



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

December 19, 2016

Donna Bishel  
BioSafe Systems, LLC  
22 Meadow Street  
East Hartford, CT 06108

Subject: Label Amendment – Add Optional Label Claims, Alternate Brand Name, and Container Size  
Product Name: SaniDate 12.0  
EPA Registration Number: 70299-18  
Application Date: September 6, 2016  
Decision Number: 523244

Dear Ms. Bishel:

The amended label referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act, as amended, is acceptable. This approval does not affect any conditions that were previously imposed on this registration. You continue to be subject to existing conditions on your registration and any deadlines connected with them.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. In accordance with 40 CFR 152.130(c), you may distribute or sell this product under the previously approved labeling for 18 months from the date of this letter. After 18 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR 152.3.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

The alternate brand name TerraStart has been added to the product record.

Your release for shipment of the product constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance

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EPA Reg. No. 70299-18  
Decision No. 523244

with FIFRA section 6. If you have any questions, please contact Terria Northern by phone at 703-347-0265, or via email at [northern.terria@epa.gov](mailto:northern.terria@epa.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "John Hebert" with a stylized flourish at the end.

John Hebert, Chief  
Regulatory Management Branch I  
Antimicrobials Division (7510P)  
Office of Pesticide Programs

Enclosure: Approved Label

# SaniDate® 12.0

FOR COMMERCIAL USE

**(Alternate Brand Name: TerraStart)**

**ACTIVE INGREDIENTS:**

Hydrogen Peroxide..... 18.5%

Peroxyacetic Acid..... 12.0%

**OTHER INGREDIENTS:**..... 69.5%

**Total:**..... 100.00

**ACCEPTED**

Dec 19, 2016

Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 70299-18

**DANGER - PELIGRO**  
**STRONG OXIDIZING AGENT**  
**KEEP OUT OF REACH OF CHILDREN**

*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.)

<b>FIRST AID</b>	
<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 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 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>
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-222-1222 for emergency medical treatment information.	
<b>NOTE TO PHYSICIAN</b> - Probable mucosal damage may contraindicate the use of gastric lavage.	

**Sold by:** BioSafe Systems LLC, 22 Meadow St, East Hartford, CT 06108; (888) 273-3088

**EPA Registration No.:** 70299-18

**Batch Code** \_\_\_\_\_

**EPA Establishment No.:** 067441-IL-001, 089546-NV-001, 082521-GA-001

**Net Contents:** (5, 30, 55, 275, 330 gallons)

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

**DANGER: CORROSIVE.** Causes irreversible eye damage and skin burns. May be fatal if inhaled or absorbed through skin. Do not get in eyes, on skin, or on clothing. Harmful if swallowed. Do not breathe vapors or spray mist. When exposed to vapors or spray mist wear a respirator with an organic vapor removing cartridge with a prefilter approved for pesticides (MSHA/NIOSH approval prefix TC-23C), or a canister approved for pesticides (MSHA/NIOSH approval prefix TC-14G), or a NIOSH approved respirator with an organic vapor (OV) cartridge or canister with any N, R, P, or HE prefilter.

Wear chemical resistant goggles, rubber gloves and protective clothing when handling this product. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove contaminated clothing and wash before reuse.

**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.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

Applicators and handlers must wear coveralls over long-sleeved shirt, long pants, and chemical resistant footwear plus socks. When mixing and loading wear a chemical resistant apron. For overhead exposure wear chemical-resistant headgear. Wear protective eyewear (goggles, face shield, or safety glasses) and chemical resistant gloves. When cleaning equipment wear a chemical resistant apron.

Follow manufacturer's instructions for cleaning / maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product. Do not reuse them.

**USER SAFETY RECOMMENDATIONS**

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 pesticide is toxic to birds and fish. For terrestrial uses: 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 disposing of equipment washwater or rinsate.

This product is highly toxic to bees and other pollinating 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 or other pollinating insects 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.

Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

**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 through any irrigation system unless the chemigation instructions on this label are followed. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. 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 apply to the uses of this product that are covered by the Worker Protection Standard.

##### For enclosed environments:

There is a restricted entry of one (1) hour for this product when applied via spraying to surfaces, equipment, structures and non-porous surfaces in enclosed glasshouses and greenhouses. PPE requirement 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 worn over long-sleeved shirt and pants, waterproof gloves and shoes plus socks.

There is a restricted entry of zero (0) hours for pre-plant dip, seed treatment, soil drench, mop, sponge, dip, soak, rinse or other non-spraying application methods when used in enclosed environments such as glasshouses and greenhouses.

##### For field applications:

There is a restricted entry of zero (0) hours for pre-plant dip, seed treatment, soil drench or other non-spraying application methods.

For use in commercial, agricultural, and horticultural irrigation water treatment applications  
For the treatment of water for industrial and commercial water treatment systems  
For the treatment of fruit, nut and vegetable processing waters  
For use in food processing operations

The main areas of use include:

- Fruit and vegetable processing facilities
- Commercial, industrial, agricultural and horticultural facilities
- Agricultural field irrigation water and systems

SaniDate<sup>®</sup> 12.0 works best when diluted with water containing low levels of organic or inorganic materials. Thoroughly rinse out tank with water before mixing concentrate. SaniDate<sup>®</sup> 12.0 will readily mix with clean water and does not require agitation.

SaniDate<sup>®</sup> 12.0 is effective on the use sites listed which are manufactured from the following materials; linoleum, formica, vinyl, glazed porcelain, plastic, sealed fiberglass, polyethylene, CPVC, PVC, aluminum, steel, stainless steel, sealed wood, glazed tile, and glass.

