with pesticides with or without metal ion(s).
3. **When used with Organic (Biorational/Botanical/Biological) Bactericides/Fungicides/Insecticides:** Use ZeroTol 2.0 at a dilution rate of 1:1,000 (0.1% v/v; 0.13 fl. oz. per gallon or 13 fl. oz. per 100 gallons of water). Spray Tank Water treatment can be used on Biorational/Botanical based Bactericides/Fungicides/Insecticides/Miticides (Ex. Neem Oil, Sulfur, Plant Extracts etc.), *Bacillus* based Bio-Fungicides (spore containing or spent fermented media), Bt based Bio-Insecticides, Copper based Bactericides/Fungicides **Do not use ZeroTol 2.0 with Mycoinsecticides (Beauveria, Metarhizium, Isaria based) or with other biological active ingredients not listed above.**
4. **When used with Micro-Foliar Fertilizers:** Use ZeroTol 2.0 at a dilution rate of 1:500-1:1,000 (0.2-0.1%; 0.26-0.13 fl. oz. per gallon or 26-13 fl. oz. per 100 gallons of water).

### **TREATMENT OF WATER DRAWN FROM OPEN AND CLOSED WATER SOURCES USED FOR DUST ABATEMENT**

Use ZeroTol 2.0 at the following rates to suppress/control slime-forming bacteria, algae and fungi/oomycetes in water drawn from open and closed water sources such as wells, streams, ponds, reservoirs, irrigation canals, irrigation water and drainage ditches used to control dust on unpaved gravel and dirt roads.

- Bacteria: 15.6–128 fl. oz. per 1,000 gallons of water (1:8200–1:1000 dilution)
- Algae: 38.8–160 fl. oz. per 1,000 gallons of water (1:3300–1:800 dilution)
- Fungi/oomycetes: 52.3–160 fl. oz. per 1,000 gallons of water (1:2450–1:800 dilution)

Prepare the mixture at least 3–5 minutes prior to application for dust abatement. Apply to the road surface using a water truck (or tractor or spraying device) with equipped with a watering system. Prepared solution must be used day of treatment, and new solution should be prepared for each treatment.

### **TREATMENT OF SPOTTED WING DROSOPHILA (SWD) (\*)**

ZeroTol 2.0 controls yeast which is a food source for spotted wing drosophila (SWD), thereby significantly reducing populations of SWD.

1. Use ZeroTol 2.0 at a dilution rate of 1:100 (6.4 fl. oz. per 5 gallons of clean water).

2. Do not reuse already mixed solution; make fresh daily. Spray or mist plants and trees including application through irrigation or chemigation systems. Refer to **CHEMIGATION** for specific instructions on using this product through irrigation systems.
3. Thoroughly wet all surfaces of plant, upper and lower foliage, including stems, branches and stalks to ensure full contact with plant tissue.
4. Apply as needed.

## NON PLANT USES

### For Clean, Hard, Non-Porous Surface Applications

Use ZeroTol 2.0 to suppress / control bacteria, fungi and slime-forming algae as follows:

Surface	Use Rate	Instructions
<b>Pots, Flats, Trays</b>	1:50-1:100, or 2½-1 ¼ fl. oz. per gallon of clean water.	Spray until runoff. Add additional surfactant if needed. Allow surfaces to remain wet for 10 minutes.
<b>Cutting Tools</b>	1:50-1:100, or 2½-1 ¼ fl. oz. per gallon of clean water.  Tobacco Mosaic Virus control: 1:50-1:100 or 2½-1 ¼ fl. oz. per gallon of clean water.	Soak tools to ensure complete coverage. Add additional surfactant if needed. Allow surfaces to remain wet for 10 minutes.  Use ZeroTol 2.0 to prevent the spread of Tobacco Mosaic Virus on cutting tools. Allow surfaces to remain wet for 1 minute.
<b>Benches and Work Areas</b>	Pre-cleaned surfaces: 1:100 or 1¼ fl. oz. per gallon of clean water.  Unclean surfaces: 1:50 or 2½ fl. oz. per gallon of clean water if surfaces have not been pre-cleaned with water to remove organic deposits.	Sweep and remove all plant debris. Use power sprayer to wash all surfaces to remove loose dirt. Add additional surfactant if needed. Allow surfaces to remain wet for 10 minutes.
<b>Foot Bath Mats</b> Foot pads and walk-through trays	1:100-1:170 or 1¼-¾ fl. oz. per gallon of water.	Apply ZeroTol 2.0 to prevent the tracking and spread of dirt and microorganisms. Make a solution of ZeroTol 2.0 per gallon of water and fill foot bath mat, foot pad or walk-through tray to capacity. Allow treated surface to remain wet with solution for 10 minutes. Change solution as needed.

