

833-5

9/27/2012  
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U.S. ENVIRONMENTAL PROTECTION  
AGENCYOffice of Pesticide Programs  
Antimicrobials Division (7510P)  
1200 Pennsylvania Avenue NW  
Washington, D.C. 20460

EPA Reg.

Number:

833-5

Date of

Issuance:

SEP 27 2012

Term of Issuance:

**Non-Conditional**

Name of Pesticide Product:

Per-Ox Extreme

## NOTICE OF PESTICIDE:

☒ Registration  
☐ Reregistration

(under FIFRA, as amended)

Name and Address of Registrant (include ZIP Code):

SRS International Corp.

Agent for Alex C. Fergusson, Inc.

10234 Three Fox Lane

PO Box 109

Delaplane, VA 20144

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered/reregistered under the Federal Insecticide, Fungicide and Rodenticide Act.

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is non-conditionally registered in accordance with FIFRA sec 3(c)(5) provided that you:

1. Submit and/or cite all data required for registration of your product under FIFRA sec. 3(c)(5) when the Agency requires all registrants of similar products to submit such data; and submit acceptable responses required for re-registration of your product under FIFRA section 4.
2. Make the labeling changes listed below before you release the product for shipment:
  - a. Revise the "EPA Registration Number to read, "EPA Reg. No. 833-5".

Signature of Approving Official:

Marshall Swindell  
Product Manager Team-33  
Regulatory Management Branch I  
Antimicrobials Division (7510P)

Date:

SEP 27 2012

- b. The following labeling claims are unacceptable because no efficacy data were generated to support these use sites:
- Aseptic Food Processing Operations (which include Food Packing Materials)
  - Packinghouse Sanitization
  - Field Equipment Sanitization
  - Fogging
  - Surface Disinfection
  - Porous and Non-Porous Hard Surface Sterilization
  - Disinfection of Sewage and Wastewater Effluents in Treatment Plants
  - Sanitizing and Disinfection of Laundry in Commercial and Institutional and Industrial Operations.
- c. The following organisms must be removed from the labeling because no efficacy data were generated to support these pests:
- *Listeria monocytogenes*
  - *Salmonella typhimurium*
- d. On page 7, the following labeling claim must be removed: **For Treatment of Processing Waters to Control Growth of Non-Public Health Microorganisms that Can Cause Spoilage of Fresh-Cut, Post-Harvest, or Processed Fruits and Vegetables**. The claim is ambiguous as it may be construed that the product can be used on processed food. An antimicrobial used in or on processed food is not a "pesticide" under FIFRA and would be subject to regulation by FDA as a food additive (see section 409 of the Federal Food, Drug, and Cosmetic Act [FFDCA]).
- e. On page 1, delete the following claim: For **"Organic Production. May be used in rinse or wash water on products labeled as organic food in food processing facilities on commodities that will further be processed"**. See Item d above for further details as to why this claim must be removed.
- f. On page 7, the use directions for **"fogging to control the growth of non-public health microorganisms for spoilage on raw, post harvest fruits and vegetables during the post-harvest process"** lacks pertinent safety information that is important for this method of application. Fogging generates particles that are small enough to be inhaled and also may contact the skin, thereby leading to potential exposures to applicators and bystanders. Labeling, specifically the use directions, must be protective of human health. Therefore, the following changes must also be incorporated for application of fogging in enclosed areas:
- Under Precautionary Statements (p.3)
    - Specify the proper respiratory protection that is to be worn by the applicator
  - In addition to the numbered items under the directions for use for fogging on p. 7
    - "TURN OFF ALL IGNITION SOURCES such as pilot lights (shut off gas valve), other flames or electrical appliances that cycle on and off (i.e.,

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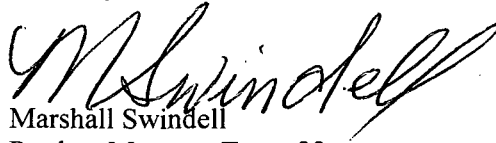
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EPA Reg. No. 833-5

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA sec. 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

A stamped copy of the label is enclosed for your records. Submit one (1) copy of your final printed labeling prior to release of this product for shipment. If you have any questions concerning this letter, please contact Demson Fuller at (703) 308-8062.