#### **CONTROL OF SPOILAGE AND DECAY CAUSING ORGANISMS IN PROCESS WATERS**

SaniDate<sup>®</sup> 12.0 can be used in water or ice that contacts raw or fresh, post-harvest, or further processed fruits and vegetables for the control of spoilage and decay causing non-public health organisms.

#### **TREATMENT OF FRUIT AND VEGETABLE PROCESSING WATERS**

Use SaniDate<sup>®</sup> 12.0 for the treatment of waters used in the processing of raw fruits, nuts and vegetables, sprouts and seeds. Mix SaniDate<sup>®</sup> 12.0 with water either batch-wise or continuously at a rate of 25.6 to

107.0 fl. oz. of SaniDate® 12.0 solution to 1,000 gallons water. This will provide 200 to 833 ppm of SaniDate® 12.0, or 24 to 100 ppm 100% peracetic acid in the use solution. The fruits and vegetables can be sprayed or submerged in the resulting solution for a minimum contact time of 45 seconds, followed by adequate draining. At this use dilution, SaniDate® 12.0 will control the growth of spoilage and decay causing organisms in process waters and on the surface of fresh cut or post harvest fruits and vegetables. Do not rinse.

#### **TREATMENT OF PROCESSED FRUIT AND VEGETABLE SURFACES TO CONTROL GROWTH OF NON-PUBLIC HEALTH MICROORGANISMS THAT CAN CAUSE SPOILAGE**

Add SaniDate® 12.0 at a dilution rate of 4.0 ounces per 100 gallons of water. Ensure that the solution is thoroughly mixed. This provides 59 ppm of hydrogen peroxide and 38 ppm of peroxyacetic acid. Apply the solution as a spray or dip. Allow a minimum contact time of 45 seconds. This use complies with the requirements of 21 CFR 173.315 (a) (5). A potable water rinse is not required following application of the diluted solution.

#### **POST HARVEST APPLICATIONS**

SaniDate® 12.0 may also be used to control the growth of spoilage and decay causing bacterial and fungal diseases on fruits and vegetables in post harvest storage. Mix SaniDate® 12.0 with water either batch-wise or continuously at a rate of 25.6 to 107.0 fl. oz. of SaniDate® 12.0 solution to 1,000 gallons water. This will provide 200 to 833 ppm of SaniDate® 12.0, or 24 to 100 ppm 100% peracetic acid in the use solution. For post harvest applications, fruits and vegetables can be sprayed or submerged in the resulting solution for a minimum contact time of 45 seconds, followed by adequate draining. Do not rinse.

**Note: May cause bleaching of treated surfaces, test commodity if unsure.**

#### **ANTIMICROBIAL RINSE OF PRECLEANED OR NEW RETURNABLE OR NON-RETURNABLE CONTAINERS**

To reduce the numbers of non-pathogenic beverage spoilage microorganisms, use a dilution of 1:100 of SaniDate® 12.0. This provides 1200 ppm peroxyacetic acid. After applying antimicrobial rinse, allow containers to drain thoroughly, then rinse with sterile or potable water.

#### **CONTROL OF ALGAL, FUNGAL, AND ODOR CAUSING BACTERIAL GROWTH IN PULP AND PAPER MILL SYSTEMS FOR FOOD AND NON-FOOD CONTACT PAPER**

SaniDate® 12.0 provides an effective means to treat various process waters for slime control. Dosage rates should be increased or decreased depending on the control achieved. **Maximum usage rate must not exceed 2lbs. SaniDate® 12.0 solution per ton (2,000 lbs., dry basis) of pulp or paper produced.**

**TREATMENT OF PAPER MACHINE WHITE WATER** - SaniDate® 12.0 may be applied within the white water short circulation loop on the paper machine. Apply with either shock, intermittent, or continuous dosing. Shock doses may be applied for 1 to 2 hours, as necessary, whereas intermittent doses are applied 1 to 12 times per day, for a duration of 5 to 60 minutes each. For either shock or intermittent dosing, apply 2.5 to 102 fl. oz. of SaniDate® 12.0 per 1000 gallons of white water, producing a peak concentration of 20 to 800 ppm of SaniDate® 12.0 during dosing. This is approximately equivalent to a peak dose of 2 to 100 ppm 100% peracetic acid. For continuous dosing, apply 2.5 to 25 fl. oz. of SaniDate® 12.0 to 1000 gallons of process water, producing a peak concentration of 20 to 200 ppm of SaniDate® 12.0. This is approximately equivalent to 2 to 25 ppm 100% peracetic acid.

**CATALASE CONTROL IN DEINKING WATER LOOPS** - SaniDate® 12.0 may be applied to the inlet lines going to de-inking water storage following clarification. Apply with either shock, intermittent, or continuous dosing. Shock doses may be applied for 10 to 60 minutes as necessary. Apply 1.7 to 4.2 gallons SaniDate® 12.0 per 1000 gallons recirculation water, producing a peak concentration of 1700 to 4200 ppm SaniDate® 12.0 during dosing. This is approximately equivalent to a peak dose of 200 to 500 ppm 100% peracetic acid. For intermittent doses, apply 1 to 12 times per day, for a duration of 10 to 60



minutes. Apply 0.8 to 2.1 gallons SaniDate<sup>®</sup> 12.0 per 1000 gallons of water, producing a peak concentration of 800 to 2100 ppm of SaniDate<sup>®</sup> 12.0 during dosing. This is approximately equivalent to a peak dose of 100 to 250 ppm 100% peracetic acid. For continuous dosing, apply 0.2 to 1.4 gallons SaniDate<sup>®</sup> 12.0 to 1000 gallons of process water, producing a peak concentration of 200 to 1400 ppm of SaniDate<sup>®</sup> 12.0. This is approximately equivalent to 25 to 170 ppm 100% peracetic acid.