### For Hard, Non Porous Surfaces, Equipment And Structures

Use ZeroTol 2.0 to suppress / control bacteria, fungi and slime forming algae on equipment, and structures: benches, walkways, floors, walls, fan blades, watering systems, vats, tanks, coolers, storage rooms, bins, elevators, storage areas, spray equipment, conveyors, irrigation systems, process equipment, process water systems, trucks, structures and related equipment. Allow surfaces to air dry, do not rinse.

- 1) Sweep and remove all loose soil or organic matter. Use power sprayer to wash all surfaces to remove loose dirt and/or organic material.
- 2) Use ZeroTol 2.0 at a dilution rate of 1:100 (1¼ fl. oz. per gallon of clean water) on pre-cleaned surfaces. Use a dilution of 1:50 (2½ fl. oz. per gallon of clean water) if surfaces have not been



pre-cleaned with water to remove organic deposits. The use of additional surfactant is acceptable.

- 3) Apply solution with mop, sponge, power sprayer or fogger to thoroughly wet all surfaces. Fog enclosed areas as an adjunct to manual surface application. Wear protective eyewear (goggles or face shield) when fogging. Prior to fogging, pre-clean surfaces with water to remove any organic deposits. Fog the desired areas using dilution rates of 1:100-1:300, or 1¼-½ fl. oz. of ZeroTol 2.0 using any type of fogging equipment including but not limited to cold foggers, thermal foggers, low pressure air assisted and high pressure fog systems. Solutions are corrosive to materials that are easily oxidized such as natural rubber, copper, galvanized and black iron pipe. Test solutions on surfaces prior to use.
- 4) Follow treatment of any food contact surfaces, equipment or structures with a potable water rinse.
- 5) Scrub off heavy growths of algae and fungi following application. Use a solution of ZeroTol 2.0 to wash away dead growth.
- 6) Allow surfaces to air dry, do not rinse.
- 7) Reapply often for control.

**Foaming Applications (\*)**

Apply ZeroTol 2.0 as a foam treatment to enhance contact on porous surfaces and irregular surfaces, where contact is difficult to maintain with spray treatments. Use a dilution of 1:50-1:100, or 2.5-1 ¼ fl. oz. of ZeroTol 2.0 per gallon of clean water. Use the 1:50 dilution rate or 2½ fl. oz. of ZeroTol 2.0 per gallon of clean water if surfaces to be treated have not been pre-cleaned with water to remove organic deposits. Add a surfactant foaming agent to the spray tank that contains the diluted ZeroTol 2.0 spray solution. Follow all mixing instructions on the label. Apply foam until the surface treated is completely covered. Allow foam treated surface to air dry. Do not rinse.

**For Surfaces And Equipment Applications In Packing Houses**

Apply ZeroTol 2.0 to suppress/control bacteria, fungi and slime forming algae on all surfaces and equipment found in packinghouses including, dump tanks, drenches, crates, containers, conveyors, storages, walls, floors, and process lines.

- 1) Remove loose soil or organic matter with clean water and/or detergent rinse.
- 2) Use ZeroTol 2.0 at a dilution ratio of 1:50-1:300 or 256-46 fl. oz. of ZeroTol 2.0 per 100 gallons of water. Apply as a coarse spray until runoff.
- 3) Allow ZeroTol 2.0 treated surfaces to air dry. Do not rinse.