Sincerely,



Marshall Swindell  
Product Manager Team-33  
Regulatory Management Branch I  
Antimicrobials Division (7510P)

Enclosure: (Stamped Label)

# Per-Ox Extreme

EPA Registration No.: 833-5

EPA Est. No.: 833-PA-1

## For Industrial Use Only

Active Ingredients:	Peroxyacetic Acid .....	15%
	Hydrogen Peroxide .....	10%
Inert Ingredients:	.....	75%
Total	.....	100%

## KEEP OUT OF REACH OF CHILDREN DANGER

For biofouling and slime control in:

- Recirculating process and cooling water systems

For Institutional / Industrial sanitizing of previously cleaned non-porous food contact surfaces in:

- Dairies, Wineries, Breweries and Beverage Plants
- Meat and Poultry Processing/Packaging Plants
- Milk and Dairy Products Processing/Packing Plants
- Seafood and Produce Processing/Packing Plants
- Food Processing/Packing Plants
- Egg Processing/Packing Equipment Surfaces
- Eating Establishments

For Institutional / Industrial sanitizing of previously cleaned, hard, non-porous food contact surfaces such as:

- Eating, Drinking, and Food Preparation Utensils
- Tableware
- Plastic, Glass and Metal Bottles (rinse)

~~For Organic Production: May be used in rinse or wash water on products labeled as organic in food processing facilities on commodities that will be further processed.~~ For use as a sanitizer on food contact surfaces in contact with products labeled as organic,

Use as a coarse spray for surfaces to be sanitized.

For sanitizing surfaces such as packing house conveyors and harvesting equipment and containers. It is effective against plant pathogens such as *Xanthomonas campestris* (axonopodis), *pathovars citrumelo* (citrus canker surrogate).

For sanitizing of hatching eggs.

~~For use in fogging applications as an adjunct to acceptable cleaning and disinfection of food contact surfaces.~~

~~For porous and non-porous hard surface sterilization except aseptic packaging which is limited to hard surfaces only.~~

~~For use in the disinfection of heat labile surfaces in non-commercial and non-food contact applications for animal use of feed and feed ingredients.~~

For use as a dip, spray, wash or fog to control the growth of non-public health microorganisms that may cause decay and/or spoilage on raw, post-harvest and fresh cut, fruits and vegetables.

~~For use in process water that may contact raw, post-harvest and fresh cut, fruits and vegetables.~~

~~For use in aseptic food processing, in food packaging materials to achieve commercial sterility.~~

~~For use as a wastewater and sewage effluent disinfectant in public and private treatment facilities.~~

For use in agricultural water and irrigation systems.

~~For use in the disinfection of heat labile surfaces in non-commercial and non-food contact applications for animal use of feed and feed ingredients.~~

ACCEPTED  
with COMMENTS  
in EPA Reg. No. 833-5

SEP 27 2012

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act as  
amended, for the pesticide,  
under EPA Reg. No. 833-5

Alex C. Fergusson  
5000 Letterkenny Road  
Chambersburg, PA 17201

Net Contents: ##### Gallons / ##### Pounds

ACCEPTED  
with COMMENTS  
in EPA Letter dated

SEP 27 2012

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act as  
amended, for the pesticide,  
registered under EPA Reg. No. 833-5

## Precautionary Statements Hazards to Humans and Domestic Animals

### DANGER

Corrosive. Causes eye and skin damage. Harmful if swallowed. Do not get in eyes, on skin or on clothing. Wear goggles or face shield and rubber gloves when handling. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Do not breathe vapor or spray mist. Do not enter an enclosed area without proper respiratory protection.

**Physical or Chemical Hazards** – Strong oxidizing agent. Mix only with water. Not combustible but at temperatures exceeding 156 °F, decomposition occurs releasing oxygen. The oxygen released could initiate or promote combustion of other materials.

**Environmental Hazards** – This pesticide is toxic to birds, mammals, fish and aquatic invertebrates. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with 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 effluents containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board if Regional Office of the EPA.

Any solution released from the system should be diluted with water and tested for residuals to ensure that there is less than 3 ppm peroxygen remaining.

