



# TerraClean® 5.0

## BROAD SPECTRUM BACTERICIDE/FUNGICIDE

### SOIL TREATMENT FOR THE CONTROL OF SOIL-BORNE PLANT PATHOGENS

#### 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 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 the poison control center.</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>

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For emergency information on TerraClean 5.0, call the National Pesticides Information Center at 1-800-858-7378, 6:30AM to 4:30PM Pacific Time (PT), seven days a week. During other times, call the Poison Control Center at 1-800-222-1222.

#### NOTE TO PHYSICIAN

Probable mucosal damage may contraindicate the use of gastric lavage.

#### FOR AGRICULTURAL AND HORTICULTURAL USE ONLY

#### ACTIVE INGREDIENT:

Hydrogen Dioxide.....	27.0%
Peroxyacetic Acid.....	5.0%
INERT INGREDIENTS:.....	68.0%
TOTAL: .....	100.0%

### BiSafe Systems L.L.C.

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EPA Establishment No. EPA Est. No. 60156-IL-001

1764-0

**PRECAUTIONARY STATEMENTS  
HAZARDS TO HUMAN AND DOMESTIC ANIMALS**

**DANGER**

**CORROSIVE:** Causes irreversible eye damage. Causes skin irritation or temporary discoloration on exposed skin. May be fatal if swallowed. Do not breathe vapor. Do not get in eyes, on skin or on clothing. Wash thoroughly with soap and water after handling. 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 undiluted product 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.

**USER SAFETY RECOMMENDATIONS**

Users should wash hands thoroughly with soap and water before eating, drinking, chewing gum, using tobacco or using the toilet. 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**

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 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.

This pesticide is toxic to birds. Treated seed exposed on soil surface may be harmful to birds.

Do not contaminate water when disposing of equipment washwaters or rinsate. Exposed treated seed may be hazardous to other wildlife. Dispose of all excess treated seed and seed packaging by burial away from bodies of water.

Do not apply directly to treated, finished drinking water reservoirs

or drinking water receptacles when the water is intended for human consumption.

**PHYSICAL AND CHEMICAL HAZARDS**

**Corrosive.** Strong oxidizing agent. Do not use in concentrated form. Mix only with water in accordance with label instructions. Never bring concentrate 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) 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.

There is a restricted entry of zero (0) hours for this product.

**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.

TerraClean 5.0 works by surface contact with the soils being treated. It is important to ensure that all surfaces are thoroughly wetted and that sufficient quantities of the finished solution are applied to penetrate the soil being treated. Areas treated with TerraClean 5.0 do not need to be covered with tarps or protective plastic. TerraClean 5.0 is not a fumigant.

TerraClean 5.0 is effective for the control of the following soil borne

pathogens: *Botrytis*, *Erwinia* (soft rot), *Fusarium* (root rot, leaf spot, Pink Snow Mold) - *Phytophthora* (blight, root rot) – *Pythium* (root rot) – *Rhizoctonia* (blight, stem rot) - *Thielaviopsis* (root rot) – *Verticillium* (wilt).

Use TerraClean 5.0 as a direct soil treatment as a pre-plant application, at seeding or transplanting, and as a periodic soil treatment throughout the plant's life up to the day of harvest.

The performance of TerraClean 5.0 is not affected by fumigation. Use TerraClean 5.0 on fumigated and unfumigated soil.

TerraClean 5.0 can be applied to the soil up to and including the day of harvest.

**Compatibility** - TerraClean 5.0 works best when diluted with water containing low levels of organic or inorganic materials, and with water having a neutral pH. Thoroughly rinse out tank with water before mixing. TerraClean 5.0 will readily mix with clean, neutral water and does not require agitation.

TerraClean 5.0 has not been fully evaluated with all pesticides, fertilizers, adjuvants and non-ionic surfactants. Do not inject TerraClean 5.0 into any irrigation system or combine this product in any spray tank with pesticides, surfactants or fertilizers before testing TerraClean 5.0 for compatibility. To ensure compatibility, conduct a compatibility test as follows:

According to labeling rates and test container size, determine proportional amounts of products to be tested. Using a non-metal container with a tightly closing lid, add the proportional amount of finished TerraClean 5.0 then add additional products in the following order: wetttable powders, water dispersible granules, 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.