**Foaming Applications (\*)**

Apply ZeroTol 2.0 as a foam treatment to enhance contact on porous surfaces, vertical surfaces and irregular surfaces where contact is difficult to maintain with spray treatments. Remove loose soil or organic matter with clean water and/or detergent rinse. Use ZeroTol 2.0 at a dilution ratio 1:50-1:300 or 256-46 fl. oz. of ZeroTol 2.0 per 100 gallons of water. Add a surfactant foaming agent to the spray tank that contains the diluted ZeroTol 2.0 solution. Apply foam until the surface treated is completely covered. Allow foam treated surface to air dry. Do not rinse.

**Surface Treatment- For Treatment Of Citrus Canker On Vehicles, Field Equipment, Tools, Personnel Clothing**

Rate – Surface Treatment	Application	Notes
16.0-21.3 fl. oz. of ZeroTol 2.0 per 100 gallons of water. Complete coverage is essential.	Apply to field equipment such as pickers, trailers, trucks (including truck body parts and tires), bins, packing crates, ladders, power tools, pruning shears, gloves, rubber boots, Tyvek suits or other equipment that can transfer <i>Xanthomonas</i> bacterial species including citrus canker. Apply to equipment and surfaces found in commercial packing	Remove loose soil or organic matter with clean water or detergent/rinse. Use a power sprayer to remove loose dirt and organic matter. Apply solution as a coarse spray or by mop, sponge, power sprayer, portable sprayer or fogger. Apply until run off. Allow surfaces to remain wet for 10 minutes. Allow

	houses including dump tanks, drenches, crates, containers, conveyors, storages, walls, floors, and process lines.	treated surfaces to air dry, do not rinse.
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**For Water Filter, Water Filter Media, Membranes And Related Components And Systems Treatment (\*)**

To suppress, control and prevent clogging of filters from growth of plant pathogenic algae, bacteria or fungi, as well as the oxidation of iron deposits. For reduction and removal on the surfaces of filter and membrane media, media housings and Clean in Place (CIP) systems.

For water filter and filter media treatment use a rate of 2.5 fl. oz. of ZeroTol 2.0 per gallon and allow to soak for ten (10) minutes. Drain filter or filter media and then rinse with clean water. For CIP applications involving filters use a dilution rate of 1:500-1:2,000.

For membrane treatment use a dilution rate of 1:500, within a pH range of 3-7 and maximum water temperature of 80 degrees F.

For membrane CIP systems treatment use a dilution rate of 1:2,000, within a pH of 3-7 and a maximum water temperature of 80 degrees F. After thorough draining of the solution, rinse the media thoroughly with clean or sterile water for a minimum of 5 minutes.

**Specific Directions For Stock Tanks And Livestock Water**

Use ZeroTol 2.0 to suppress / control algae, bacteria and fungi in stock tanks, stock watering ponds, tanks and troughs, and livestock water. Apply 2 fl. oz. of ZeroTol 2.0 per 250 gallons of water for algae control. Do not exceed the label rate. Product can be simply added to the body of water. Where existing algae mats are present at time of treatment, the most effective control will be obtained by breaking up mats and/or evenly dispersing diluted ZeroTol 2.0 over the algae mats. Apply ZeroTol 2.0 as needed to control and prevent algae growth; make applications more often in times of higher water temperatures.

Drip system application for livestock watering tanks: Tanks fed by a continuous flow of spring or well water can be equipped with a chemical drip system designed to meter-in ZeroTol 2.0 based upon water flow rates. Pre-dilute ZeroTol 2.0 at a 1:100 rate or 4-mL/minute water flow rate. Treat continuously or as needed to control and prevent algae re-growth.