**TREATMENT OF RAW AND PROCESS WATER FOR PULP AND PAPER MILLS** - SaniDate<sup>®</sup> 12.0 may be applied to water at the inlet of the process water system or any other suitable point. Apply with either shock, intermittent, or continuous dosing. Shock dosing may be applied for a duration of 1 to 2 hours, as necessary, whereas intermittent dosing is applied for 2 to 15 minutes, 4 to 100 times per day. For either shock or intermittent dosing, apply 0.16 to 0.8 gallons SaniDate<sup>®</sup> 12.0 per 1,000 gallons of water producing a peak concentration of SaniDate<sup>®</sup> 12.0 of 160 ppm to 800 ppm during dosing. This is approximately equivalent to a peak dose of 20 to 100 ppm 100% peracetic acid. For continuous dosing applications, apply 0.01 to 0.3 gallons SaniDate<sup>®</sup> 12.0 to 1,000 gallons of water, producing a peak concentration of 10 to 300 ppm of SaniDate<sup>®</sup> 12.0. This is approximately equivalent to 1 to 36 ppm 100% peracetic acid.

### **CONTROL OF ALGAL, FUNGAL, ODOR CAUSING AND SLIME-FORMING BACTERIAL GROWTH IN INDUSTRIAL WATER**

**INDUSTRIAL WASTE TREATMENT** - Use SaniDate<sup>®</sup> 12.0 to control slime-forming and odor-causing bacterial growth in industrial wastewater treatment and sewage systems. SaniDate<sup>®</sup> 12.0 may be applied to water at the inlet of the process water system or any other suitable point. Apply with either shock or intermittent dosing. Shock dosing may be applied for a duration of 1 to 2 hours, as necessary, whereas intermittent dosing is applied for 2 to 15 minutes, 4 to 100 times per day. For either shock or intermittent dosing, apply 0.16 to 0.8 gallons SaniDate<sup>®</sup> 12.0 per 1,000 gallons of water producing a peak concentration of SaniDate<sup>®</sup> 12.0 of 160 ppm to 800 ppm during dosing. This is approximately equivalent to a peak dose of 20 to 100 ppm 100% peracetic acid. Do not discharge treated effluent without notifying local sewage treatment plant authorities.

**FOR MICROBIAL CONTROL IN EFFLUENT TREATMENT SYSTEMS (*Not Approved For Use in California*)** Use SaniDate<sup>®</sup> 12.0 to control slime-forming and odor-causing bacterial growth in sewage and wastewater effluent associated with public, municipal, and private wastewater treatment plants. SaniDate<sup>®</sup> 12.0 can be applied by itself directly to the effluent, or in conjunction with an appropriate activator, such as UV light. Apply SaniDate<sup>®</sup> 12.0 directly to effluent water discharged from primary, secondary, or tertiary treatments and to effluent water discharged from trickle bed or percolating fluidized bed filters. Apply 4 to 83 gallons of SaniDate<sup>®</sup> 12.0 per 1,000,000 gallons of wastewater (0.5 to 10 ppm of peracetic acid). Allow a contact time of 15-60 minutes. NOTE: the dosing rate for individual facilities will depend on the nature of effluent (level of microbial control) and the local microbial discharge limit. Therefore, adjust the dosing rates to the levels appropriate for your facility. Do not exceed the maximum dose limit of 83 gallons of SaniDate<sup>®</sup> 12.0 per 1,000,000 gallons of waste water (or 10 ppm of peracetic acid). The PAA concentration will rapidly decline after treatment. The maximum amount of PAA that can be discharged from the treatment facility is 1.0 ppm PAA. Use an appropriate PAA test kit or analyzer as recommended by BioSafe Systems to ensure this level is not exceeded. Contact your BioSafe Systems technical representative for guidance on treatment regimes.

### **OIL FIELD APPLICATIONS, OIL RECOVERY WELL FLUIDS, FRACTURING FLUIDS OR PIPELINE CLEANING OPERATIONS (*Not Approved For Use In California*)**

SaniDate<sup>®</sup> 12.0 may be used as an algacide, fungicide and slimicide for oilfield applications. When used as directed, this product will control the growth of sulfite forming bacteria and aerobic slime forming bacteria which impair the efficacy of well fluids and fracturing fluids. Use SaniDate 12.0 on pumps, pipe work, heat exchangers, filters and all down hole applications associated with oilfield systems. Apply SaniDate<sup>®</sup> 12.0 directly to the well fluid or fracturing fluid to achieve a residual level of 50-200 ppm of peracetic acid, or use 50 fl. ounces per 1,000 gallons or one gallon of SaniDate<sup>®</sup> 12.0 per 500 gallons of fluid. SaniDate<sup>®</sup> 12.0 may be added and premixed with the well fluid or fracturing fluid prior to the oil

field operation or maybe added directly to the blender during operations. Be sure rapid mixing of the treated water is achieved. Repeat treatment as required to maintain control.

