

# Terraguard<sup>®</sup> SC

Ornamental, Non-Bearing Fruit (Trees/Shrubs) and Greenhouse Grown Vegetables (Tomato And Cucumber) Fungicide

## COMPOSITION

Active Ingredient: (% by weight)

Triflumizole

1-[1-[[4-chloro-2-(trifluoromethyl) phenyl] imino]-2-propoxyethyl]-

1H-imidazole.....42.14%

Other Ingredients: .....57.86%

Total:..... 100.00%

Contains 4 lb triflumizole per gallon.

## KEEP OUT OF REACH OF CHILDREN CAUTION

**First Aid, Precautionary Statements and Directions for Use are in the attached booklet. If booklet is missing, contact MacDermid Agricultural Solutions, Inc. or an authorized dealer.**

Manufactured for:  
MacDermid Agricultural Solutions, Inc.  
245 Freight Street  
Waterbury, CT 06702-1818

EPA REG. NO. 400-521

**(BO)** EPA Est. No. 037429-GA-002

**(BT)** EPA Est. No. 037429-GA-001

**(CJ)** EPA Est. No. 070815-GA-001

The EPA Establishment Number is identified by the circled letters above that match the first two letters in the batch number.

Net  
Contents  
**1**  
quart

007/120214

**SAP#521090-A** 007 (0316)



## FIRST AID

### IF SWALLOWED

- Call a poison control center 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 the poison control center or doctor.
- Do not give anything by mouth to an unconscious person.

**EMERGENCY ASSISTANCE:** Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

**24 HOUR EMERGENCY PHONE:  
1-866-928-0789 or 1-215-207-0061**

FOR PRODUCT USE INFORMATION: CALL 1-866-761-9397

## PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION

Harmful if swallowed. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or the toilet.

### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical-resistant to this product are listed below.

**Applicators and Other Handlers Must Wear:** A long-sleeved shirt & long pants; chemical-resistant gloves made of any waterproof material; shoes plus socks.

### USER SAFETY REQUIREMENTS

Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

## **ENGINEERING CONTROLS**

When handlers use closed systems or enclosed cabs 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:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE 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**

This product is toxic to fish. 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 cleaning equipment or disposing of equipment washwaters or rinsate. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas.

## **PHYSICAL or CHEMICAL HAZARDS**

Do not use or store near heat or open flame.

## **DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Read entire label directions before using.

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 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), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

coveralls; chemical-resistant gloves made of any waterproof material; and shoes plus socks.

### **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.

## STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE:** Store in a cool, dry, secure location.

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**CONTAINER DISPOSAL** - Nonrefillable container. Do not reuse or refill this container.

**For containers equal to or less than 5 gallons in size:** Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container  $\frac{1}{4}$  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 container for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, by incineration or if allowed by State and local authorities, by burning. If burned, stay out of smoke.

**Recycling:** Once cleaned, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling. To find the nearest site, contact your chemical dealer or manufacturer or contact the Ag Container Recycling Council (ACRC) at 1-877-952-2272 (toll free) or [www.acrecycle.org](http://www.acrecycle.org).

## PRODUCT INFORMATION

TERRAGUARD® SC fungicide is effective in controlling a variety of diseases on ornamental plants, greenhouse grown vegetables (tomato and cucumber) and non-bearing fruit trees/shrubs that will not bear fruit for a minimum of 12 months. TERRAGUARD SC can be used in the following areas:

- Greenhouses and shadehouses
- Nurseries, including Christmas tree / conifer plantations.
- Interiorscapes

## APPLICATION INSTRUCTIONS

TERRAGUARD SC provides excellent protectant activity and is most effective when applied prior to the onset of disease following specified rates. When not used in preventative programs, TERRAGUARD SC can also be applied after disease symptoms appear and provide good eradicant activity.

Applications can be made via foliar spray, soil drench, cutting soak and chemigation, using high and low volume hand guns, overhead booms / sprinklers and backpack spray applicators.

### ORNAMENTALS AND NON-BEARING FRUIT TREES/ SHRUBS

**FOLIAR SPRAYS:** The specified rate of application is 1 to 2 gallons of spray mixture to cover 200 sq ft of area or 200 to 400 gallons per acre. Required spray volumes will vary greatly depending on both the size and spacing of the plant, and should only be enough to ensure thorough coverage of the foliage just prior to the point of drip.

**SOIL DRENCHES:** Apply the specified rate of TERRAGUARD SC according to the guidelines below. The application should be made to plants which have been well watered one day prior to application. For best results, irrigation with additional water should not be made until 24 hours after application.

In Nassau and Suffolk Counties of New York, soil drench application is limited to container grown ornamentals only. Do not apply Terraguard SC as a soil drench to field grown or outdoor grown ornamentals in Nassau and Suffolk Counties.