### First Aid

Have the product container or label with you when calling a poison control center or doctor, or going for treatment

- |                        |  |
|------------------------|--|
| If in Eyes             | <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>  |
| If on Skin or Clothing | <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>  |
| If Inhaled             | <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 by mouth-to-mouth if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>   |
| If Swallowed           | <ul style="list-style-type: none"> <li>• Call a 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 a poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul> |

**Note to Physician:** Probable mucosal damage may contraindicate the use of gastric lavage.

**Storage and Disposal**

Do not Contaminate Water, Food, or Feed by Storage and Disposal

**Pesticide Storage**

**NEVER RETURN Per-Ox Extreme TO THE ORIGINAL CONTAINER AFTER IT HAS BEEN REMOVED.** Avoid all contaminants, especially dirt, caustic, reducing agents, and metals. Contamination and impurities will reduce shelf life and can induce decomposition. In case of a decomposition, isolate container, douse container with cool water and dilute with large volumes of water.

Avoid damage to containers. Keep containers closed at all times when not in use. Keep containers out of direct sunlight. To maintain product quality, store at temperatures below 86°F. Do not store on wooden pallets.

**Procedure for Leak or Spill**

Stop leaks if this can be done without risk. Shut off ignition sources, no flames, smoking, flares, or spark-producing tools. Stop combustible and organic materials away. Flush spilled material with large quantities of water. Undiluted material should not enter confined spaces.

**Disposal****Pesticide Disposal**

If material has been spilled, an acceptable method of disposal is to dilute with at least 20 volumes of water followed by disposal in a suitable treatment system in accordance with all local, state, and Federal environmental laws, rules, regulations, standards, and other requirements. Because acceptable methods of disposal may vary by location, regulatory agencies should be contacted prior to disposal.

Product to be discarded should be disposed of as a hazardous waste after contacting the appropriate local, state, or Federal agency to determine proper procedures.

**Container Disposal**

**Nonrefillable containers less than 5 gallons.** Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available, Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank and 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 dispose in accordance with local, state and Federal regulations.

**Nonrefillable containers greater to or equal to 5 gallons.** Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available; 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. Empty drums are not returnable unless special arrangements have been made. Dispose of drums in accordance with local, state and Federal regulations.

**All Refillable containers.** Refillable container. 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 procedure two more times. Return to manufacturer for reuse.

**Directions for Use**

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

**Control of Slime Forming Bacteria in Recirculating Cooling Water Systems (Cooling Towers, Evaporative Condensers) and Non-Food Contact Water Systems (Pulp and Paper Mill Water Systems)**

For use in treating raw (make-up) and process waters, closed and opened loop systems such as heat exchangers, wet scrubbers, cooling towers, evaporative condensers and recirculating industrial process waters, such as pulp and paper mill water systems.

1. Severely fouled systems should be cleaned before adding the product solution. Refer to the system operation manual for directions to clean severely fouled systems. The product should be added directly to the system and not mixed with any other chemicals or additives. Other chemicals should be added separately. Contamination with other chemicals could result in product decomposition.
2. Add the product solution at a point in the system where uniform mixing and even distribution will occur.
3. **Intermittent feed method:** When the system is noticeably fouled, apply 0.8 – 1.2 lb (10 to 16 fluid ounces) per 1000 gallons of water in the system. When microbial control is evident, add 1.0 lb (14 fluid ounces) of the solution per 1000 gallons of water in the system every day, or as needed, to maintain control. The daily dose rate should vary depending upon the severity of the biofouling.
4. **Continuous feed method:** Initial dose – When the system is just noticeably fouled, apply 0.8 to 1.2 lb (10 to 16 fluid ounces) per 100 gallons of water in the system. When microbial control is achieved, start adding continuously at a rate of 1.0 lb (14 fluid ounces) per 1000 gallons of water (provides 17 ppm peroxyacetic acid and 12 ppm hydrogen peroxide). Then reduce the rate of addition to a level sufficient to maintain control. The dose rate may have to be adjusted to account for losses due to blowdown and evaporation. Add 1.4 fluid ounces of product for every 100 gals of make-up water.

**As Septic Food Processing Operations**

This product may be used to achieve commercial sterility of food packaging prior to fill and of equipment used in aseptic food processing application.

**Food Packaging Materials**

Apply on the exterior and interior of food containers and closure systems (caps, seals, etc.). Apply a solution containing 1000 ppm of 1% peroxy-acetic acid at a minimum temperature of 65°C. The solution must remain in contact with the packaging surface for a minimum of 20 seconds. Rinse containers with sterile water prior to filling with processed food. In the case of a rinse, films may be mechanically stripped of excess sanitizing solution.

For a fine mist or vapor application, no rinse or treatment solution is required if: (1) solution application does not exceed 1.075 ml treatment solution per ounce container capacity; (2) treatment solution has not been recycled; and (3) no treatment solution with a concentration of higher than 100 ppm peroxyacetic acid has been added to the treatment solution reservoir.