### **CONTROL OF ALGAL, FUNGAL, AND ODOR CAUSING BACTERIAL GROWTH FOR NON-FOOD CONTACT PAPER USES**

**TREATMENT OF STARCH USED FOR SIZING ON THE PAPER MACHINE** - Apply SaniDate® 12.0 directly to the starch storage tank or through the recirculation loop. Apply with either shock, intermittent, or continuous dosing. Shock doses may be applied for 1 to 2 hours, whereas intermittent doses may be applied for 5 to 60 minutes up to 12 times per day. For either shock or intermittent dosing, apply 0.8 to 5 gallons SaniDate® 12.0 per 1,000 gallons of starch solution to achieve 100 to 600 ppm 100% peracetic acid. For continuous dosing applications, apply 0.08 to 1.7 gallons SaniDate® 12.0 per 1,000 gallons of starch solution, producing a peak concentration of approximately 10 to 200 ppm 100% peracetic acid.

**TREATMENT OF CLAYS USED AS COATINGS AND FILLERS ON THE PAPER MACHINE** - Applications may be made at the recirculation loop or directly to the agitated slurry storage tank. Apply with either shock, intermittent, or continuous dosing. Shock doses may be applied for 1 to 2 hours, as necessary, whereas intermittent doses may be applied for 5 to 60 minutes, 1 to 12 times per day. For either shock or intermittent dosing, apply 5.12 to 102 fl. oz. SaniDate® 12.0 to 1,000 gallons clay slurry solution producing a peak concentration of approximately 50 to 100 ppm 100% peracetic acid. For continuous dosing applications, apply 5.12 to 102 fl. oz. SaniDate® 12.0 to 1,000 gallons of process water, producing a peak concentration of 5 to 100 ppm 100% peracetic acid.

**COATINGS PRESERVATION** - SaniDate® 12.0 can be used as an in-container preservative for the control of bacteria and fungi in water-based coatings such as paper coatings. Add 12.8 to 89.6 fl. oz. of SaniDate® 12.0 solution to 1,000 gallons water. This will provide 100 to 700 ppm of SaniDate® 12.0, or 12 to 85 ppm 100% peracetic acid.

**TREATMENT OF DISPERSED PIGMENTS** - SaniDate® 12.0 can be used in the control of bacteria and fungi in the manufacture and storage of dispersed pigments such as kaolin clay, titanium dioxide, calcium carbonate, calcium sulfate, barium sulfate, magnesium silicate and kiesegruhr used in paint and paper production. Add 0.12 to 0.6 lb. of SaniDate® 12.0 to each 1,000 lbs. of fluid. This will provide 120 to 600 ppm of SaniDate® 12.0, or 15 to 70 ppm 100% peracetic acid.

### **CONTROL OF ALGAL, FUNGAL, AND SLIME-FORMING BACTERIAL GROWTH IN INDOOR, CLOSED LOOP, NON-POTABLE, NON-FOOD CONTACT WATER SYSTEMS**

**TREATMENT OF RAW AND PROCESS WATER** - (heat exchanger system water, boiler water, wet scrubber water) - SaniDate® 12.0 may be applied to water at the inlet of the water system or any other suitable point. Apply with either shock, intermittent, or continuous dosing. Shock dosing may be applied for a duration of 1 to 2 hours, as necessary, whereas intermittent dosing is applied for 2 to 15 minutes, 4 to 100 times per day. For either shock or intermittent dosing, apply 0.16 to 0.8 gallons SaniDate® 12.0 per 1,000 gallons of water producing a peak concentration of SaniDate® 12.0 of 160 ppm to 800 ppm during dosing. This is approximately equivalent to a peak dose of 20 to 100 ppm 100% peracetic acid. For continuous dosing applications, apply 1.3 to 38.4 fl. oz. SaniDate® 12.0 to 1,000 gallons of water, producing a peak concentration of 10 to 300 ppm of SaniDate® 12.0. This is approximately equivalent to 1 to 35 ppm 100% peracetic acid.

**TREATMENT OF COOLING WATER SYSTEMS** - (cooling towers, evaporative condensers) Severely fouled systems should be cleaned before treatment. Discontinue use of chlorine or bromine products prior to using this product. SaniDate® 12.0 should be added to the system directly and not mixed with other chemicals or additives prior to dosing. Other chemicals should be added separately. Check compatibility of SaniDate® 12.0 with any other chemicals or additives prior to use. Contamination with certain chemicals could result in lack of efficacy. Add SaniDate® 12.0 at a point in the system where uniform mixing and even distribution will occur such as the cooling tower basin sump. Shock doses may be applied for 1 to 2 hours, as necessary, whereas intermittent doses are applied for 5 to 60 minutes 1 to



100 times per day. For either shock, intermittent or continuous dosing, apply 1.3 to 9.0 fl. oz. of SaniDate® 12.0 solution per 1,000 gallons of water. This will provide 10 to 70 ppm of SaniDate® 12.0, or 1 to 9 ppm of 100% peracetic acid. Repeat treatment as required to maintain control.

**AIR WASHERS-** This product may be used to control bacteria and biofouling in industrial air washing/scrubbing systems. The air washer must have operational and effective mist elimination systems. Prior to use of this product, heavily fouled systems must be pre-cleaned using the appropriate cleaner. Continuous dosing methods will require 2-7 ppm and intermittent dosing methods will require 7-14 ppm of peracetic acid depending on the type of systems and the level of microbiological control desired.

