



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

November 5, 2020

Donna Bishel
Director of Regulatory Affairs
BioSafe Systems, LLC
22 Meadow Street
East Hartford, CT
06108

Subject: Notification per PRN 98-10 – Add “Note to reviewer” In accordance to 40CFR 156.68 (d) Correct typographical errors
Product Name: SaniDate 12.0
EPA Registration Number: 70299-18
Application Date: July 1, 2020
Decision Number: 564404

Dear Mr. Bishel:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 for the above referenced product. The Antimicrobials Division (AD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action requested falls within the scope of PRN 98-10.

The label submitted with the application has been stamped “Notification” and will be placed in our records.

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.

If you have any questions, you may contact Zebora Johnson at (703) 308-7080 or via email at johnson.zebora@epa.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read "John Hebert".

John Hebert, Branch Chief
Regulatory Management Branch 1
Antimicrobials Division (7510P)
Office of Pesticide Programs\

SaniDate® 12.0

FOR COMMERCIAL USE

NOTIFICATION

70299-18

The applicant has certified that no changes, other than those reported to the Agency have been made to the labeling. The Agency acknowledges this notification by letter dated:

11/05/2020

ACTIVE INGREDIENTS:

Hydrogen Peroxide..... 18.5%

Peroxyacetic Acid..... 12.0%

OTHER INGREDIENTS:..... 69.5%

Total:..... 100.00

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.)

FIRST AID	
If in eyes	<ul style="list-style-type: none">• Hold eye open and rinse slowly and gently with water for 15 – 20 minutes.• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.• Call a poison control center or doctor for treatment advice.
If on skin or clothing	<ul style="list-style-type: none">• Take off contaminated clothing.• Rinse skin immediately with plenty of water for 15 – 20 minutes.• Call a poison control center or doctor for treatment advice.
If inhaled	<ul style="list-style-type: none">• Move person to fresh air.• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.• Call a poison control center or doctor for treatment advice.
If swallowed	<ul style="list-style-type: none">• 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.
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.	
NOTE TO PHYSICIAN - Probable mucosal damage may contraindicate the use of gastric lavage.	

See (back) (side) (inside) (panel) (insert) (booklet) (label) for additional precautionary statements (instructions) and directions for use.

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

EPA Registration No.: 70299-18

Batch Code _____

EPA Establishment No.: 67441-IL-001, 082521-GA-001, 92957-MI-001, 70299-NV-2, 70299-NV-1

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

Note to Reviewer: Optional text appears in brackets [].

[Note to Reviewer: In accordance with 40 CFR 156.68(d), all first aid statements, as prescribed, will appear on the front panel of the product label.]

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER: CORROSIVE. Causes irreversible eye damage. Causes 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. Wear a minimum of a NIOSH-approved elastomeric half mask respirator with organic vapor (OV) cartridges and a combination N, R or P filter; OR a NIOSH-approved gas mask with OV canisters; OR a NIOSH-approved power air-purifying respirator with OV cartridges and combination HE filters.

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 Interval 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~~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 worn over long-sleeved shirt and pants, waterproof gloves and shoes plus socks.

There is a Restricted-Entry Interval 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 Interval of zero (0) hours for pre-plant dip, seed treatment, soil drench or other non-spraying application methods. Keep unprotected persons out of treated areas until sprays have dried.

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.

PRODUCT INFORMATION

- For use in agricultural, horticultural and 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.

SaniDate® 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® 12.0 will readily mix with clean water and does not require agitation.

SaniDate® 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.

AGRICULTURAL USES

Pre-harvest Interval (PHI) = 0 days

APPLICATION METHODS

Chemigation: This product can be applied through sprinkler (center pivot, lateral move, end tow, side (wheel) roll, traveler, solid set or hand move) or drip-type irrigation systems. Refer to the **Chemigation** section of this label for additional directions and precautions.

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.

CONTROL OF ALGAL, FUNGAL [AND] SLIME-FORMING [AND ODOR-CAUSING] BACTERIAL GROWTH IN AGRICULTURAL IRRIGATION SYSTEMS AND WATER

TREATMENT OF AGRICULTURAL IRRIGATION SYSTEMS AND WATER

Use SaniDate 12.0 to control algae, slime-forming [and odor-causing] 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 Instructions 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 strips 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 AND DRAINAGE DITCHES

Use SaniDate 12.0 at the following rates to suppress/control slime-forming [and odor-causing] bacteria, algae and fungi/oomycetes in irrigation water and drainage ditches.

