

# Tivano

Lacto-fermented liquid fungicide and bactericide

For suppression of powdery mildew on field cucurbits – Crop Group 9B (including cucumbers, squashes and pumpkins), greenhouse and field strawberries, roses and outdoor ornamentals including cut flowers; downy mildew on grapes (partial suppression); black spot on roses; bacterial canker on tomatoes; and angular leaf spot on greenhouse and field strawberries.

COMMERCIAL

READ THE LABEL BEFORE USING  
KEEP OUT OF REACH OF CHILDREN

## ACTIVE INGREDIENT

Citric Acid..... 10.73 g/L  
Lactic Acid..... 21.37 g/L  
(present as fermentation products of *Lactobacillus casei* strain LPT-111)

WARNING: CONTAINS THE ALLERGEN MILK (whey protein)

**REGISTRATION NUMBER: 30468**  
**PEST CONTROL PRODUCTS ACT**

CAUTION – SKIN IRRITANT  
DANGER – EYE IRRITANT

NET CONTENTS : 500 mL to 1000 L

Registered by:  
AEF GLOBAL Inc.  
925, des Calfats  
Lévis, QC G6Y 9E8  
(418) 838-4441  
Toll free help-line: 1-866-622-3222  
[www.aefglobal.com](http://www.aefglobal.com)

Batch #: 00-000-00  
Expiration date: 00/00/00

**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.

**DIRECTIONS FOR USE**

Shake well before use. Foliar treatment for crops listed below.

Angular leaf spot cautions: Do not use silicone-based surfactant when the angular leaf spot is active as surfactants can reduce efficacy against the disease when it is visible and active (water-soaked spots). If ALS is not active (spots are dry or not visible), Tivano can be used for powdery mildew with the addition of Xiameter surfactant.

<b>Crop</b>	<b>Disease</b>	<b>Rate/Concentration</b>	<b>Foliar spray volume</b>	<b>Interval of application</b>
Tomatoes (field)	Bacterial canker ( <i>Clavibacter michiganensis</i> )	12 L/ha	500 L/ha	5 – 10 days
Greenhouse and Field Strawberries	Powdery mildew ( <i>Sphaerotheca macularis</i> <i>f.sp.fragariae</i> )	1.0 to 1.4 % dilution in water solution (e.g. 10 L in 700 to 1000 L/ha) Add surfactant Xiameter OFX- 0309 fluid at 0.05% (see angular leaf spot cautions before using surfactant)	Apply in sufficient spray volume to ensure coverage of the underside of leaves	7 – 10 days
	Angular leaf spot ( <i>Xanthomonas fragariae</i> )	12 L/ha in a maximum spray volume of 700 L/ha or 1.7% solution in sufficient spray volume to ensure thorough coverage	Maximum of 700 L/ha. Note: Optimum performance may be observed with a pH of 6.0 when alkaline water is used	5 – 10 days
Field Cucurbits: Crop Group 9B (including squashes, pumpkins and cucumbers)	Powdery mildew ( <i>Podosphaera xanthii</i> )	12 - 16 L/ha	500-700 L/ha	7 – 10 days
Grapes	Partial suppression of downy mildew ( <i>Pseudoperonospora viticola</i> , <i>Syn. Plasmopara viticola</i> )	12-16 L/ha	Maximum of 600 L/ha	7 – 10 days
Roses	Black spot ( <i>Diplocarpon rosae</i> )	1.5 - 2.5% dilution in water solution	800 L/ha	5 – 10 days
	Powdery mildew ( <i>Sphaerotheca pannosa</i> )	1.5 - 2.5% dilution in water solution	800 L/ha	7 – 10 days

Greenhouse and outdoor ornamentals including cut flowers	Powdery Mildew ( <i>Podosphaera fusca</i> syn. <i>Podosphaera xanthii</i> ; <i>Golovinomyces cichoracearum</i> syn. <i>Erysiphe cichoracearum</i> )	2% dilution (20 L/1000 L water)	1000 L/ha	7 days
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The product can leave white hydrosoluble residues on treated crop. The addition of Xiameter OFX-0309 Fluid at 0.015% can reduce the appearance of the residue on fruit. Use of surfactant Liberate at 0.25% (v/v) can help achieve better coverage of leaves and better efficacy. Other suggested surfactants: Agral 90 at 0.1% (v/v) and Xiameter OFX-0309 Fluid at 0.05% (v/v). Under conditions of moderate to high disease pressure, use the higher rate and shorter application intervals. For maximum effectiveness, apply Tivano prior to, or at the early stages of disease development. Apply in sufficient volume to ensure full coverage for effective control. Use nozzles that will provide excellent coverage of the plant foliage (ex: ConeJet). The spray quality should be very fine. Both sides of leaves should be covered with the product. Begin applications when conditions are conducive to disease development.

Avoid application to reactive metals such as aluminum, tin, iron, or items such as fencing or lawn furniture in order to prevent staining, mottling, or otherwise interfering with finished metal surfaces.

The pre-harvest interval (PHI) is 0 (zero) days.

Note: Follow instructions for mixing and applying this product carefully as this product may cause injury to crops and other plants.

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

DO NOT contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes.

DO NOT apply by air.

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

#### PRECAUTIONS

KEEP OUT OF REACH OF CHILDREN. Prolonged skin contact may cause irritation. Direct eye contact may cause irritation. Avoid contact with skin, eyes or clothing. Avoid breathing mist. Wear long-sleeved shirts, long pants, water proof gloves, and eye goggles and shoes plus socks when handling, mixing,/loading or applying, and during all clean-up/repair activities. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

Re-entry Interval: Do NOT re-enter or allow re-entry into treated areas for 4 hours or until sprays have dried, unless wearing appropriate personal protective equipment including long-sleeved shirt, long pants, shoes plus socks, and waterproof gloves.

#### FIRST AID

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

**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.

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

#### TOXICOLOGICAL INFORMATION

Treat symptomatically

#### ENVIRONMENTAL PRECAUTIONS

This product may cause injury to other plants if not mixed and applied properly. Follow instructions for mixing and applying carefully.

To reduce runoff from treated areas into aquatic habitats avoid application to areas with a moderate to steep slope, compacted soil, or clay.

Avoid application when heavy rain is forecast.

Contamination of aquatic areas as a result of runoff may be reduced by including a vegetative strip between the treated area and the edge of the water body.

#### STORAGE

Keep in a cool place, away from direct sun rays. After extended storage, shake or stir the product thoroughly to assure a uniform suspension. Keep from freezing. Store in original container out of reach of children.

## 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.