### **CONTROL OF ALGAL, FUNGAL AND SLIME-FORMING BACTERIAL GROWTH ON NON FOOD CONTACT GREENHOUSE WATERING SYSTEMS**

**TREATMENT OF GREENHOUSE SURFACES AND EQUIPMENT** - (such as glazing, plastic, pots, flats, trays, cutting tools, benches, work areas, walkways, floors, walls, fan blades, watering systems, coolers, storage rooms, structures and equipment) – Clean surfaces before treatment. Sweep and remove all plant debris, and use power sprayer to wash all surfaces to remove loose dirt. Use a dilution of 1:600 of SaniDate® 12.0 for all non-porous surfaces that have been pre-cleaned with water. Apply solution with mop, sponge, power sprayer or fogger to thoroughly wet all surfaces. Cutting tools may be soaked to ensure complete coverage. Allow surfaces to stay wet with solution for a minimum of five (5) minutes. Heavy growths of algae and fungi may have to be scrubbed off following application. Repeat treatment as required to maintain control.

**TREATMENT OF GREENHOUSE EVAPORATIVE COOLERS** – Treat contaminated surfaces with a dilution of 1:600 of SaniDate® 12.0. Allow surfaces to stay wet with solution for a minimum of five (5) minutes.

Foaming Applications: Use SaniDate 12.0 as a foam treatment to enhance contact on hard, non-porous surfaces, vertical surfaces and irregular surfaces such as metal grating and structural steel where contact is difficult to maintain with coarse spray treatments. Apply SaniDate 12.0 at a rate of 1:150 – 1:300. Add a foaming agent to the spray tank that contains the diluted solution. Apply foam until the surface treated is completely covered. Turn off coolers for 20 minutes to allow foam to work. Allow foam-treated surfaces to air dry. Do not rinse.

### **TREATMENT OF GREENHOUSE EVAPORATIVE COOLER WATER**

For maintenance, treat cooler water by continuously injecting a dilution of 1:2,000- 1:5,000 of SaniDate® 12.0; 0.26-0.64 fl. oz. for 10 gallons of cooling water.

To shock evaporative cooling water apply SaniDate 12.0 at a 1:600 dilution once a week.

### **TREATMENT OF GREENHOUSE IRRIGATION SYSTEMS AND NON-POTABLE WATERS**

Use SaniDate® 12.0 control algae, slime-forming bacteria, fungi and plant pathogenic organisms in Greenhouse irrigation systems and water.

### **TREATMENT OF GREENHOUSE IRRIGATION SYSTEMS**

For shock treatment of irrigation systems (flooded floors, flooded benches, recycled water systems, drip trickle, capillary mats, sprinkler systems, humidification and misting systems) use a dilution rate of 1:600 - 1:1,000. Allow solution to remain in lines for 12-48 hours. Flush by opening flush valves or laterals to avoid clogging emitters.

### **TREATMENT OF GREENHOUSE IRRIGATION WATER**

For treatment of irrigation water as a continuous injection, use a dilution rate of 1:40,000-1:5,000 (3.2-25.6 fl. oz of SaniDate 12.0 per 1000 gallons of water; Equivalent to 3.3-26.0 PPM of peroxyacetic acid).

Conduct a water analysis prior to treatment to determine type and level of algae and/or microbial contamination and the proper rate of product to use.

## **CONTROL OF ALGAL, FUNGAL, AND SLIME-FORMING BACTERIAL GROWTH IN AGRICULTURAL IRRIGATION SYSTEMS AND WATER**

### **TREATMENT OF AGRICULTURAL IRRIGATION SYSTEMS AND WATER**

Use SaniDate® 12.0 control algae, slime-forming bacteria, fungi and plant pathogenic organisms in agricultural irrigation systems and water.

### **TREATMENT OF AGRICULTURAL IRRIGATION SYSTEMS**

To clean contaminated irrigation systems, including sprinkler (solid set, center pivot, lateral move, end tow, side wheel roll, traveling big gun or hand move) and drip/micro irrigation system, fill irrigation lines with a SaniDate 12.0 solution using a dilution of 1:600 -1:5,000 and allow a contact time of 6-12 hours or overnight if possible. Open ends of irrigation lines and flush with irrigation water. Repeat the treatment as necessary. Refer to Chemigation Directions for Use for specific instructions on using this product through irrigation systems.

### **SHOCK TREATMENT FOR IRRIGATION WELLS *(Not Approved For Use in California)***

Use SaniDate 12.0 to control bacterial growth in irrigation wells. To shock well water apply 0.56 – 1.13 gallons (72 – 145 fl. oz.) of SaniDate 12.0 per 100 cubic feet of well water to be treated; equivalent to a dilution rate of 1:1,335 – 1:665 (100 - 200 ppm of peroxyacetic acid). Surge irrigation well to circulate and allow a contact time of 48-72 hrs. If necessary purge the well to remove any organic deposits. Pump the well until water is clear. Test strip can be used ensure peroxyacetic acid concentration is < 50 ppm in the water before using the water for irrigation on established plants.

### **TREATMENT OF AGRICULTURAL IRRIGATION WATER USED FOR FRUIT, VEGETABLE AND ROW CROPS**

Use SaniDate 12.0 to treat irrigation water during all phases of crop production including pre-plant irrigation and throughout the crop cycle to suppress/control fungi, algae, bacteria, and fungi-like organisms (such as water molds) in irrigation water used for fruit, vegetable and row crop production. SaniDate12.0 can be used up to and including the day of harvest.

Apply this product as a direct injection into the water at the point of intake and applied through a sprinkler system (including solid set, center pivot, lateral move, end tow, side wheel roll, traveling big gun or hand move), drip/micro irrigation system, flood (basin), or furrow. For best results, continuous injection into the water is recommended every time crop is irrigated or at a minimum, in the last 2-3 irrigations prior to harvest.