#### **APPLICATION DIRECTIONS: SOIL BACTERICIDE/FUNGICIDE**

**SOIL TREATMENT PRIOR TO SEEDING OR TRANSPLANTING** – Cultivate the soil prior to treatment. Break up compacted soil and clods to loosen soil completely. Mix a 1:100 dilution or 128 fl. oz of TerraClean 5.0 per 100 gallons of setting water. Make banded or broadcast applications of 25 to 100 gallons of solution per acre-row either prior to planting or at the time of planting. TerraClean 5.0 will not harm seedlings or plants when applied at labeled rates. In fields with a history of disease pressure, use the 100 gallons of mixed solution per acre-row rate.

**SOIL TREATMENT WITH ESTABLISHED PLANTS OR SEEDLINGS** – Apply TerraClean 5.0 at any stage of plant growth as a soil treatment. Make applications using soil drench, flood or drip irrigation. Ensure that soil moisture of the beds is at or near field capacity prior to TerraClean 5.0 application.

**Soil Drench:** Apply 25 fluid ounces of TerraClean 5.0 per 200 gallons of water per 1,000 square feet of soil to be treated.

**Flood Irrigation:** Inject TerraClean 5.0 through a metered system using one gallon of TerraClean 5.0 per 1,000 gallons of water used.

**Drip Irrigation:** Apply TerraClean 5.0 through the drip tape at a rate of 12-27 fl. oz per 1,000 feet of row. Inject TerraClean 5.0 through a metered system using one gallon of TerraClean 5.0 per 1,000 gallons of water used.

Apply first treatment during the first drip irrigation cycle. Apply two additional treatments at 7 – 14 day intervals. Under severe disease conditions, apply at 7-day intervals using the highest rate. Under severe disease conditions and during periods of rainy weather, apply TerraClean 5.0 immediately following rain to suppress the spread of disease and help oxygenate the soil. Combine lower rates of TerraClean 5.0 with other non-metal based fungicides.

<b>Row Center Spacing</b>	<b>Rate of TerraClean 5.0</b>	<b>Application Instructions</b>
5 1/2 to 6 ft.	128 – 192 fl. oz. per acre.	<ul style="list-style-type: none"><li>• Apply through irrigation systems using a 45 to 90 minute run time.</li><li>• Repeat applications at 7 to 14 day intervals</li></ul>

**PRE-PLANT SOIL TREATMENT FOR CONSECUTIVE CROPPING APPLICATIONS** – Use TerraClean 5.0 when crops are grown consecutively in the same soil during a growing season. One week prior to planting new crop, apply to the soil through the irrigation system. Apply at a rate of 3-5 gallons of TerraClean 5.0 per acre in 1,500 – 5,000 gallons of water. Following application, run irrigation system to ensure all TerraClean 5.0 has been flushed from the system into the soil. TerraClean 5.0 will not harm seedlings or plants when applied at labeled rates. In fields with a history of disease pressure, use the 5 gallons per acre rate.

#### **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 suspension without any agitation.
4. Do not apply TerraClean 5.0 in conjunction with any other pesticides or fertilizers; this has the potential to cause reduced performance of the product.

#### 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-ventilated 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. 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 DISPOSAL (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.

**CONTAINER DISPOSAL (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.

#### WARRANTY

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, ineffectiveness 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. To the extent consistent with applicable law, all such risks shall be assumed by Buyer and User.

BIOSAFE SYSTEMS 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 or beyond the control of Seller or BIOSAFE SYSTEMS. To the extent consistent with applicable law, BIOSAFE SYSTEMS makes no warranties of merchantability or of fitness for a particular purpose, nor any other expressed or implied warranty except as stated in this warranty.

To the extent consistent with applicable law, BIOSAFE SYSTEMS or Seller in no event will 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 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 OR SELLER, THE REPLACEMENT OF THE PRODUCT.

To the extent consistent with applicable law, BIOSAFE SYSTEMS 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.

# BiSafe Systems<sub>L.L.C.</sub>

For additional information on TerraClean® 5.0, toll-free at 1.888.273.3088 or visit [www.biosafesystems.com](http://www.biosafesystems.com).