**For Agricultural Spray Irrigation And Drainage Water And Ditches**

Use ZeroTol 2.0 to suppress/control algae, bacteria and fungi in agricultural irrigation and drainage water and ditches. For irrigation water, apply 4-8 fl. oz. of ZeroTol 2.0 per 1,000 gallons of water. Product can be simply added to the body of water. Where existing algae mats are present at time of treatment, the most effective control will be obtained by breaking up mats and/or evenly dispersing diluted ZeroTol 2.0 over the algae mats. Apply ZeroTol 2.0 as needed to control and prevent algae growth; apply more often in times of higher water temperatures.

**For Sewage Water Treatment**

Use ZeroTol 2.0 for the control of bacteria and the malodors caused by hydrogen sulfide gas. Application rates may vary depending on amounts of organic matter (sewage) in lagoons and pits. Pour ZeroTol 2.0 directly from the container into the pit or lagoon at several locations to aid in dispersal. Use one gallon of ZeroTol 2.0 for 60,000 gallons (8,000 cubic feet) of sewage. For best results, disperse ZeroTol 2.0 evenly throughout sewage. Odors should be noticeably reduced in 1-2 weeks. Repeat application when odor reappears. For lagoons, wait 24 hours before adding beneficial bacteria.

## **CHEMIGATION:**

### **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, 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 as needed.
- 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 must 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 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 must 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 filled 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, a 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 until no scale or pesticide residues are present. 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 amount of water and then adding product as required. ZeroTol 2.0 may be direct injected from the original container. The product will immediately go into solution without any agitation.
- 4) ZeroTol 2.0 may be applied in conjunction with other pesticides or fertilizers. For injection of ZeroTol 2.0 with metal-based fungicides and biological based pesticides consult your BioSafe Systems technical representative for specific instructions.

#### **STORAGE AND DISPOSAL**

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

**PESTICIDE STORAGE:** Store in original container in a cool, dry well-vented area, away from direct sunlight. Do not allow product to become overheated in storage. Do not store in a manner where cross-contamination with other pesticides or fertilizers could occur.

**PESTICIDE DISPOSAL:** Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. Dispose of all excess treated seed by burying seed away from bodies of water. Dispose of seed packaging or containers in accordance with local requirements. If these wastes cannot be disposed of by use 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:**

**Non-refillable containers 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. 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. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. If burned, stay out of smoke.

**Non-refillable 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 ¼ 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. 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. Do not burn, unless allowed by state and local ordinances. If burned, stay out of smoke.

**For refillable containers:** Refillable container. Refill this container with pesticide 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 this rinsing procedure two more times.

## 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, 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, to the extent consistent with applicable law.

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. To the extent consistent with applicable law. 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 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 LLC 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.

BIOSAFE SYSTEMS LLC and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of BIOSAFE SYSTEMS LLC.

## Sublabel C: Aquatic Applications

# ZeroTol 2.0™

FOR AQUATIC USE

### ACTIVE INGREDIENTS:

Hydrogen Peroxide..... 27.1%  
Peroxyacetic Acid ..... 2.0%

**OTHER INGREDIENTS:**..... 70.9%

**TOTAL:**.....100.0%

### KEEP OUT OF REACH OF CHILDREN

### DANGER - PELIGRO

*Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.*

(If you do not understand this label, find someone to explain it to you in detail.)

FIRST AID	
<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.</li><li>• 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>
<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 swallowed</b>	<ul style="list-style-type: none"><li>• Call a poison control center or doctor immediately for treatment advice.</li><li>• Have person sip a glass of water if able to swallow.</li><li>• Do not induce vomiting unless told to do so by a poison control center or doctor.</li><li>• Do not give anything by mouth to an unconscious person.</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>HOTLINE NUMBER</b>	
For information on ZeroTol 2.0 (this pesticide product), (including general health concerns or pesticide incidents), call the National Pesticide Information Center at 1-800-858-7378, Monday through Friday, 8:00 AM to 12:00 PM Pacific Standard Time. In the event of a medical emergency, call your poison control center at 1-800-222-1222.	
<b>NOTE TO PHYSICIAN</b>	
Probable mucosal damage may contraindicate the use of gastric lavage.	

