

## **ZeroTol**

Broad-Spectrum Algaecide/Fungicide

Solution

A treatment for the prevention and control of fungi and algae on wood and non-porous hard surfaces and in irrigation waters to be used in greenhouses only on non-food crops.

A treatment for the control or suppression of plant diseases in Commercial Greenhouses, Garden Centers, Landscapes, Nurseries, Interiorscapes, Golf Courses, Lawns, Athletic Fields, and Commercial Turf.

A treatment for the control of algae on Commercial Turf.

FOR HORTICULTURAL AND COMMERCIAL USE ONLY

REGISTRATION NO. 29508 PEST CONTROL PRODUCTS ACT

GUARANTEE: hydrogen peroxide 27%

READ THE LABEL BEFORE USING

KEEP OUT OF REACH OF CHILDREN

DANGER: CORROSIVE TO EYES AND SKIN IRRITANT



POISON

NET CONTENTS: 1-1050 Litres

**BioSafe Systems L.L.C.**

22 Meadow Street

East Hartford, CT 06108

860.290.8890

[www.biosafesystems.com](http://www.biosafesystems.com)

Canadian Agent: D. W. Latter and Associates 44 Tamarack Circle Toronto,  
ON M9P 3T9

## **FOR HORTICULTURAL AND COMMERCIAL USE ONLY**

**PRECAUTIONS: KEEP OUT OF REACH OF CHILDREN.** This product is corrosive to eyes. May cause irreversible eye damage. Causes skin and mucous membrane irritation. **DO NOT** get on eyes, skin or clothing. Harmful if swallowed. May be fatal if inhaled. Do not breathe vapour of concentrate. Strictly observe all precautions for handling and using pesticides. Wear goggles or a face shield, coveralls over long-sleeved shirt and long pants, boots, chemical-resistant gloves and NIOSH-approved respiratory protection during mixing, loading, application, clean up and repair activities. ZeroTol Broad-Spectrum Algaecide/Fungicide is a strong oxidizing agent. ZeroTol Broad-Spectrum Algaecide/Fungicide has been demonstrated to be corrosive to metal surfaces. Rinse all application equipment thoroughly with water after use. Metal fasteners and surfaces that come into contact with diluted ZeroTol Broad-Spectrum Algaecide/Fungicide, as a result of the daily applications, may also become corroded. Ship and store away from food, fertilizer, feed and seed.

**ENVIRONMENTAL HAZARDS:** Do not discharge effluent containing this product into lakes, streams, ponds or other waters. Do not cause or permit this product to enter surface water or ground water through spillage, storm water runoff, waste disposal, cleaning of equipment or by any other means. Toxic to aquatic organisms. Observe buffer zones specified under **DIRECTIONS FOR USE**.

Do not contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes.

**DO NOT** discharge effluent containing this product into sewer systems, lakes, streams, ponds, estuaries, oceans or other waters.

**DO NOT** allow effluent or runoff from greenhouses containing this product to enter lakes, streams, ponds or other waters.

**FIRST AID: IF SWALLOWED:** Call a poison control centre or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person.

**IF IN EYES:** Hold eye open and rinse slowly and gently with water for 15–20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice.

**IF ON SKIN OR CLOTHING:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15–20 minutes. Call a poison control centre or doctor for treatment advice.

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

Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

**TOXICOLOGICAL INFORMATION:** This product is corrosive and severely irritating to the eyes, skin and mucous membranes. Probable mucosal damage may contraindicate the use of gastric lavage. No specific antidote is available. Treat symptomatically.

**DISPOSAL:** Do not reuse this container for any purpose. This is a recyclable container, and is to be disposed of at a container collection site. Contact your local distributor/dealer or municipality for the location of the nearest collection site. Before taking the container to the collection site:

1. Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
2. Make the empty, rinsed container unsuitable for further use.

If there is no container collection site in your area, dispose of the container in accordance with provincial requirements.

For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean-up of spills.

**STORAGE:** Store in original container in a cool, well-ventilated area, away from direct sunlight. Do not allow product to become overheated in storage. This may increase the degradation of the product, which will decrease product effectiveness. Since ZeroTol Broad-Spectrum Algaecide/Fungicide is a strong oxidizing agent, contact with combustibles may cause fire. Keep containers tightly closed.

#### DIRECTIONS FOR USE:

##### **Important**

Do not use this product in a manner inconsistent with its labelling. Do not apply this product in a way that will contact workers or other persons, either directly or indirectly through drift. Only protected handlers may be in the area during application.

