



ZeroTol[®]

Rates & Usage Protection Guide

*For Complete Greenhouse,
Nursery, and Turf BioSecurity*



BioSafe Systems[®]
Simply Sustainable. Always Effective.

Straight Talk
from the **PROS**

BIOSECURITY FOR GROWERS

BioSafe Systems' ZeroTol is designed to achieve the highest levels of BioSecurity in order to protect crops and profits. ZeroTol has a reduced-risk chemistry, zero-hour REI and allows no mutational resistance. ZeroTol works on contact, with results seen in 24–48 hours of application. Talk to one of our Technical Representatives to learn how BioSafe Systems can help you.

HARD SURFACE SANITATION

ZeroTol: General Sanitation

Application	oz. per Gallon	mL per Liter	Frequency of Application	Directions	Direct Injection
Pre-cleaned Tools, Pots, Trays: Dip Tank	0.5	3.9	As needed	Allow 10 minutes exposure to solution. Check proper dilution with test strips. Spray over top. Cover all surfaces.	1:300
Uncleaned Tools, Pots, Trays: Spray	2.5	20	As needed		1:50
Structures	0.5	3.9	Monthly	Volume of treatment solution: 2.5 gallons per 1,000 square feet	1:300
Concrete Walks, Gravel/Dirt Walks, Floors & Under Benches	1.25–2.5	10–20	Monthly or as needed	Volume of treatment solution: 3–5 gallons per 1,000 square feet	1:100–1:50
Capillary Mats	0.25	2.0	As needed	Power wash mats to clean off organic matter before spraying. Bi-weekly = 1:500	1:500
Evaporative Pads	1.28	10	As needed	To clean, spray pads at 1:100. To keep pads clean, treat recirculating water weekly at 1:500.	1:100
Foot Mats	0.75	5.9	Daily	Fill BioMat and refresh daily or as needed.	1:200

WATER TREATMENT

For best results, BioSafe Systems recommends shocking lines to remove biofilms before beginning any water treatment program. All rates for water treatment are based on average water. Individual cases may require specialized rates. For more information, contact BioSafe Systems.

ZeroTol: Water Treatment

Application	oz. per 1,000 Gallons	mL per 1,000 Liters	Frequency of Application	Directions	Direct Injection
Irrigation Line Shock Treatment	1280	10,000	As needed	Charge irrigation lines using a dilution rate of 1:100 or 1.25 oz. per gallon of water. Allow solution to remain in lines for 12–48 hours. Flush by opening flush valves or laterals to avoid clogging emitters.	1:100
Irrigation Water Curative	256	2,000	Continual or periodic	Rates will vary with the amount of biological loading and algae in the water. A water test and ZeroTol test kit are suggested.	1:500
Irrigation Water Preventative	51.2–12.8	400–100	Continual or periodic	Rates will vary with the amount of biological loading and algae in the water. A water test and ZeroTol test kit are suggested.	1:2,500–1:10,000

ZeroTol: Mist Propagation

Application	oz. per 1,000 Gallons	mL per 1,000 Liters	Frequency of Application	Directions	Direct Injection
Week 1	128	1,000	Every 3 days once plants are turgid	Direct Injection.	1:1,000
Week 2+	25.6	200	With each misting	Direct Injection.	1:5,000



PLANT & TURF PROTECTION

ZeroTol: Foliar Spray

Application	oz. per Gallon	mL per Liter	Frequency of Application	Directions	Direct Injection
Potted Crops and Bedding Plants: <i>Curative</i>	1.28	10	1–3 consecutive applications	Wet thoroughly.	1:100
Potted Crops and Bedding Plants: <i>Preventative</i>	0.5	3.9	Weekly		1:300
Nursery Crops: <i>Curative</i>	1.28	10	1–3 consecutive applications	Wet thoroughly.	1:100
Nursery Crops: <i>Preventative</i>	0.5	3.9	Weekly		1:300
Plugs	0.25–0.5	2.0–3.9	Weekly	Spray prior to algae forming.	1:500–1:300
Cuttings	0.25–0.5	2.0–3.9	Weekly	Spray at first sticking.	1:500–1:300
Cut Flowers	0.50	3.9	Prior to storage	Spray stems and foliage.	1:300

ZeroTol: Foliar Spray for Sensitive Plants - *Poinsettias, Begonias, Bromeliads, Petunias (in bloom) and Orchids*

Application	oz. per Gallon	mL per Liter	Frequency of Application	Directions	Direct Injection
Curative	0.5	3.9	1–3 consecutive applications	Wet thoroughly.	1:300
Preventative	0.25	2.0	Weekly		1:500

PRO TIP: Use non-ionic spreader/sticker for foliar applications to improve coverage of leaf surface.

ZeroTol: Drenching Applications

Application	oz. per Gallon	mL per Liter	Frequency of Application	Directions	Direct Injection
Curative	1.28	10	1–3 consecutive applications	Apply 1–2 fl. oz. of drench solution per inch of pot diameter.	1:100
Preventative	0.25	2.0	Weekly	Wet to saturate.	1:500

ZeroTol: Turf Applications

Application	mL per 100 Square Meters	Mixed Solution Liters per 100 Square Meters	Frequency of Application	Directions
Anthraxnose <i>Colletotrichum graminicola</i>	111	11.5	Weekly up to 5 consecutive applications	Spray diluted solution to achieve full and even coverage.
Brown Patch <i>Rhizoctonia solani</i>	111	11.5		
Algae (Green & Blue–Green)	200	19		

PRO TIP: Use non-ionic drift control wetting agent to improve coverage under collar towards the crown.