See (back) (side) (inside) (panel) (insert) (booklet) (label) for additional precautionary statements (instructions) and directions for use.

**Manufactured by:** BioSafe Systems, LLC, 22 Meadow St. East Hartford, CT 06108 (888) 273-3088 (toll-free)

**EPA Registration No.** 70299-12

Batch Code \_\_\_\_\_

**EPA Establishment No.** 067441-IL-001, 082521-GA-001, 92957-MI-001, 70299-NV-2, 70299-NV-1

Net Contents: (1, 2.5, 5, 30, 55, 275, 330 gallons)

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

**CORROSIVE:** Causes irreversible eye damage. Harmful if absorbed through skin. Causes skin burns. May be fatal if swallowed. Harmful if inhaled. Do not breathe vapor. Do not get in eyes, on skin or on clothing. Wear protective eyewear (goggles or face shield) and rubber gloves. 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 reuse.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

Handlers who may be exposed to the undiluted product through mixing, loading, application, or other tasks must wear: coveralls over long-sleeved shirt and long pants, rubber gloves, chemical resistant footwear plus socks, and protective eyewear (goggles or face shield). Handlers who may be exposed to the dilute through application or other tasks must wear: long-sleeved shirt and long pants, and shoes plus socks. Follow manufacturer's instructions for cleaning and maintaining PPE. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product. Do not reuse them. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

**ENVIRONMENTAL HAZARDS**

This pesticide is toxic to fish. Begin treatment along the shore and proceed outward in bands to allow fish to move into untreated areas. Consult with the State agency with primary responsibility for regulating pesticides before applying to public waters to determine if a permit is needed. Do not apply directly to treated, finished drinking water reservoirs or drinking water receptacles when the water is intended for human consumption. Do not contaminate water when disposing of equipment washwaters or rinsate.

**PHYSICAL AND CHEMICAL HAZARDS**

**Corrosive.** Strong oxidizing agent. Do not use in undiluted form. Mix only with water in accordance with label instructions. Never bring undiluted product in contact with other pesticides, cleaners or oxidative agents.

**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 State or Tribal agency responsible for pesticide regulation.

Read the entire label before using this product. Use only according to label directions.

Use ZeroTol 2.0 to suppress, control and prevent algae and cyanobacteria in the following waters: Ponds, Lakes, Lagoons, Water Gardens, Ornamental Pools/Ponds, Ornamental Waterfalls, Fountains, Bird Baths, Irrigation Ponds, Rice/Wild Rice Fields and Paddies, Farm Ponds, Impounded Waters, Bilge Water, Reservoirs, Waterways, Conveyance Ditches, Canals, Laterals, Drainage Systems, Catch Basins, Sewage Lagoons and Pits, Feedlot Run-Off Lagoons, Sewage Systems, Fire Ponds, Watering Tanks, Storage Tanks, Water Collectors.

**DETERMINING WATER VOLUME**

Measure length (L), width (W), and average depth (D) in feet (ft.) or meters (m) and calculate volume using one of the following formulas:

Square/Rectangular:

L(ft.) x W(ft.) x D(ft.) x 7.5 = Gallons  
L(m) x W(m) x D(m) x 1000 = Liters

Circular/Elliptical:

L(ft) x W(ft) x D(ft) x 5.9 = Gallons  
L(m) x W(m) x D(m) x 786 = Liters



Avg. Length (ft) x Avg. Width (ft)  
43,560 = acres

### **APPLICATION RATES**

<b>Algae Growth/Density</b>	<b>Gallons ZeroTol 2.0 Per Acre Foot</b>
Low Density	2.4
Moderate Density	6.0
High Density	10.8
Extreme Density (Full Bloom)	24.0

### **APPLICATION METHODS**

In bodies of water where an aerator is available, and when treating the entire water volume, apply at the edges, or in the turbulence created while the aerator runs to facilitate rapid and adequate mixing.

**Spot Treatment:** Apply ZeroTol 2.0 directly over the infested area. Re-treatment is required when heavy growth occurs.