This product may be used on food packaging as an aseptic packaging antimicrobial rinse in food packaging processing operation that has a scheduled process accepted by FDA. The aseptic food processing operation must comply with all applicable FDA regulations, including but not limited to 21 CFR parts 108, 110, 111, and/or 114. Use of an aseptic food processing operation includes treating required for the process validation.

**Food Processing Equipment**

The product may be used to achieve commercial sterility of non-porous food manufacturing, packaging and filling equipment. May be used on manufacturing, filling (including rotary fillers) and packaging equipment.

1. Remove gross soil particles from equipment surfaces.
2. Clean surfaces thoroughly.
3. Rinse thoroughly with potable water.
4. Apply a solution containing 4000 ppm (0.4%) peroxyacetic acid at a minimum temperature of 65°C.
5. Use immersion, coarse spray or circulation techniques to apply. Automated application by fine mist or vapor deposition may be used within enclosed spaces.
6. Allow contact time of at least 20 seconds.
7. Allow to drain dry.
8. A final rinse with sterile water is optional.

This product may be used on equipment used in aseptic packaging as an antimicrobial rinse in food processing operation that has a scheduled process accepted by FDA. The aseptic food processing operation must comply with all applicable FDA regulations, including but not limited to 21 CFR parts 108, 110, 113, and/or 114. Use of an aseptic food processing operation includes treating required for the process validation.

**Sanitizing of Non-porous Food Contact Surfaces**

For use in circulation cleaning and institutional / industrial sanitizing of previously cleaned hard, non-porous food-contact surfaces and equipment, such as food preparation surfaces, pipelines, tanks, vats, filters, evaporators, pasteurizers and aseptic equipment in

- Dairies, Wineries, Breweries and Beverage Plants
- Meat and Poultry Processing / Packaging Plants
- Milk and Dairy Products Processing / Packing Plants
- Seafood and Produce Processing / Packing Plants
- Food Processing / Packing Plants
- Egg Processing / Packing Equipment Surfaces
- Eating Establishments
- Final Sanitizing Bottle Rinse

An effective sanitizer against *Staphylococcus aureus*, *Escherichia coli*, *Listeria monocytogenes*, and *Salmonella typhimurium*.

Clean equipment immediately after use.

1. Remove gross particulate matter with a warm water flush.
2. Wash equipment with detergent or cleaning solution.
3. Rinse equipment with potable water.
4. Prepare product solution by adding 0.31 to 0.45 fluid ounces to 5 gallons potable water. This provides 85 to 123 ppm peroxyacetic acid and 57 to 82 ppm hydrogen peroxide.
5. Fill closed systems with diluted sanitizer solution and allows a contact time of one (1) minute
6. If sanitizing against *Listeria monocytogenes*, use 0.4 to 0.45 fluid ounces of this product to 5 gallons potable water. This will provide 109 to 123 ppm of peroxyacetic acid and 73 to 82 ppm of hydrogen peroxide.
7. For open or not completely closed systems, use a coarse spray, mop/wipe or flood technique to apply solution to the surface and allow a contact time of one (1) minute. Allow surface to drain thoroughly before resuming operation.

**Eating Establishment Sanitizing**

An effective sanitizer against *Staphylococcus aureus*, *Escherichia coli*, *Listeria monocytogenes*, and *Salmonella typhimurium*.

1. Scrape/prewash plates, utensils, cups, glasses, etc. whenever possible.
2. Wash all items with a detergent.

3. Rinse thoroughly with potable water.
4. Prepare product solution by adding 0.31 to 0.45 fluid ounces to 5 gallons potable water. This provides 85 to 123 ppm peroxyacetic acid and 57 to 82 ppm hydrogen peroxide.
5. Immerse all items for at least 1 minutes or for a longer contact time if specified by the local governing sanitation code.
6. If sanitizing against *Listeria monocytogenes*, use 0.4 to 0.45 fluid ounces of this product to 5 gallons potable water. This will provide 109 to 123 ppm of peroxyacetic acid and 73 to 82 ppm of hydrogen peroxide.
7. Place all sanitized items on a rack or drainboard to drain adequately. Air dry if items will not be reused immediately.