## FOR CONTAINER GROWN PLANTS

Pot Diameter (inches)	Minimum Drench Volume (fl. oz./pot)
4	1.5
5	3
6	4
8	7
10	13
12	18

## FOR BED AND BENCH GROWN PLANTS

Soil Depth to be Drenched (inches)	Coverage for TERRAGUARD SC Drench Mix fl oz/sq ft	Coverage for sq ft/100 gal
2 or less	16	800
3	24	530
4 or more	32	400

## USE AND RATE OF APPLICATION - ORNAMENTALS

FOLIAR DISEASES	FLUID OUNCES TERRAGUARD SC PER 100 GAL (TSP/GAL)	APPLICATION INSTRUCTIONS
Aerial Blight ( <i>Rhizoctonia solani</i> )	4 - 8 ( $\frac{1}{4}$ - $\frac{1}{2}$ )	<p>For optimum disease control, initial applications should be made prior to, or at very first sign of disease.</p> <p>Repeat applications at 7 to 14 day intervals as needed.</p> <p>Use higher specified rate for initial applications under higher disease pressure. Low rates can be used for subsequent applications and preventative sprays.</p> <p>For powdery mildew control:</p> <ul style="list-style-type: none"> <li>• Use the 16 oz/100 gal rate only for initial applications to existing infections.</li> <li>• Use 4 to 8 oz/100 gal for subsequent applications and preventative sprays.</li> </ul>
Botrytis Blight ( <i>Botrytis cinerea</i> )		
Leaf Spot ( <i>Alternaria</i> spp.) ( <i>Exserohilum rostratum</i> ) ( <i>Helminthosporium rostratum</i> )		
Petiole Rot ( <i>Myrothecium roridum</i> )		
Powdery Mildew ( <i>Erysiphe cichoracearum</i> ) ( <i>Erysiphe lagerstromiae</i> ) ( <i>Oidium</i> spp.) ( <i>Podosphaera</i> spp.) ( <i>Sphaerotheca pannosa</i> )	4 - 16 ( $\frac{1}{4}$ - 1)	
Rust ( <i>Puccinia</i> spp.) ( <i>Gymnosporangium</i> spp.)		
Scab ( <i>Venturia</i> spp.)		

## USE AND RATE OF APPLICATION - ORNAMENTALS (cont.)

SOIL BORNE DISEASES	FLUID OUNCES TERRAGUARD SC PER 100 GAL (TSP/GAL)	APPLICATION INSTRUCTIONS
Black Root Rot (Thielaviopsis spp.)	2 - 8 ( $\frac{1}{8}$ - $\frac{1}{2}$ )	Apply soil drenches at 2 to 4 week intervals as needed. Use higher specified rate under heavy disease pressure.
Cylindrocladium Root Rot and Petiole Rot (Cylindrocladium spathiphylli)	4 - 8 ( $\frac{1}{4}$ - $\frac{1}{2}$ )	Apply soil drenches at 2 to 4 week intervals as needed. Use higher specified rate under heavier disease pressure which can occur under warmer conditions. <b>NOTE:</b> Applications may be made as a heavy spray over the foliage how ever, the volume applied should be the same as that required for the soil drench to insure adequate soil penetration.
Cylindrocladium Root Rot, Wilt and Crown Canker (Cylindrocladium scoparium) (Cylindrocladium theae)	12 - 16 ( $\frac{3}{4}$ - 1)	<b>FOR PLANTS BEING PROPAGATED:</b> The cutting soak plus soil drench application may be necessary to provide control, therefore treatment should consist of both methods of application. <b>Pre-stick cutting soak:</b> Soak cuttings for 10 minutes. Slight agitation of the mixture is required to maintain proper suspension.
	6 - 8 ( $\frac{3}{8}$ - $\frac{1}{2}$ )	<b>Soil Drench:</b> The higher specified rate should be used under heavier disease pressure. Apply additional drenches at 2 to 3 week intervals as needed. Normally 2 to 4 applications are sufficient. <b>NOTE:</b> Do not exceed 8 oz/600 sq ft of bed or bench area as injury and/or inhibition of rooting may occur.
	6 - 12 ( $\frac{3}{8}$ - $\frac{3}{4}$ )	<b>FOR PLANTS WITH ESTABLISHED ROOT SYSTEMS:</b> <b>Soil Drench:</b> Use higher specified rate under heavier disease pressure. Lower rates may be used in subsequent applications. Apply additional drenches at 2 to 4 week intervals as needed. Normally 2 to 4 applications are sufficient. If reinfection occurs at a later date, retreatment may be necessary.
Fusarium wilt (Fusarium spp.)	4 - 8 ( $\frac{1}{4}$ - $\frac{1}{2}$ )	Apply soil drenches at weekly intervals as needed. Use higher specified rate under heavy disease pressure.
Root Rot (Rhizoctonia solani)	4 - 8 ( $\frac{1}{4}$ - $\frac{1}{2}$ )	Apply soil drenches at 2 to 4 week intervals as needed. Use higher specified rate under heavy disease pressure.



## **GREENHOUSE GROWN VEGETABLES (Tomato and Cucumber)**

**FOLIAR SPRAYS:** The specified rate of application is 0.5 to 1 gallon of spray mixture to cover 200 sq ft of area or 100 to 200 gallons per acre. Required spray volumes will vary greatly depending on both the size and spacing of the plant, and should only be enough to ensure thorough coverage of the foliage just prior to the point of drip.