**Liquid Treatment:** Surface spray (or inject) spray solution on the water surface from shore or a boat equipped with aquatic spray or injection equipment. Use a rate up to 24 gallons per acre-foot for surface spray or injection treatment. Use in accordance with manufacturer's spray equipment instructions.

**Injection Treatment:** Inject solution into the water via a piping system.

### **GENERAL TREATMENT NOTES**

- Control is best achieved when algae are not yet well established. Treat in early spring or summer when growth first begins to appear.
- The application rates are variable and depend upon algae species, water hardness, and amount of algae present.
- Use higher application rates for filamentous algae (pond scum) and lower application rates for planktonic algae. If there is uncertainty about the application rate begin with a lower application rate and increase until control is achieved or until maximum allowable level has been reached.
- Treatment of algae can result in oxygen loss from the decomposition of dead or decaying algae. Begin treatment along the shore and proceed outward in bands to allow fish to move into untreated areas. In regions where ponds freeze in winter, treatment should be done 4 to 6 weeks before expected freeze to prevent masses of decaying algae under an ice cover.
- Apply early in the day under calm, sunny conditions, when water temperatures are warm. Sunlight and higher temperatures both enhance activity.
- Apply evenly over the water surface directly over the algae to be treated.
- Break up any heavy floating algae mats before or during application.
- If using in conjunction with other water additives (such as bacteria or enzymes), always apply ZeroTol 2.0 first and wait until there is no residual hydrogen peroxide (active ingredient in ZeroTol 2.0) before adding any other products.

- Re-treat areas if re-growth begins to appear. Monitor dissolved oxygen levels when making consecutive treatments.
- Maintain an algae free pond with maintenance rates at a frequency appropriate for your environmental conditions.
- Jar test first when tank mixing with copper based chemistries. Spray tank must be clean to begin mixing. Vent cap to allow oxygen release. Contact your BioSafe Representative for mixing instructions.

### **Specific Directions For Algae Control In Rice/Wild Rice Fields And Paddies**

Use ZeroTol 2.0 to suppress / control algae in rice fields and paddies. Apply ZeroTol 2.0 at a rate of 5-10 gallons of ZeroTol 2.0 per surface acre using conventional sprayer equipment or aerial application. Apply at the first signs of algae. Applications are most effective when made before rice rises to the water surface. Apply ZeroTol 2.0 as needed to control and prevent algae growth; apply more often in times of higher water temperatures.

### **Specific Directions For Stock Tanks And Livestock Water**

Use ZeroTol 2.0 to suppress/control algae, bacteria and fungi in stock tanks, stock watering ponds, tanks and troughs, and livestock water. Apply 2 fl. oz. of ZeroTol 2.0 per 250 gallons of water for algae control. Do not exceed the label rate. Product can be simply added to the body of water. Where existing algae mats are present at time of treatment, the most effective control will be obtained by breaking up mats and/or evenly dispersing diluted ZeroTol 2.0 over the algae mats. Apply ZeroTol 2.0 as needed to control and prevent algae growth; make applications more often in times of higher water temperatures.

Drip system application for livestock watering tanks: Tanks fed by a continuous flow of spring or well water can be equipped with a chemical drip system designed to meter-in ZeroTol 2.0 based upon water flow rates. Pre-dilute ZeroTol 2.0 at a 1:100 rate or 4-mL/minute water flow rate. Treat continuously or as needed to control and prevent algae re-growth.

### **For Agricultural Spray Irrigation and Drainage Water and Ditches**

Use ZeroTol 2.0 to suppress/control algae, bacteria and fungi in agricultural irrigation and drainage water and ditches. For irrigation water, apply 4-8 fl. oz. of ZeroTol 2.0 per 1000 gallons of water. Product can be simply added to the body of water. Where existing algae mats are present at time of treatment, the most effective control will be obtained by breaking up mats and/or evenly dispersing diluted ZeroTol 2.0 over the algae mats. Apply ZeroTol 2.0 as needed to control and prevent algae growth; apply more often in times of higher water temperatures.