**Sanitizing Tableware**

For sanitizing tableware in low to ambient temperature warewashing machines, inject the diluted product solution (0.31 to 0.45 fluid ounces of the product to 5 gallons of potable water) into the final rinse water. This will provide 85 to 123 ppm of peroxyacetic acid and 57 to 82 ppm of hydrogen peroxide. Allow treated materials to drain adequately. Air dry if items will not be reused immediately.

**Final Sanitizing Bottle Rinse**

May be used as a final sanitizing rinse for plastic, glass or metal returnable and non-returnable bottles / cans.

1. Wash bottles with detergent or cleaning solution and rinse with potable water.
2. Rinse bottles with a solution prepared by mixing 0.31 to 0.45 fluid ounces of product to 5 gallons of potable water. This provides 85 to 123 ppm of peroxyacetic acid and 57 to 82 ppm of hydrogen peroxide. Allow to drain dry/

**Sanitization of Hatching Eggs**

1. Prepare a dilute solution prepared by mixing 0.31 to 0.45 fluid ounces of product to 5 gallons of potable water. This provides 85 to 123 ppm of peroxyacetic acid and 57 to 82 ppm of hydrogen peroxide.
2. Apply dilute solution as eggs are gathered or prior to setting as a coarse spray or flood so as to lightly wet all egg shell surfaces.
3. Allow to drain dry.

**Sanitizing of Conveyors, Peelers, Slicers and Saws for Meat, Poultry, Seafood, Fruits and Vegetables**

An effective sanitizer against *Staphylococcus aureus*, *Escherichia coli*, *Salmonella typhimurium* and *Listeria monocytogenes*.

For use in the static or continuous washing, rinsing, and sanitizing of conveyor equipment, peelers, collators, slicers, saws, etc.

1. Remove all products from equipment if during treatment the sanitizer will directly contact the items.
2. Prepare sanitizer solution by adding 0.31 to 0.45 fluid ounces to 5 gallons of potable water. This provides 85 to 123 ppm of peroxyacetic acid and 57 to 82 ppm of hydrogen peroxide.
3. Apply sanitizer solution to the return portion of the conveyor or to the equipment by using a coarse spray or other means of wetting the surfaces. Control the volume of solution so as to permit maximum drainage and to prevent puddles. The conveyor may still be damp when food contact occurs.
4. If sanitizing against *Listeria monocytogenes*, use 0.4 to 0.45 fluid ounces of this product to 5 gallons potable water. This will provide 109 to 123 ppm of peroxyacetic acid and 73 to 82 ppm of hydrogen peroxide.
5. Allow equipment to drain adequately before reusing, a dry surface is not required.

**Surfaces Treated to Control the Spread of Citrus Canker**

Can be used to control the spread of citrus canker between inanimate surfaces to plants. This product is for sanitizing surfaces such as packinghouse conveyors and harvesting equipment and containers. This product is not for treatment of infected plants.

ACCEPTED  
with COMMENTS  
in EPA Letter D-11-1

SEP 27 2012

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act as  
amended, for the pesticide,  
registered under EPA Reg. No. 833-5

**Packaginghouse Sanitization**

An effective sanitizer against microorganisms such as *Xanthomonas campestris*, *Botrytis cinerea*, *Aspergillus versicolor*, as well as *Staphylococcus aureus*, *Escherichia coli*, and *Salmonella typhimurium*.

1. Remove gross contamination with a cleaner or other suitable detergent and rinse with potable water.
2. Use at a dilution of 3.1 fluid ounces per 50 gallons of water (85 ppm peroxyacetic acid and 57 ppm hydrogen peroxide) as a general sanitizing coarse spray to reduce bacterial and fungal contamination of walls, floors, conveyors and harvesting containers.
3. Allow sanitizer to contact surfaces for at least one (1) minute.
4. Allow to air dry, do not rinse.

**Field Equipment Sanitization**

May be used to sanitize harvest equipment such as pickers, trailers, trucks (including truck body parts and tires), and packing crates, ladders, power tools, hand tools, gloves, rubber boots, pruning shears, and other equipment that may transfer *Xanthomonas campestris* (*Botrytis cinerea*) pathogens (citrus canker surrogate). This product can also be used to sanitize surfaces contaminated with *E. coli*, *Salmonella typhimurium*, and *Salmonella*.