- Bacteria: 3.2-128 fl. oz. per 1,000 gallons of water (1:40,000-1:1000 dilution)
- Algae: 6.4-25.6 fl. oz. per 1,000 gallons of water (1:20,000-1:5,000 dilution). Apply more often during periods of higher water temperatures.
- Fungi/oomycetes: 8.53-25.6 fl. oz. per 1,000 gallons of water (1:15,000-1:5,000 dilution)

Product can be simply added to the body of water.

TREATMENT OF AGRICULTURAL WATER USED FOR PESTICIDE SPRAY SOLUTIONS

Use SaniDate 12.0 to treat and suppress slime-forming [and odor-causing] bacteria, algae and fungi in water collected from open or closed sources including but not limited to wells, streams, ponds, lakes, canals, irrigation reservoirs, and drainage ditches, used for pesticide spray solutions and mixtures.

- Bacteria: 3.2-128 fl. oz. per 1,000 gallons of water (1:40,000-1:1000 dilution)
- Algae: 6.4-25.6 fl. oz. per 1,000 gallons of water (1:20,000-1:5,000 dilution)
- Fungi/oomycetes: 8.53-25.6 fl. oz. per 1,000 gallons of water (1:15,000- 1:5,000 dilution)

Add SaniDate 12.0 at the recommended rate to water in spray or mix tank. Allow solution to disperse for 5 minutes before using water.

Tank Mix Instructions

Add SaniDate 12.0 at the recommended rate to water in spray or mix tank, using agitation if necessary. Mix and allow a contact time of 3–5 minutes before adding other pesticides to spray solution.

- 1. When used with Conventional Bactericides/Fungicides/Insecticides/Miticides;** Use SaniDate 12.0 at a dilution rate of 1:3,000-1:6,000 (0.03-0.02% v/v; 4.2-2.1 fl. oz per 100 gallons of water). This rate range can be used with pesticides with or without metal ion(s).
- 2. When used with Organic (Biorational/Botanical/Biological) Bactericides/ Fungicides/ Insecticides;** Use SaniDate 12.0 at a dilution rate of 1:6,000 (0.02% v/v; 2.1 fl. oz per 100 gallons of water). Spray Tank Water treatment can be used on Biorational/Botanical based Bactericides/Fungicides/Insecticides/Miticides (Ex. Neem Oil, Sulfur, Plant Extracts etc.), *Bacillus* based Bio-Fungicides (spore containing or spent fermented media), Bt based Bio-Insecticides, Copper based Bactericides/Fungicides **Do not use SaniDate 12.0 with Mycoinsecticides**

(*Beauveria*, *Metarhizium*, or *Isaria* based) or with other biological active ingredients not listed above.

3. **When used with Micro-Foliar Fertilizers;** Use SaniDate 12.0 at a dilution rate of 1:3,000-1:6,000 (0.03-0.02% v/v; 4.2-2.1 fl. oz per 100 gallons of water).

[OPTIONAL SECTION:]

[As a preventative application for clean water (potable water, well water) use a 1:50,000 ~~to~~ 1:100,000 dilution ratio of SaniDate 12.0 or 1.28-2.56 fl. oz per 1,000 gallons of water. Product can be simply added to the body of water. Allow solution to disperse for 3-5 minutes before using the water.]

Compatibility:

SaniDate 12.0 is compatible as a direct injection or tank-mix with many commonly used pesticides, fertilizers, adjuvants and non-ionic surfactants but has not been fully evaluated with all of these. Do not direct inject or tank mix SaniDate 12.0 into the irrigation system or in spray tank with pesticides, surfactants or fertilizers without conducting a compatibility test to show it is physically compatible, effective and non-injurious under your use conditions. Compatibility test is also recommended when tank mixing SaniDate 12.0 with copper or other pesticides containing metals at a dilution rate stronger than 1:3000.