### **Irrigation Conveyance Systems and Other Moving Water (\*)**

Use ZeroTol 2.0 to suppress/control algae in flowing water systems. Apply ZeroTol 2.0 at first signs of algae as needed to control and prevent algae growth. Apply more often in times of higher water temperatures. Distance of control down the waterway will vary depending upon density of growth and water flow rates (C.F.S.). Inject ZeroTol 2.0 for a minimum of 4 hours. Treatments of longer duration or more frequent intervals along the channel may be necessary.

Prior to treatment it is important to accurately determine water flow rates. In the absence of weirs, orifices, or similar devices, which give accurate water flow measurements, volume of flow may be estimated by the following formula:

Average Width (feet) x Average Depth x Velocity\*  
(feet/second) x 0.9 = Cubic Feet per Second (C.F.S.)

\* Velocity is the time it takes for a floating object to travel a given distance. Dividing the distance traveled (feet) by the time (seconds) will yield velocity (feet/second). This measurement should be repeated at least three times at the intended application site and then averaged.

After accurately determining the water flow rate in C.F.S., find the corresponding application rate of ZeroTol 2.0 in the chart below.

### **Application Rates for Moving Water**

<b>Algae Growth/Density</b>	<b>Application Rate per C.F.S.</b>
Low Density	2 quarts
Moderate Density	1 gallon
High Density	1.5 gallons
Extreme Density	3 gallons

### **For Sewage Water Treatment**

Use ZeroTol 2.0 for the control of bacteria and the malodors caused by hydrogen sulfide gas. Application rates may vary depending on amounts of organic matter (sewage) in lagoons and pits. Pour ZeroTol 2.0 directly from the container into the pit or lagoon at several locations to aid in dispersal. Use one gallon of ZeroTol 2.0 for 60,000 gallons (8,000 cubic feet) of sewage. For best results, disperse ZeroTol 2.0 evenly throughout sewage. Odors should be noticeably reduced in 1-2 weeks. Repeat application when odor reappears. For lagoons, wait 24 hours before adding beneficial bacteria.

### **CHEMIGATION:**

#### **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, 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 as needed.
- 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 must 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 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 must 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 filled 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, a 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 until no scale or pesticide residues are present. 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 amount of water and then adding product as required. The product will immediately go into solution without any agitation. Use mixed solution within two hours.
- 4) ZeroTol 2.0 may be applied in conjunction with other pesticides or fertilizers. Agricultural chemicals may perform in an unpredictable manner when tank mixed, especially where several products are involved. Reduced effect on pests or crop injury may occur. Conduct a compatibility jar test before mixing a whole tank. Because of the wide variety of possible combinations which can be encountered, observe all precautions and limitations on the labels of all products used in mixtures. Test for potential crop injury on a small set of plants prior to commercial use of a new tank mix.

## STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE:** Store in original container in a cool, dry well-vented area, away from direct sunlight. Do not allow product to become overheated in storage. Do not store in a manner where cross-contamination with other pesticides or fertilizers could occur.

**PESTICIDE DISPOSAL:** Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. Dispose of all excess treated seed by burying seed away from bodies of water. Dispose of seed packaging or containers in accordance with local requirements. If these wastes cannot be disposed of by use 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:

**Non-refillable containers 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. Fill the container  $\frac{1}{4}$  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. Do not burn, unless allowed by state and local ordinances. If burned, stay out of smoke.

**Non-refillable 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  $\frac{1}{4}$  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. 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. Do not burn, unless allowed by state and local ordinances. If burned, stay out of smoke.

**For refillable containers:** Refillable container. Refill this container with pesticide 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 this rinsing procedure two more times.

## 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, 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, to the extent consistent with applicable law.

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. To the extent consistent with applicable law. 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 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 LLC 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.

BIOSAFE SYSTEMS LLC and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of BIOSAFE SYSTEMS LLC.