1. Before sanitization, move the field equipment into an area with an impervious surface and with controlled drainage. Ensure that no sanitization solution will be released into the environment.
2. Remove gross contamination with a cleaner or other suitable detergent and rinse with water.
3. Use at a dilution of 3.1 to 5.0 fluid ounces per 50 gallons of water (85 - 135 ppm peroxyacetic acid and 57 - 90 ppm hydrogen peroxide) as a general sanitizing coarse spray.
4. Allow sanitizer to contact surfaces for at least one (1) minute.
5. Allow to air dry, do not rinse.

**Fogging**

For sanitizing hard, non-porous room surfaces as an adjunct to acceptable manual cleaning and disinfection of room surfaces.

1. Prior to fogging remove or carefully protect all food products and packaging materials.
2. Ensure room is properly ventilated. Vacate all personnel from the room during fogging and for a minimum of 2 hours after fogging. Ensure there is no strong odor characteristic of acetic acid before allowing personnel to return to the work area.
3. Fog areas using one quart per 1000 cu. ft. of room area with a 0.1% solution of the product.
4. Allow surfaces to drain thoroughly before operations are resumed.

**Surface Disinfection**

An effective one-step cleaner and disinfectant against vegetative forms of Gram-positive and negative bacteria (vegetative forms) such as *Staphylococcus aureus*, *Salmonella choleraesuis*, *Pseudomonas aeruginosa*. It is effective in hard water (up to 400 ppm as calcium carbonate equivalent) and in the presence of moderate organic soil. It may also be used in general commercial and medical environments to clean, disinfect and deodorize inanimate surfaces such as:

- Floors, walls, and other non-porous inanimate surfaces such as tables, chairs, countertops, garbage cans/bins, bathroom fixtures, sinks, bed frames, shelves, racks, carts, refrigerators, cookers, glazed tile, linoleum, vinyl, glazed porcelain, plastic (such as polypropylene and polyethylene), stainless steel or glass.
- Hospitals, surgical and obstetrical suites, operating tables, housekeeping services, physical therapy departments, nursing homes, health care facilities, autopsy facilities, pharmaceutical and chemical processing facilities and equipment.
- Schools, colleges, industrial facilities, dietary areas, office buildings, recreational facilities, retail and wholesale establishments.
- Animal hospitals, veterinary clinics, animal life science laboratories, kennels, kennel runs, cages, feeding and watering equipment, pet shops, zoos, pet animal quarters, poultry premises, truck hatcheries and live stock quarters.

Prepare disinfecting solution by adding 1.1 to 9.5 fluid ounces of the product to 5 gallons of potable water. This will provide 300 to 2600 ppm of peroxyacetic acid and 200 to 1730 ppm hydrogen peroxide. If surfaces are moderately soiled, the disinfectant solution may be used without a pre-cleaning step. For grossly soiled surfaces, remove filth from surfaces to be disinfected by cleaning with a detergent or suitable cleaning product. Rinse with clean water. To disinfect, apply by wiping, mopping, or as a coarse spray. Allow to soak for at least 10 minutes then air dry.

**Antimicrobial Rinse of Pre-Cleaned or New Returnable or Non-Returnable Containers**

To reduce the number of nonpathogenic beverage spoilage organisms such as *Aspergillus versicolor*, *Byssoschlamys fulva*, *Peiococcus damnosus*, *Lactobacillus buchneri* and *Saccharomyces cerevisia*.

Use up to 10 fluid ounces of product per 5 gallons of potable water. This provides 2700 ppm of peroxyacetic acid and 1800 ppm hydrogen peroxide.

After applying the antimicrobial rinse, allow containers to drain thoroughly. Optional rinse with sterile or potable water.

**For Porous and Non-Porous Hard Surface Sterilization**

May be used to sterilize both porous and non-porous hard surfaces in institutions, manufacturing, food-processing or other non-medical facilities where sterilization is required. It is effective in the presence of 400 ppm hard water (measured as calcium carbonate equivalent) and moderate organic soil (tested as 5% serum).

1. Remove gross filth with a suitable detergent if present. Rinse with clean water.
2. Mix 2.5 fluid ounces per gallon of clean water. This provides 3400 ppm peroxyacetic acid and 2240 ppm hydrogen peroxide.
3. Spray, sponge or flood to wet surfaces thoroughly. Solution must remain in contact with surface for 6 hours. Reapply solution to surfaces as necessary to maintain wet conditions.
4. Rinse food-contact surfaces with a sterile, potable water rinse, followed by application of a sanitizing solution of Per-Ox Extreme.
5. Do not re-use solution; prepare new solution each time.