### **USE AND RATE OF APPLICATION- GREENHOUSE GROWN VEGETABLES (Tomato and Cucumber)**

<b>VEGETABLE CROP</b>	<b>DISEASE</b>	<b>FLUID OUNCES TERRA-GUARD SC PER 100 GAL</b>	<b>APPLICATION INSTRUCTIONS</b>
Cucumber (including greenhouse transplants)  Tomato (including greenhouse transplants)	Powdery Mildew	2 to 4  (equivalent of 0.125 to 0.25 lb ai/A at 200 GPA)	Apply Terraguard SC only as a foliar spray. Begin applications at first sign of disease development. Use the higher specified rate for initial applications under existing disease pressure. The lower rate can be used for subsequent applications and preventative sprays. Use higher spray volumes for large plants and dense crop canopies. A non-ionic surfactant may be included in the tank mixture.

100 gallons of water will treat ~ 20,000 to 40,000 sq ft

Do not apply more than 40 fl oz of Terraguard SC per acre (1.25 lb ai/A) per cropping system.

Retreatment Interval: Minimum 7 days, recommended is 7 - 14 days.

Preharvest Interval (PHI): Applications can be made up to the day of harvest.

For use in commercial greenhouse production only.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

### **PLANT TOLERANCE:**

When used on bedding plant plugs, do not exceed 2 fl oz/100 gal water.

Some cultivars of impatiens have shown a sensitivity to applications of TERRAGUARD SC.

- DO NOT USE ON IMPATIENS PLUGS.

- ON IMPATIENS TRANSPLANTS, DO NOT EXCEED 2 FL OZ/100 GAL

Neither the manufacturer nor the seller has determined whether or not TERRAGUARD SC can be used safely on all ornamental plants. Prior to any large scale application, the user should determine the safety of TERRAGUARD SC by testing a small number of the type of plants to be treated at the recommended rates. Observe the treated plants for symptoms of phytotoxicity which may occur as stunting, foliage burn or, for plants being propagated, as an inhibition of rooting. This may take up to two months for species that do not root readily.

### **USE DIRECTIONS FOR CHEMIGATION:**

In addition to the above use rates the following restrictions must be observed when using this product in any type of irrigation system:

Apply this product only through the following systems:

- 1) Overhead sprinklers such as impact or micro-sprinklers,
- 2) Micro-irrigation such as spaghetti-tube or individual tube irrigation,
- 3) Mist-type irrigation such as fog systems,
- 4) Hand-held calibrated irrigation equipment such as the hand-held wand with injector.

Do not apply this product through any other type of irrigation system. Crop injury or lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of treated water.

If you have any questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

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.

A person knowledgeable of the chemigation system and responsible for its operation or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

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.

The pesticide injection pipeline must contain a functional, automatic, quick closing check valve to prevent the flow of fluid back toward the injection pump.

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.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops. 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.

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.

Do not apply when wind speed favors drift beyond the area intended for treatment.

### **SYSTEMS CONNECTED TO PUBLIC WATER SYSTEMS**

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 of the year.

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 systems should 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.

The pesticide injection pipeline must contain a functional, automatic, quick closing check valve to prevent the flow of fluid back toward the injection pump.

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.

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 the pesticide distribution is adversely affected.

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Do not apply when wind speed favors drift beyond the area intended for treatment.

### **IMPORTANT NOTICE**

The directions and specified use rates on this label are derived from research to ensure correct product usage. Insufficient control may result from extremes in weather conditions, or lack of following label instruction. The use of this product is beyond the control of MacDermid Agricultural Solutions, Inc. and the seller. Buyer is responsible for proper use as per directions and acceptance of product performance under extraordinary or unusual weather conditions.

To the extent consistent with applicable law, MacDermid Agricultural Solutions, Inc. is not responsible for losses or damage resulting from using TERRAGUARD SC in any manner not specifically recommended.

Seller warrants that this product conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with the directions and instructions specified on the label under normal conditions of use, but neither this warranty of merchantability nor any other warranty of merchantability or fitness for a particular purpose, express or implied, extends to the use of this product, contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable to seller, the buyer assumes the risk of any such use.

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1H-imidazole.....42.14%

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Total: .....100.00%

Contains 4 lb triflumizole per gallon.

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### FIRST AID

**IF SWALLOWED:** Call a poison control center 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 the poison control center or doctor. Do not give anything by mouth to an unconscious person.

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### STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE:** Store in a cool, dry, secure location.

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**CONTAINER DISPOSAL** - Nonrefillable container. Do not reuse or refill this container.

**For containers equal to or less than 5 gallons in size:** Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 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 container for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, by incineration or if allowed by State and local authorities, by burning. If burned, stay out of smoke.

**Recycling:** Once cleaned, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling. To find the nearest site, contact your chemical dealer or manufacturer or contact the Ag Container Recycling Council (ACRC) at 1-877-952-2272 (toll free) or [www.acrecycle.org](http://www.acrecycle.org).

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**NET CONTENTS: 1 quart**