For treatment of irrigation water as a continuous injection, use a dilution rate of 1:40,000-1:5,000 (3.2-25.6 fl. oz. of SaniDate 12.0 per 1000 gallons of water; equivalent to 3.3-26.0 PPM of peroxyacetic acid). Conduct a water analysis prior to treatment to determine type and level of algae and/or microbial contamination and the proper rate of product to use.

### **IRRIGATION CONVEYANCE SYSTEMS AND OTHER MOVING WATER *(Not Approved For Use In California)***

Use SaniDate 12.0 to suppress/control algae in flowing water systems. Apply SaniDate 12.0 at first signs of algae as needed to control and prevent algae growth. Apply more often in times of higher water temperatures. Distance of control down the waterway will vary depending upon density of growth and water flow rates (C.F.S.). Inject SaniDate 12.0 for a minimum of 4 hours. Treatments of longer duration or more frequent intervals along the channel may be necessary.

Prior to treatment it is important to accurately determine water flow rates. In the absence of weirs, orifices, or similar devices, which give accurate water flow measurements, volume of flow may be estimated by the following formula:

Average Width (feet) x Average Depth x Velocity\*  
(feet/second) x 0.9 = Cubic Feet per Second (C.F.S.)

\* Velocity is the time it takes for a floating object to travel a given distance. Dividing the distance traveled (feet) by the time (seconds) will yield velocity (feet/second). This measurement should be repeated at least three times at the intended application site and then averaged.

After accurately determining the water flow rate in C.F.S., find the corresponding application rate of SaniDate 12.0 in the chart below.

### **Application Rates for Moving Water**

SaniDate 12.0 can be used to prevent/control algae in moving water. Determine water flow rate (As C.F.S (Cubic Feet per Second) or as GPM (Gallons per Minute) prior to treatment of water system. Apply SaniDate 12.0 at a rate of 0.024-0.19 fl. oz. per C.F.S or 0.025-0.2 gallons per 1000 GPM water flow rate. This results in 3.0-26 PPM of peracetic acid in the water. Use higher rates when algae density is high and/or when dealing with resistant algae type(s).

### **Application Rates**

<b>Algae Growth/Density</b>	<b>Application Rate per C.F.S.</b>
Low Density	0.024 fl. oz.
Moderate Density	0.048 fl. oz.
High Density	0.096 fl. oz.
Extreme Density	0.190 fl. oz.

### **POULTRY, SWINE, LIVESTOCK WATER LINE CLEANER WHEN SYSTEM IS NOT IN USE (*Not Approved For Use In California*)**

To remove scale, mineral build up and heavy soils from livestock watering systems use SaniDate 12.0 at 0.19-0.38 fl. oz. per gallon of water, or a dilution rate of 1:674-1:337. Allow system to run for 6 to 24 hours depending on the conditions. Following the cleaning process, rinse thoroughly with potable water to remove the cleaning solution from the watering line, nipples and cups.

### **POULTRY, SWINE, LIVESTOCK WATERING OPERATING SYSTEMS**

After water lines have been cleaned, use SaniDate 12.0 at 0.39-0.58 fl. oz. per 100 gallons of water, or a dilution rate of 1:32820-1:22069 to control algae and bacteria in drinking water and to control mineral build up in watering lines.

### **CONTROL OF ALGAL GROWTH IN CONTAINED WATER SYSTEMS**

To suppress, control and prevent algae in the following contained waters: Ornamental Pools/Ponds, Ornamental Waterfalls, Fountains, Waterways, Conveyance Ditches, Canals, Laterals, Drainage Systems, Catch Basins, Sewage Lagoons and Pits, Sewage Systems, Fire Ponds, Storage Tanks, Water Collectors.

Application Rates: 1:5,000 - 1:40,000.

**Liquid Treatment:** Surface spray (or inject) spray solution on the water surface from shore or a boat equipped with aquatic spray or injection equipment. Use in accordance with manufacturer's spray equipment instructions.

**Injection Treatment:** Inject solution into the water via compatible dosing equipment.

### **TREATMENT OF PLANT PATHOGENS AND ASSOCIATED DISEASES (*Not Approved For Use In California*)**

**PRE-PLANT SOIL TREATMENT FOR CONTROL/SUPPRESSION OF SOIL BORNE PLANT PATHOGENS/DISEASES IN FIELD GROWN CROPS**

Use SaniDate 12.0 as a pre-plant non-fumigant soil treatment for control of soil borne plant pathogens including plant pathogenic bacteria, fungi, fungi-like organisms and nematodes. SaniDate 12.0 can be injected directly into the water applied through drip or sprinkler irrigation systems or made as a pre-mix solution to be applied as a soil drench.

**AS A DIRECT INJECT APPLICATION THROUGH DRIP IRRIGATION SYSTEMS**

Prior to an application of SaniDate 12.0, pre-irrigate soil to 80-90% field capacity. Inject SaniDate 12.0 directly into the water of the drip system at a 1:265 – 1:132 dilution rate (3.8 to 7.6 gallons of SaniDate 12.0 per 1000 gallons of water; equivalent to 500 – 1,000 ppm of peroxyacetic acid). Consider using higher rate (1:132 dilution) when field has history of high disease pressure. Apply approximately 3,000 to 6,000 gallons of finished SaniDate 12.0 solution per treated acre. Refer to chart below for application recommendations based on soil type. Applications should be made at a minimum of 48 hours prior to planting/transplanting to allow any residual SaniDate 12.0 to dissipate in the soil. Run irrigation system to ensure SaniDate 12.0 has been flushed from system. Test strip can be used to ensure peroxyacetic acid concentration is < 50 ppm in the water before using the water for irrigation in the presence of plants.