To ensure compatibility, evaluate them prior to use as follows: Using a suitable container, add proportional amounts of product to water. Add wettable powders first, followed by water dispersible granules, then by 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. Contact your BioSafe Systems representative for further instructions.

TREATMENT OF WATER DRAWN FROM OPEN AND CLOSED WATER SOURCES USED FOR DUST ABATEMENT

Use SaniDate 12.0 at the following rates to suppress/control slime-forming [and odor-causing] bacteria, algae and fungi/oomycetes in water drawn from open and closed water sources such as wells, streams, ponds, reservoirs, irrigation canals, irrigation water and drainage ditches used to control dust on unpaved gravel and dirt roads.

- Bacteria: 3.2-128 fl. oz. per 1,000 gallons of water (1:40,000-1:1000 dilution)
- Algae: 6.4-25.6 fl. oz. per 1,000 gallons of water (1:20,000-1:5,000 dilution)
- Fungi/oomycetes: 8.53-25.6 fl. oz. per 1,000 gallons of water (~~4:5,000-1:15,000~~ 1:15,000-1:5,000 dilution)

Prepare the mixture at least 3-5 minutes prior to application for dust abatement. Apply to the road surface using a water truck (or tractor or spraying device) with equipped with a watering system.

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 slime-forming [and odor-causing] bacteria, algae, fungi, 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.

- Bacteria: 3.2-128 fl. oz. per 1,000 gallons of water (1:40,000-1:1000 dilution)
- Algae: 6.4-25.6 fl. oz. per 1,000 gallons of water (1:20,000-1:5,000 dilution)
- Fungi/oomycetes: 8.53-25.6 fl. oz. per 1,000 gallons of water (~~4:5,000-1:15,000~~ 1:15,000-1:5,000 dilution)

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, treat water every time crop is irrigated or at a minimum during the last 2-3 irrigations prior to harvest.

FOR TREATMENT OF IRRIGATION WATER TO SUPPRESS/CONTROL BACTERIA

For treatment of irrigation water as a continuous injection, use a dilution rate of 1:40,000-1:1,000 (3.2-128 fl. oz. of SaniDate 12.0 per 1000 gallons of water; equivalent to 3.3-134 ppm of peroxyacetic acid).

FOR TREATMENT OF IRRIGATION WATER TO SUPPRESS/CONTROL FUNGI, ALGAE, AND FUNGI-LIKE ORGANISMS (SUCH AS WATER MOLDS) (Not Approved For Use In California)

For treatment of irrigation water as a continuous injection, use a dilution rate of 1:40,000-1:1,000 (3.2-128 fl. oz. of SaniDate 12.0 per 1000 gallons of water; equivalent to 3.3-134 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:

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

* 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) prior to treatment of water system. Apply SaniDate 12.0 at a rate of 2.0 – 4.0 gal. per C.F.S.

Application Rates

Algae Growth/Density	Application Rate per C.F.S.
Low Density	2.0 gal
Moderate Density	3.0 gal
High Density	4.0 gal

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)

SOIL DRENCH/CHEMIGATION FOR CONTROLLING SOILBORNE PLANT PATHOGENS

Use SaniDate® 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*. This product can be applied through sprinkler (center pivot, lateral move, end tow, side (wheel) roll, traveler, solid set or hand move) or drip-type irrigation systems. Refer to the **Chemigation** section of this label for additional directions and precautions.

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

Use SaniDate 12.0 as a pre-plant non-fumigant soil treatment for control of soilborne 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 micro sprinkler irrigation systems or made as a pre-mix solution to be applied as a soil drench.

AS A DIRECT INJECT APPLICATION THROUGH DRIP/MICRO 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 drip/micro sprinkler system at a 1:256 – 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 (gallons)
	1:132	1:256	
Light (Sandy/Loam)	23.0	11.5	3,000
Medium (Loam)	34.0	17.0	4,500
Heavy (Loam/Clay)	45.5	22.5	6,000

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		1:256		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		
Light (Sandy/Loam)	68.0	23.0	34.0	11.5	70	3,000
Medium (Loam)	97.0	34.0	48.0	17.0	100	4,500
Heavy (Loam Clay)	136.0	45.5	68.0	22.5	140	6,000

CHEMIGATION FOR CONTROLLING FOLIAR PLANT PATHOGENS

Use SaniDate® 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® 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.