*(Note to Reviewer: The following marketing claims may be used with the prefix “This product” or “This product is {a} {an}”.)*

**OPTIONAL LABEL CLAIMS FOR SUBLABELS A, B, C:**

***The following claims may appear on any label panel:***

- Fungicide, Bactericide and Algicide
- Algicide
- Fungicide
- Bactericide
- Broad Spectrum
- Broad Spectrum Algicide/Bactericide
- Broad Spectrum Bactericide/Fungicide
- Broad Spectrum Algicide/Fungicide
- Broad Spectrum Algicide/Bactericide/Fungicide
- Preventative treatment for seeds, growing plants, fruits, nuts and vegetables.
- A treatment for the prevention and control of plant pathogenic diseases in field grown crops, greenhouses, and storage sites.
- A treatment for the prevention and control of plant pathogenic diseases on surfaces, equipment and structures used in processing post-harvest commodities.
- A treatment for the prevention and control of algae & cyanobacteria in waters, including rice and wild rice fields/paddies.
- Activated peroxygen treatment.
- Virucide (Tobacco mosaic virus)
- Preventative treatment for ornamental plants and turf.
- A treatment for the prevention and suppression / control of horticultural diseases in Greenhouses, Garden Centers, Landscapes, and Nurseries.
- A treatment for the prevention and control of bacteria, algae and fungi on greenhouse surfaces, equipment and structures.
- Preventative treatment for ornamental plants, edible crops, and turf.
- For use in greenhouses and nurseries Bactericide/Fungicide for Greenhouses, Garden Centers, Landscapes, and Nurseries.
- For Fruit & Vegetable Crops
- For Hydroponic Crops *(Not Approved For Use in California)*
- For Ornamental Plants & Trees
- For Turf & Landscapes
- Treats & controls root diseases (Pythium (Root Rot and Damping off), Phytophthora (Blight) Fusarium (Wilt), Verticillium (Wilt), Rhizoctonia (Root Rot/Bottom Rot), Thielaviopsis (Root Rot).
- Treats & controls *Alternaria – Anthracnose – Aphanomyces – Black Spot - Botrytis (grey mold) - Downy Mildew – Erwinia, Fusarium (root rot) - Leaf Spot - Phytophthora (blights, rots) – Plasmopara - Powdery Mildew - Pseudomonas - Pythium - Rhizoctonia - Rust - Scab - Smut - Thielaviopsis – Uncinula (powdery mildew) – Xanthomonas - Wilts & Blights - Ralstonia solanacearum (brown rot, bacterial wilt) - Sclerotinia sclerotiorum (white mold) - Tobacco mosaic virus.*
- Treats & controls Late Blight, Bacterial Wilt, Botrytis, Downy Mildew, Powdery Mildew
- 0 hour REI for pre-plant dip, seed treatment, soil drench
- 1 hour REI for fogging or spraying to growing plants or surfaces
- Made in the USA
- Formulated to enhance your plant's health, quality, and appearance
- Excellent Resistance Management Tool
- Foliar & Root Disease Control
- ZeroTol 2.0 can be tank mixed with a compatible systemic chemistry or insecticide
- Chemistry for controlling a broad range of pathogens



- Activated peroxygen chemistry
- For Use on Flowering Plants
- For use on Green Plants
- Contact your BioSafe Systems LLC technical representative for specific applications.
- For more information <visit [webpage]><call [number]>
- For additional information on [PRODUCT NAME], call us toll-free at <call [number]>or visit <visit [webpage]>
- *The following claims may appear on any label panel: (\*) (\* = Not for Use in California)*
- (Read full label before use)(see inside for full instructions)(always read and follow label directions)
- ©[YYYY] Copyright BioSafe Systems, LLC
- [product name] is a registered trademark of BioSafe Systems, LLC

**{Optional Graphics and Icons}**

**(Note to Reviewer:** *These are representative icons for use sites/application methods that may appear on the label with the appropriate directions for use, or package type.)*

{Made in USA Logo/Flag}

{NSF Logo}