**AS A DIRECT INJECT APPLICATION THROUGH SPRINKLER IRRIGATION SYSTEMS**

Prior to an application of SaniDate 12.0 pre-irrigate soil to 80 - 90% field capacity. Inject SaniDate 12.0 directly into the water of the sprinkler system at a 1:265 - 1:132 dilution rate (3.8 to 7.6 gallons of SaniDate 12.0 per 1000 gallons of water; equivalent to 500 – 1,000 ppm of peroxyacetic acid). Consider using higher rate (1:132 dilution) when field has history of high disease pressure. Apply approximately 3,000 to 6,000 gallons of finished SaniDate 12.0 solution per treated acre. Refer to chart below for application recommendations based on soil type. Applications should be made at a minimum of 48 hours prior to planting/transplanting to allow any residual SaniDate 12.0 to dissipate in the soil. Run irrigation system to ensure SaniDate 12.0 has been flushed from system. Test strip can be used to ensure peroxyacetic acid concentration is < 50 ppm in the water before using the water for irrigation in the presence of plants.

**Direct Inject Application Rates**

Soil Type	Total Number of Gallons of SaniDate 12.0 Concentrate/Treated-Acre		Gallons of Water to be used with SaniDate 12.0 per Treated Acre
	1:132	1:265	
Light (Sandy/Loam)	23.0	11.5	3,000 gallons
Medium (Loam)	34.0	17.0	4,500 gallons
Heavy (Loam/Clay)	45.5	22.5	6,000 gallons

**To determine injection time in minutes:**

$$\frac{\text{Gallons of finished SaniDate 12.0 solution per acre (based on soil type)} \times \text{Number of Acres}}{\text{Irrigation pump flow rate - Gallons per Minute (GPM)}}$$

**AS A SOIL DRENCH**

Pre-mix SaniDate 12.0 at a 1:256 - 1:132 dilution rate or 49.0 - 98.0 fl. oz. of SaniDate 12.0 per 100 gallons of water; equivalent to 500 – 1,000 ppm peroxyacetic acid. Refer to chart below for recommended application rates based on soil types and size of area to be treated. Consider using higher rate (1:132 dilution) when field has history of high disease pressure. Applications should be made at a minimum of 48 hours prior to planting/transplanting to allow any residual SaniDate 12.0 to dissipate in the soil.

### Soil Drench Application Rates

Soil Type	Amount of SaniDate 12.0 Concentrate				Gallons of Water for Finished SaniDate 12.0 Solution	
	1:132		1:265		Per 1,000 sq. ft.	Per Treated Acre
	fl. oz. per 1,000 sq. ft.	Gallons per Treated Acre	fl. oz. per 1,000 sq. ft.	Gallons per Treated Acre		
<b>Light (Sandy/Loam)</b>	68.0 fl. oz.	23.0 Gallons	34.0 fl. oz.	11.5 Gallons	70 gallons	3,000 gallons
<b>Medium (Loam)</b>	97.0 fl. oz.	34.0 Gallons	48.0 fl. oz.	17.0 Gallons	100 gallons	4,500 gallons
<b>Heavy (Loam Clay)</b>	136.0 fl. oz.	45.5 Gallons	68.0 fl. oz.	22.5 Gallons	140 gallons	6,000 gallons

#### CHEMIGATION FOR CONTROLLING FOLIAR PLANT PATHOGENS

Use SaniDate<sup>®</sup> 12.0 to suppress and control foliar plant pathogens and their associated diseases such as – *Alternaria* – *Anthraco*se – *Aphanomyces* – Black Spot - *Botrytis* (grey mold) - Downy Mildew – *Erwinia*, *Fusarium* (root rot) - Leaf Spot - *Phytophthora* (blights) – *Plasmopara* - Powdery Mildew - *Pseudomonas* - *Pythium* - *Rhizoctonia* - Rust - Scab - Smut - *Thielaviopsis* – *Uncinula* (powdery mildew) – *Xanthomonas* - Wilts & Blights. Use SaniDate<sup>®</sup> 12.0 at a rate of 1:1,000-1:5,000 through the irrigation system at the time of seeding or transplanting, as well as a periodic treatment throughout the plant's life. Multiple applications can be made, as there is no mutational resistance with this product.

#### SOIL DRENCH/CHEMIGATION FOR CONTROLLING SOILBORNE PLANT PATHOGENS

Use SaniDate<sup>®</sup> 12.0 to suppress and control soilborne plant pathogens and their associated diseases such as *Fusarium* (root rot) - *Phytophthora* (blight and root rots)- *Pythium* - *Rhizoctonia* - *Ralstonia solanacearum* (brown rot, bacterial wilt), - *Sclerotinia sclerotiorum* (white mold) - *Sclerotium rolfsii*- *Thielaviopsis* – *Verticillium*. Apply SaniDate<sup>®</sup> 12.0 at a rate of 1:600 – 1: 1,100 as a soil drench or through the irrigation system, as a soil treatment, at the time of seeding or transplanting, as well as a periodic treatment throughout the plant's life. Multiple applications can be made, as there is no mutational resistance with this product. Apply in sufficient water for sufficient duration to distribute the application evenly to the treated area. Apply to moderately moist soils. Follow use directions for Chemigation. Do not apply this product through any irrigation system unless the chemigation instructions are followed.