NOTE: SaniDate® 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® 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® 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 is 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.

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 peroxyacetic 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.

CONTROL OF SPOILAGE AND DECAY CAUSING ORGANISMS IN PROCESS WATERS

SaniDate® 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® 12.0 for the treatment of waters used in the processing of raw fruits, nuts and vegetables, sprouts and seeds. 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 peroxyacetic 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.

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.

POULTRY, SWINE, AND 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, AND 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, 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 the 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~~ 1:5,000-1:2,000 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

TREATMENT OF GREENHOUSE IRRIGATION SYSTEMS

Use SaniDate® 12.0 to control algae, slime-forming bacteria, fungi and plant pathogenic organisms in 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 1:100 - 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 TO CONTROL SLIME-FORMING BACTERIA

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).

TREATMENT OF GREENHOUSE IRRIGATION WATER TO CONTROL ALGAE, FUNGI AND PLANT PATHOGENIC ORGANISMS (Not Approved For Use In California)

For treatment of irrigation water as a continuous injection, use a dilution rate of 1:40,000-1:1,000 (3.2-128 fl. oz. of SaniDate 12.0 per 1000 gallons of water; equivalent to 3.3-134 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.

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 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. SaniDate 12.0 may be direct injected from the original container. The product will immediately go into solution without any agitation.
- 4) SaniDate 12.0 may be applied in conjunction with other pesticides or fertilizers. For injection of SaniDate 12.0 with metal-based fungicides and biological based pesticides consult your BioSafe Systems technical representative for specific instructions.

NON-AGRICULTURAL USES

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 2 lbs. 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 peroxyacetic 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 peroxyacetic acid.

CATALASE CONTROL IN DE-INKING 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 peroxyacetic 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[®] 12.0 per 1000 gallons of water, producing a peak concentration of 800 to 2100 ppm of SaniDate[®] 12.0 during dosing. This is approximately equivalent to a peak dose of 100 to 250 ppm peroxyacetic acid. For continuous dosing, apply 0.2 to 1.4 gallons SaniDate[®] 12.0 to 1000 gallons of process water, producing a peak concentration of 200 to 1400 ppm of SaniDate[®] 12.0. This is approximately equivalent to 25 to 170 ppm peroxyacetic acid.

TREATMENT OF RAW AND PROCESS WATER FOR PULP AND PAPER MILLS

SaniDate[®] 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[®] 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 peroxyacetic acid. For continuous dosing applications, apply 0.01 to 0.3 gallons 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 36 ppm peroxyacetic acid.

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

INDUSTRIAL WASTE TREATMENT

Use SaniDate[®] 12.0 to control slime-forming and odor-causing bacterial growth in industrial wastewater treatment and sewage systems. SaniDate[®] 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® 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 peroxyacetic 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® 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® 12.0 can be applied by itself directly to the effluent, or in conjunction with an appropriate activator, such as UV light. Apply SaniDate® 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® 12.0 per 1,000,000 gallons of wastewater (0.5 to 10 ppm of peroxyacetic 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® 12.0 per 1,000,000 gallons of waste water (or 10 ppm of peroxyacetic 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® 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® 12.0 directly to the well fluid or fracturing fluid to achieve a residual level of 50-200 ppm of peroxyacetic acid, or use 50 fl. ounces per 1,000 gallons or one gallon of SaniDate® 12.0 per 500 gallons of fluid. SaniDate® 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 peroxyacetic 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 peroxyacetic 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 peroxyacetic 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 peroxyacetic 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 peroxyacetic 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 kieseguhr 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 peroxyacetic 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 peroxyacetic 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 peroxyacetic 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 peroxyacetic 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 peroxyacetic acid depending on the type of systems and the level of microbiological control desired.

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:

For non-refillable 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. If burned, stay out of smoke.

For non-refillable 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. If burned, stay out of smoke.

For refillable containers: Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

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 must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, 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 LLC and Seller harmless for any claims relating to such factors, to the extent consistent with applicable law.

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

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

BIOSAFE SYSTEMS LLC 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 LLC.

Optional Claims:

The following claims may appear on any label panel

- 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 soilborne 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
- Optional Language: [*] and [* = *Not For Use in California*]