This product is not to be used as a terminal disinfectant/ high-level disinfectant on any surface of instrument that (1) is introduced directly into the human body, either into contact with the mucous membranes or normally sterile areas of the body, or (2) contacts intact mucous membranes but which does not ordinarily penetrate the blood barrier or otherwise enter normally sterile area of the body. This product may not be used to pre-clean or decontaminate any medical device.

**For Disinfection of Sewage and Wastewater Effluents in Treatment Plants**

To treat sewage and wastewater effluent related to public and private wastewater treatment plants. Can be applied directly to the effluent or may be used with an appropriate activator such as hydrogen peroxide or other technology. May be applied to effluent discharged from a trickle bed or percolating fluidized bed filters. The application rate for individual facilities will depend on the degree of bioloading of the effluent stream to be discharged and the local microbial discharge limit. Adjust application rate to meet the need of the individual facility.

1. Add to effluent water at a concentration of 0.5 ppm to 1.5 ppm. Allow contact time of approximately 75 to 60 minutes.
2. The maximum amount of peroxyacetic acid that can be discharged from the treatment facility is 1 ppm. Use an appropriate peroxyacetic acid test kit analyzer to ensure that this level is not exceeded. Contact your AFCO representative for assistance establishing treatment regimes.

ACCEPTED  
with COMMENTS  
to EPA Letter Dated:

SEP 27 2012

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act as  
amended, for the pesticide,  
registered under EPA Reg. No. 833-5



### For Treatment of Processing Waters to Control Growth of Non-Public Health Microorganisms that Can Cause Spoilage of Fresh-Cut, Post-Harvest, or Processed Fruits and Vegetables

1. Ensure the solution is thoroughly mixed.
2. Add a dilution of 0.1 fluid ounce to 1.0 fluid ounce per 16 gallons of water. This provides 5 to 85 ppm peroxyacetic acid and 4 to 57 ppm hydrogen peroxide.
3. Allow the solution to circulate at least 45 seconds before adding or treating raw, fresh-cut or processed fruits and vegetables.
4. Add concentrate as needed to maintain a concentration of at least 1 ppm peroxyacetic acid and 1 ppm hydrogen peroxide.
5. Prepare fresh process water daily. Do not reuse water that is badly fouled.

### For Treatment of Processed Fruit and Vegetable Surfaces and Process Water to Control Growth of Non-Public Health Microorganisms that Can Cause Spoilage

1. Add at a dilution of 0.5 fluid ounces per 25 gallons of water. Ensure that the dilution is thoroughly mixed. This provides 80 ppm peroxyacetic acid and 50 ppm hydrogen peroxide.
2. Apply the prepared solution as a spray or dip. Allow a minimum contact time of 45 seconds. No rinse following application is required. This use complies with the requirements at 21 CFR 173.31(a)(5). A potable water rinse is not required following application of the diluted solution.

### For Treatment of Raw, Unprocessed Fruit and Vegetable Surfaces

Can be applied as a dip or spray to control the growth of non-public health microorganisms such as *Xanthomonas campestris* (exonopodis) pathogens citrumelo (citrus canker surrogate) and *Aspergillus versicolor*, blue mold (*Penicillium* species), green mold (*Penicillium* species) and stem-end rot (*Geotrichum*) that may cause decay and/or spoilage on raw, post-harvest fruits and vegetables during the washing process. This product can be applied during physical cleaning processes, including at the roller spreader, washer manifold, dip tank, on the brushes or elsewhere in the washing process prior to, simultaneously with or after detergent wash.

1. Prepare treatment solution by adding 1.0 fluid ounce per 16 gallons of potable water. This will provide 85 ppm peroxyacetic acid and 57 ppm hydrogen peroxide.
2. Apply the diluted sanitizer solution using a coarse spray directed at the fruits or vegetables, or by soaking the fruits or vegetables in the solution. Allow a contact time of at least 45 seconds.
3. The treated produce can be drain dried without a potable water rinse.
4. Do not reuse solution after treatment.