Do not enter or allow worker re-entry to treated areas until residues have dried.

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

ZeroTol Broad-Spectrum Algaecide/Fungicide may be used as a fungicide and algaecide on wood and non-porous hard surfaces in greenhouse structures and in watering systems for use on non-food crops in greenhouses only.

ZeroTol Broad-Spectrum Algaecide/Fungicide works by surface contact with the plants and materials being treated. It is important to ensure that all surfaces are thoroughly wetted. ZeroTol Broad-Spectrum Algaecide/Fungicide does not produce any visible residue or distinct odor when used in accordance with label directions.

Use of ZeroTol Broad-Spectrum Algaecide/Fungicide includes:

- Control of the following:

**Fungi:** Fusarium leaf spot (*Fusarium* spp.) on dracaena, rhizoctonia aerial blight (*Rhizoctonia* spp.) on bedding plants, including Boston fern. Anthracnose (*Colletotrichum graminicola*) and brown patch (*Rhizoctonia solani*) on turf.

**Algae:** Green and blue-green algae on turf.

- Suppression of the following:

**Fungi:** Alternaria leaf spot (*Alternaria* spp) leaf spot (*Pseudomonas* spp.) and phytophthora root and stem rot (*Phytophthora* spp.) on ornamentals.

**Bacteria:** Xanthomonas leaf spot (*Xanthomonas* spp) on bedding plants, including English ivy.

- May be used on bedding plants, flowering plants, woody & herbaceous ornamentals, nursery stock, trees, turf, cut flowers, bulbs, cuttings, seedlings, seeds and seedbeds.

#### **PHYTOTOXICITY:**

Do not use at higher than recommended dilution rates as leaf burn may result.

Not all ornamental plants have been tested for phytotoxicity. If any plants not listed on the label are treated, test a few plants before treating the whole crop.

If any phytotoxicity occurs, do not spray this crop.

#### **Solution Preparation:**

ZeroTol Broad-Spectrum Algaecide/Fungicide works best when diluted with water containing little or no organic or inorganic materials and having a neutral pH. Thoroughly rinse out mixing tank with water before mixing concentrate. ZeroTol Broad-Spectrum Algaecide/Fungicide will readily mix with clean, neutral water and does not require agitation.

- Mixing Instructions:

- 1) Add one-half of the desired volume of water to the mixing or spray tank.
- 2) Add ZeroTol Broad-Spectrum Algaecide/Fungicide to water in tank and allow to stand for two minutes.
- 3) Fill tank with other half of water volume.

- ZeroTol Broad-Spectrum Algaecide/Fungicide is formulated with a surfactant for plants having waxy or hairy surfaces.

\* ZeroTol Broad-Spectrum Algaecide/Fungicide is a strong oxidizing agent and may react with residues of metal-based fungicides or supplements. Care should be used when applying ZeroTol Broad-Spectrum Algaecide/Fungicide as a foliar spray immediately following foliar applications of metal-based products.

## **USE RATES AND DIRECTIONS**

### **FOR GREENHOUSE SURFACES AND EQUIPMENT APPLICATIONS:**

For clean wood and non-porous hard-surfaces: Dilute between 3.3 mL and 20 mL of ZeroTol Broad-Spectrum Algaecide/Fungicide per litre of clean water. Use the higher concentration (i.e. 20 mL/L) when treating heavily soiled or contaminated areas.

#### **Directions:**

- 1) Sweep and remove all plant debris. Use power sprayer to wash all surfaces to remove loose dirt.
- 2) Use the appropriate dilution of ZeroTol Broad-Spectrum Algaecide/Fungicide (see use rates).
- 3) Apply solution with a sprayer or foamer to thoroughly wet all surfaces. Allow solution to remain in contact with surfaces for a minimum of 10 minutes, allow to air dry.
- 4) Heavy growths of algae and fungi may have to be scrubbed off following application and after scrubbing, reapply ZeroTol Broad-Spectrum Algaecide/Fungicide to the area.
- 5) Apply as part of a normal cleaning practice.

**Spray:** Spray until runoff. Allow surfaces to remain wet with solution for 10 minutes.

**Foam:** Apply ZeroTol Broad-Spectrum Algaecide/Fungicide as a foam treatment to enhance contact on wood surfaces, vertical surfaces and irregular surfaces such as metal grating and structural steel where contact is difficult to maintain with coarse spray treatments. Add a foaming agent to the spray tank that contains the diluted ZeroTol Broad-Spectrum Algaecide/Fungicide solution. Apply foam until the surface treated is completely covered and let stand for 10 minutes. Allow foam treated surface to air dry. Do not rinse.