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ZEROTOL: DIRECT INJECTION STOCK TANK MIXING CHART

Injector Rate Setting	FINAL DILUTION RATIO DESIRED									
	1:100	1:200	1:300	1:500	1:600	1:1,000	1:2,000	1:2,500	1:5,000	1:10,000
1:15	19.2	9.6	6.4	3.8	3.2	1.9	1.0	0.8	0.4	0.2
1:50	64.0	32.0	21.4	12.8	10.7	6.4	3.0	2.6	1.3	0.6
1:100	ZeroTol*	64.0	42.7	25.6	21.3	12.8	6.4	5.4	2.6	1.2
1:200	n/a	ZeroTol*	85.4	51.2	42.7	25.6	12.8	10.2	5.1	2.5
1:300	n/a	n/a	ZeroTol*	76.8	64.0	38.4	19.2	15.4	7.7	3.8
1:500	n/a	n/a	n/a	ZeroTol*	106.7	64.0	32.0	25.6	12.8	6.4
1:1,000	n/a	n/a	n/a	n/a	n/a	ZeroTol*	64.0	51.2	25.6	12.8
1:2,000	n/a	n/a	n/a	n/a	n/a	n/a	ZeroTol*	102.4	51.2	25.6
1:4,000	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	102.4	51.2
1:5,000	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	ZeroTol*	64.0

DIRECTIONS:

1. Select desired dilution ratio column (ex. Mist Propagation 1:1,000).
2. Select injector ratio setting row.
3. Read across injector ratio setting row to final dilution ratio desired column.
4. Add ZeroTol to stock tank at rate given in ounces per gallon or mL/liter of finished stock solution.

Injector Rate Setting	FINAL DILUTION RATIO DESIRED									
	1:100	1:200	1:300	1:500	1:600	1:1,000	1:2,000	1:2,500	1:5,000	1:10,000
1:15	150 mL/liter	75 mL/liter	50 mL/liter	30 mL/liter	25 mL/liter	14.8 mL/liter	7.8 mL/liter	6.25 mL/liter	3.1 mL/liter	1.6 mL/liter
1:50	500 mL/liter	250 mL/liter	167 mL/liter	100 mL/liter	83.6 mL/liter	50 mL/liter	23.4 mL/liter	20.3 mL/liter	10.2 mL/liter	4.7 mL/liter
1:100	ZeroTol*	500 mL/liter	333 mL/liter	200 mL/liter	166.4 mL/liter	100 mL/liter	50 mL/liter	42.2 mL/liter	20.4 mL/liter	9.4 mL/liter
1:200	n/a	ZeroTol*	666 mL/liter	400 mL/liter	333.6 mL/liter	200 mL/liter	100 mL/liter	79.7 mL/liter	39.8 mL/liter	19.5 mL/liter
1:300	n/a	n/a	ZeroTol*	600 mL/liter	500 mL/liter	300 mL/liter	150 mL/liter	120.3 mL/liter	60.1 mL/liter	29.7 mL/liter
1:500	n/a	n/a	n/a	ZeroTol*	833.6 mL/liter	500 mL/liter	250 mL/liter	200 mL/liter	100 mL/liter	50 mL/liter
1:1,000	n/a	n/a	n/a	n/a	n/a	ZeroTol*	500 mL/liter	400 mL/liter	200 mL/liter	100 mL/liter
1:2,000	n/a	n/a	n/a	n/a	n/a	n/a	ZeroTol*	800 mL/liter	400 mL/liter	200 mL/liter
1:4,000	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	800 mL/liter	400 mL/liter
1:5,000	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	ZeroTol*	500 mL/liter

* ZeroTol denotes no stock tank mixing necessary. Inject directly from the ZeroTol container.

CORRECT MIXING PROCEDURE: Product amount plus water amount should equal one gallon.

For example: 64 oz. of ZeroTol + 64 oz. of water= 1 gallon of solution. **NOT:** 64 oz. of ZeroTol + 1 gallon of water= 1.5 gallons of solution.

COMPATIBILITY WITH ZEROTOL: ZeroTol is chemically compatible with many common pesticides, insecticides, and fertilizers but attention must be paid to mixing procedures. Never mix the ZeroTol concentrate with any other chemical or fertilizer concentrate in the absence of water. Fertilizer compatibility is best when ZeroTol is added through a dedicated injector or chemical proportioner (Anderson®/Dosatron®) when used in direct feed applications. Biological Compatibility: Heavy drenches of ZeroTol may have an effect on beneficial inoculants.

NOTE: ZeroTol CANNOT be tank-mixed with metal-based fungicides.

Check all chemicals to be mixed for their compatibility with ZeroTol and test for compatibility with a jar test before using. Be sure to use any ZeroTol tank-mix within hours of mixing. It is best to apply solutions of ZeroTol to plant material prior to applications of fungicides or supplements containing basic metal elements. As a rule, mix a solution of chemical first, then add the appropriate amount of the ZeroTol concentrate to the tank. There is no need for agitation, ZeroTol will go into solution immediately. Always refer to container labels. This is intended as a guide, not a complete listing of compatible products. Call 1.888.273.3088 (toll-free) for a complete compatibility listing.

For additional information on ZeroTol® call us at 860.290.8890