Can be used on the following raw and post-harvest fruits and vegetables

- Root and tube vegetables such as carrots and potatoes
- Bulb vegetables such as onions, garlic and shallots
- Leafy vegetables such as broccoli, cabbage and cauliflower
- Legumes such as beans, peas and lentils
- Fruiting vegetables such as peppers, tomato and eggplant
- Cucurbits such as cucumbers, melons, squash and pumpkins
- Citrus fruits such as oranges, lemons, limes and grapefruit
- Pome fruits, apples and pears
- Stone fruits such as cherries, peaches, nectarines and plum
- Small fruits and berries: blackberries, blueberries, red and black raspberries
- Tree nuts such as almond, brazil, filbert, cashew and pecan
- Cereal grains such as corn, barley, oats, rice, and wheat
- Herbs and spices such as basil, chives, coriander and dill
- Miscellaneous fruits and vegetables such as asparagus, avocado, artichoke, banana, cranberry, fig, grapes, kiwifruit, mango, mushrooms, okra, papaya, peanut, pineapple, strawberry and water chestnut.

with COMMENTS  
to EPA letter Dated:

SEP 27 2012

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act as  
amended, for the pesticide,  
registered under EPA Reg. No. 833-5

Can be applied by fogging to control the growth of non-public health microorganisms that may cause decay and/or spoilage on raw, post-harvest fruits and vegetables during the post-harvest process.

1. Ensure the room is well ventilated. Vacate all personnel from room during fogging and for a minimum of 2 hours after fogging. Ensure there is not strong odor characteristic of acetic acid before having personnel return to work area. Do not enter room until hydrogen peroxide concentrations are correctly tested and are below 1 ppm on a time weighted average.
2. Fog area using one quart of a 0.06% solution (1 fluid ounce per 16 gallons of water) per 1000 cu. Ft. or room volume. Allow surface to drain thoroughly before operations are resumed.

### Agricultural and Horticultural Uses

A Restricted-Entry-Interval of zero (0) hours is required for this product in agricultural and horticultural uses. This product should not be mixed or combined with any pesticides or fertilizers. Upon soil contact, the diluted product decomposes rapidly to oxygen, carbon dioxide, and water. This product may be harmful to fish if exposed on a continuous basis at concentrations greater than 1 ppm of active peracetic acid. Meter this product into pressurized pipes using a plastic or stainless steel injection/backflow device installed upstream from the equipment to ensure thorough mixing prior to application. For open bodies of water, allow adequate mixing prior to product flow entering any body of water. If open pouring of this product is required, pour product close to the surface of the water as possible to reduce odor and exposure.

### Treatment of Agricultural and Irrigation Water Systems

Use to control sulfides, odor, slime and algae in sand filters, humidification systems, storage tanks, ponds, reservoirs, canals. Apply at 15 to 75 fluid ounces per 10,000 gallons of water. This provides 2 ppm to 10 ppm peroxyacetic acid. Repeat dose as necessary to maintain control. For prevention of algae, some systems may require continuous low level dosing during warm, sunny periods (2 ppm to 5 ppm peroxyacetic acid).

### For Sanitizing and Disinfection of Laundry in Commercial and Institutional and Industrial Operations

Use in commercial and institutional and industrial including hospitality laundry operations for control of microorganisms including *Candida albicans*, *Staphylococcus aureus*, *Pseudomonas aeruginosa*, *E. coli* and other coliforms.

#### For sanitization to control *Candida albicans*:

1. Add 2.0 fluid ounces per 100 pounds of dry laundry - assume 5 parts water to 1 part dry laundry based on 100 lbs of dry laundry.
2. Inject product into the sanitizing rinse step at 3.3 fluid ounces per 60 gallons of water applied. Product is effective in water up to 400 ppm of water hardness. Treat laundry for a minimum of 5 minutes at a minimum of 60°C. Following sanitation, laundry may be rinsed with water that may include a softener, starch, odor neutralizer, fragrance, soil release agent, and/or fluid repellent.

#### For disinfection:

3. Add 13.6 fluid ounces per 100 pounds of dry laundry - assume 5 parts water to 1 part dry laundry based on 100 lbs of dry laundry.
1. Inject product into the disinfecting rinse step at 3.6 fluid ounces per 60 gallons of water applied. Product is effective in water up to 400 ppm of water hardness. Treat laundry for a minimum of 5 minutes at a minimum of 60°C. Following disinfection, laundry may be rinsed with water that may include a softener, starch, odor neutralizer, fragrance, soil release agent, and/or fluid repellent.

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

Note: Before using product to sanitize metal surfaces, it is recommended that the diluted solution be tested on a small area to determine compatibility.

In all applications always prepare a new solution to ensure effectiveness. Do not re-use solutions. Dispose of unused solution