### **FOR IRRIGATION SYSTEM APPLICATIONS:**

For use on non-food crops in greenhouses only.

For maintenance of water lines (minimum rate) and treatment of greenhouse flooded floors, flooded benches, recycled water systems, capillary mats and in humidification and misting systems. Fill with the appropriate ZeroTol Broad-Spectrum Algaecide/Fungicide dilution (see below) and let stand for 10 minutes. Heavily fouled systems must be cleaned before treatment.

**Line maintenance:** use 1 L ZeroTol Broad-Spectrum Algaecide/Fungicide per 10,000 L of water (1:10,000)

**Clean water:** Treat clean water with a solution containing 3.3 mL of ZeroTol Broad-Spectrum Algaecide/Fungicide for every liter of water.

**Contaminated water:** Shock- treat contaminated water with a solution containing 10 ml of ZeroTol Broad-Spectrum Algaecide/Fungicide for every litre of water.

### **FOR GREENHOUSE AND NURSERY APPLICATIONS:**

**As a soil or media drench:** ZeroTol is effective for the suppression of phytophthora root and stem rot (*Phytophthora* spp.) on ornamentals. Use as a soil drench at the time of seeding or transplanting, as well as a periodic drench throughout the plant's life. ZeroTol can also be used on potting soil and growing media prior to planting.

#### **Application:**

- 1) Use a dilution of 1:100 or 10 mL per litre of clean water.
- 2) Apply to soil or growing media to the point of saturation.
- 3) Wait fifteen minutes before planting or watering.

#### **As a foliar spray treatment in greenhouses:**

*ZeroTol Broad-Spectrum Algaecide/Fungicide works immediately on contact with any plant surfaces for control / suppression of certain fungi.* Apply ZeroTol Broad-Spectrum Algaecide/Fungicide to ornamental bedding plants and flowering plants. To ensure that this contact fungicide is effective, thorough coverage and wetting of the foliage is necessary.

#### **Application:**

- 1) Use a dilution of 1:100 or 10 mL per litre of clean water. Do not reuse already mixed solution, make fresh daily.
- 2) Spray, mist or fog plants in early morning or late evening.
- 3) Thoroughly wet all surfaces of plant, upper and lower foliage, including stems, branches and stalks to ensure full contact with plant and flower tissue.

#### **For mist propagation of cuttings and plugs** (using humidification and misting systems):

Inject ZeroTol Broad-Spectrum Algaecide/Fungicide into misting systems to suppress algae from becoming established in plant material during conditions of constant moisture.

#### **Application:**

- 1) Use a dilution of 1:1000 or 1 mL per litre of clean water. Do not reuse already mixed solution; make fresh daily.
- 2) Apply in misting system for four to ten consecutive days.
- 3) Reduce concentration to 1:5,000 and maintain continuous application throughout propagation cycle. At the first sign of disease, increase the concentration of ZeroTol Broad-Spectrum Algaecide/Fungicide back to 1:1,000.

**As a foliar spray treatment in the field:**

*ZeroTol Broad-Spectrum Algaecide/Fungicide works immediately on contact with any plant surface for control / suppression of certain diseases. Apply ZeroTol Broad-Spectrum Algaecide/Fungicide to nursery stock such as bedding plants and flowering plants. Good coverage and wetting of the foliage is necessary.*

**Application:**

- 1) Use a dilution of 1:100 or 10 mL per litre of clean water. Do not reuse already mixed solution, make fresh daily.
- 2) Spray, mist or fog plants and trees, including applications through irrigation or chemigation systems.
- 3) Thoroughly wet all surfaces of plant, upper and lower foliage, including stems, branches and stalks to ensure full contact with plant and flower tissue.

<b>Disease Controlled</b>	<b>Rate</b>	<b>NOTES</b>
Fusarium leaf spot ( <i>Fusarium</i> spp.) on Dracaena	10 mL ZeroTol Broad-Spectrum Algaecide/Fungicide per litre of clean water. Use 11-19 litres of mixed solution per 100 m <sup>2</sup> .	Spray diluted solution to achieve full and even coverage. Up to 3 applications may be used at a 7-day spray interval.
Rhizoctonia aerial blight ( <i>Rhizoctonia</i> spp.) on bedding plants, including Boston fern		