NOTE: SaniDate<sup>®</sup> 12.0 can be used as a hydroponic water treatment using a dilution rate of 1:20,000-1:50,000 (0.64-0.26 fl. oz per 100 gallons of water). Appropriate rate can be determined only after a water, plant and inert growing media samples has been submitted to BioSafe Systems for analysis and special direction is provided for application recommendations. Root systems of different plant species vary in their sensitivity to SaniDate 12.0. Also, water and inert growing media in a hydroponic growing system provide special conditions that the grower needs to adjust for due to the unbuffered water conditions. Water pH, EC and supplements such as fertilizer, biological loading and minor elements are factors that need to be considered before determining correct water treatment rates.

#### SEED TREATMENT

Use SaniDate<sup>®</sup> 12.0 for the control of seed-borne bacterial and fungal plant pathogens on seeds grown for sprouts (grains, legume and vegetable seeds) and seeds of agronomic and vegetable crops.

1. Use a dilution of 1:100-1:600 or 64.0-10.6 fl. oz. of SaniDate<sup>®</sup> 12.0 per 50 gallons of water.



2. Immerse seeds and let soak for 5-15 minutes followed by adequate draining and air drying of the seed. Do not rinse. Plant seed according to seed package directions.
3. It's recommended to run a germination test on a small batch of seed first, especially for sensitive seed, to ensure no adverse effect on the seed germination before treating a large batch.

## **CHEMIGATION INSTRUCTIONS**

### **General Requirements -**

- 1) Apply this product only through a drip system or sprinkler system, including flood, and drip (trickle) irrigation systems.
- 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, you should 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 should the need arise.
- 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 should 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 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.
- 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 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, 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. 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 water and then adding product as required. The product will immediately go into suspension without any required agitation.
- 4) Do not apply SaniDate 12.0 in conjunction with any other pesticides or fertilizers; this has the potential to cause reduced performance of the product. Avoid application in this manner.

#### **STORAGE AND DISPOSAL**

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

**Pesticide Storage:** Store in original containers in a cool, well-vented area, away from direct sunlight. Do not allow product to become overheated in storage. This may cause increased degradation of the product, which will decrease product effectiveness. In case of spill, flood area with large quantities of water.

**Pesticide Disposal:** Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If wastes cannot be disposed of 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 Handling: (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 Handling: (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. Offer for recycling if available.

## WARRANTY

### CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

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 should 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. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold BIOSAFE SYSTEMS and Seller harmless for any claims relating to such factors.

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. 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 to or beyond the control of Seller or BIOSAFE SYSTEMS, and Buyer and User assume the risk of any such use. BIOSAFE SYSTEMS MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE, NOR ANY OTHER EXPRESSED OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

In no event shall BIOSAFE SYSTEMS or Seller be liable for any incidental, consequential or special damages resulting from the use or handling of this product. 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.

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.

#### Optional Label Claims:

- Microbiocide
  - Easy to use
  - Activated Peroxygen chemistry
  - Contains no phosphates
  - Deodorizes
  - Leaves no residue
  - Scent free
  - Chlorine free
  - Treats and controls mold and mildew
  - Controls algae
  - Control algal and fungal growth
  - Controls odor causing bacteria
  - Controls slime forming bacteria
  - Control plant pathogenic organisms
  - Controls spoilage and decay causing organisms in fruit and vegetable processing waters
  - Controls odors
  - SaniDate 12.0 is an economical concentrate that can be used with a mop and bucket, trigger spray, sponge, or by soaking.
  - SaniDate 12.0 will not leave a grit or soap scum.
  - When used as directed, this product will deodorize surfaces in places where bacterial growth can cause malodors.
  - SaniDate 12.0 inhibits bacterial growth on moist surfaces and deodorizes by controlling microorganisms that cause offensive odors. (*Not approved for use in California*)
  - SaniDate 12.0 inhibits bacterial growth on moist surfaces and deodorizes by killing microorganisms that cause offensive odors.
  - SaniDate 12.0 is a concentrate formulation designed for use in commercial, institutional, and industrial operations.
  - SaniDate 12.0 controls the growth of odor-causing and slime forming bacteria.
  - SaniDate 12.0 is formulated to effectively eliminate offensive odors caused by mold and mildew.
  - SaniDate 12.0 can be used in agricultural irrigation water
  - SaniDate 12.0 can be used in greenhouse irrigation water
  - Use SaniDate 12.0 in cooling water systems
  - For control of algal, fungal, slime forming bacterial growth
  - Use SaniDate 12.0 on greenhouse surfaces
  - A post harvest treatment for the prevention and control of plant pathogenic diseases on all fruits and vegetables and other agricultural crops in dump tanks, hydro coolers and process waters.
  - A treatment for the prevention and control of plant pathogenic diseases on surfaces, equipment and structures used in processing post-harvest commodities.
  - Industrial Waste Treatment
  - Oil Field Treatments (*Not approved for use in California*)
  - Controls foliar plant pathogens
  - Controls soil-borne plant pathogens
  - For use in food processing operations
  - See packet for full instructions
  - Microbiocide
  - Controls the growth of algae, fungi, and odor-causing bacteria.
  - For use in commercial, industrial, agricultural, post harvest, and horticultural water treatment applications.
  - Plant within 48 hours of pre-plant soil treatments
  - Shock treatment for irrigation wells
  - Use with a biological program
  - Pre-Plant Soil Treatment
- Bactericide/Fungicide