<b>Disease Suppressed</b>	<b>Rate</b>	<b>NOTES</b>
Xanthomonas leaf spot ( <i>Xanthomonas</i> spp.) on bedding plants, including English ivy	10 mL ZeroTol Broad-Spectrum Algaecide/Fungicide per litre of clean water. Use 11-19 litres of mixed solution per 100 m <sup>2</sup> .	Spray diluted solution to achieve full and even coverage. Up to 3 applications may be used at a 7-day spray interval.
Alternaria leaf spot ( <i>Alternaria</i> spp.) on bedding plants, including Schefflera		
Pseudomonas leaf spot ( <i>Pseudomonas</i> spp.)	10 mL Zerotol Broad-Spectrum Algaecide/Fungicide per litre of clean water.	Start foliar applications at the first sign of disease and/or when weather conditions are congenial for disease development. Spray plants to the point of run-off for thorough coverage. Apply sprays at 7-day intervals for a total of up to 5 applications.
Phytophthora root/stem rot	10 mL Zerotol Broad-	Start soil drench applications at the first sign of disease

( <i>Phytophthora</i> spp.)	Spectrum Algaecide/Fungicide per litre of clean water.	and/or when weather conditions are congenial for disease development. Apply at seeding, transplant and/or during crop growing period. Apply at 7-day intervals for a total of up to 5 applications.
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**FOR TURF APPLICATIONS:**

- Broad spectrum treatment for control of algae and fungi on turf.
- For use on all turf types such as commercial turf, lawns, athletic fields and golf course fairways, greens and tees.
- Use ZeroTol Broad-Spectrum Algaecide/Fungicide to control brown patch (*Rhizoctonia solani*), anthracnose (*Colletotrichum graminicola*) and algae (green and blue-green).
- ZeroTol Broad-Spectrum Algaecide/Fungicide controls on contact.

**For treatment of turf:** Use on golf course fairways, greens and tees of Bentgrass, Bluegrass, Fescue, Ryegrass, and their mixtures to control algae and fungal diseases.

- Optimum treatment time is early morning or late afternoon.
- For best results, apply immediately after grass has been cut.
- Applications can be made during wet or rainy weather.
- Use spray solution the same day it is prepared, do not store and reuse mixed spray solution.

Disease Controlled	Rate	NOTES
Anthracnose ( <i>Colletotrichum graminicola</i> )	190 mL ZeroTol Broad-Spectrum Algaecide/Fungicide in 11-19 litres of clean water/100 m <sup>2</sup> .	Spray diluted solution to achieve full and even coverage. Up to 5 consecutive applications may be used with a minimum 7-day spray interval between applications.
Brown Patch ( <i>Rhizoctonia solani</i> )	400 mL ZeroTol Broad-Spectrum Algaecide/Fungicide in 11-19 litres of clean water/100 m <sup>2</sup> .	Spray diluted solution to achieve full and even coverage. Up to 5 consecutive applications may be used with a minimum 7-day spray interval between applications.
Algae (Green and Bluegreen).	200 mL ZeroTol Broad-Spectrum Algaecide/Fungicide in 11-19 litres of clean water/100 m <sup>2</sup> .	Drench the soil to saturate the root systems in areas affected. Up to 5 consecutive applications may be used.

As this product is not registered for the control of pests in aquatic systems, DO NOT use to control aquatic pests.



Field sprayer application: **DO NOT** apply during periods of dead calm. Avoid application of this product when winds are gusty. **DO NOT** apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE) medium classification. Boom height must be 60 cm or less above the crop or ground.

**DO NOT** apply by air.

**Buffer zones:**

Use of the following spray methods or equipment **DO NOT** require a buffer zone: hand-held or backpack sprayer and spot treatment.

The buffer zones specified in the table below are required between the point of direct application and the closest downwind edge of sensitive terrestrial habitats (such as grasslands, forested areas, shelter belts, woodlots, hedgerows, riparian areas and shrublands), sensitive freshwater habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs and wetlands) and estuarine/marine habitats.

Method of application	Crop		Buffer Zones (metres) Required for the Protection of:				
			Freshwater Habitat of Depths:		Estuarine/Marine Habitats of Depths:		Terrestrial habitat
			Less than 1 m	Greater than 1 m	Less than 1 m	Greater than 1 m	
Field sprayer	Ornamentals		1	0	1	0	1
	Turf		1	0	1	1	1
Airblast sprayer	Trees	Early season	2	0	2	0	1
		Late season	1	0	1	0	1

**NOTICE TO USER:** This pest control product is to be used only in accordance with the directions on the label. It is an offence under the *Pest Control Products Act* to use this product in a way that is inconsistent with the directions on the label. The user assumes the risk to persons or property that arises from any such use of this product.