

65402-3

7-31-2007

117



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

073107

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

Mr. Matthew Talley  
Regulatory Specialist for,  
FMC Corporation, Inc.  
1735 Market Street  
Philadelphia, PA 19103

Mail to: Attn: Matthew Talley  
Keller and Heckman LLP  
1001 G Street, Suite 500 West  
Washington, D.C. 20001

Subject: Vigor Ox-SP-15 Antimicrobial Agent  
EPA Registration Number 65402-3  
Your Amendment Dated April 3<sup>rd</sup>, 2007  
EPA Received Date April 3<sup>rd</sup>, 2007

The amendment referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act(FIFRA), as amended, to add the proposed "Directions for Use" for the removal of excess sanitizing solution by mechanical means rather than by a potable water rinse on food packaging materials used in aseptic packaging facilities, is acceptable.

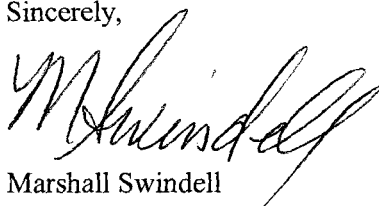
The Agency has accepted the modified language "in lieu of a rinse, films may be mechanically stripped of excess sanitizing solution" for aseptic food processing operations".

The Agency requests to receive notification when FDA has approved this process.

A stamped copy of labeling is enclosed for your records.

If you have any questions concerning this letter, please contact Karen M. Leavy-Munk at (703)-308-6237.

Sincerely,

A handwritten signature in black ink, appearing to read "M. Swindell". The signature is fluid and cursive, with the first name "Marshall" and last name "Swindell" clearly distinguishable.

Marshall Swindell  
Product Manager 33  
Regulatory Management Branch I  
Antimicrobial Division(7510P)

# VigorOx® SP-15 Antimicrobial Agent

EPA Registration No. 65402-3  
EPA Est. No. 00279-NY-003

## For Industrial Use Only

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

## KEEP OUT OF REACH OF CHILDREN DANGER

**VigorOx® SP-15 Antimicrobial Agent** is for biofouling and slime control in:

- Pulp and paper mill systems
- Recirculating process and cooling water systems
- Coating preservation
- Dispersed pigment preservation

**VigorOx® SP-15 Antimicrobial Agent** is 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

**VigorOx® SP-15 Antimicrobial Agent** is for Institutional/ industrial sanitizing of previously cleaned non-porous food contact surfaces such as:

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

**VigorOx® SP-15 Antimicrobial Agent** is for use as a coarse spray for surfaces to be sanitized.

**VigorOx® SP-15 Antimicrobial Agent** is for sanitizing surfaces such as packinghouse conveyers and harvesting equipment and containers. It is effective against plant pathogens such as *Xanthomonas campestris* (axonopodis) pathogens citrumele (citrus canker surrogate).

**VigorOx® SP-15 Antimicrobial Agent** is for sanitization of hatching eggs

**VigorOx® SP-15 Antimicrobial Agent** is for use in fogging applications as an adjunct to acceptable manual cleaning and sanitizing room surfaces.

**VigorOx® SP-15 Antimicrobial Agent** is for porous and non-porous hard surface sterilization except aseptic packaging which is limited to hard surfaces only.

**VigorOx® SP-15 Antimicrobial Agent** is for use in the disinfection of hard surfaces in general commercial and medical environments and as an antimicrobial rinse of Precleaned or New Returnable or Non-Returnable Containers

**VigorOx® SP-15 Antimicrobial Agent** is for use as a dip or spray wash 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.

**VigorOx® SP-15 Antimicrobial Agent** is for use in process water that contacts raw, post-harvest, fresh-cut and processed fruits and vegetables.

**VigorOx® SP-15 Antimicrobial Agent** is for use in aseptic food processing on food packaging materials to achieve commercial sterility.

ACCEPTED  
with COMMENT  
in EPA Letter Board:

073107

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

65402-3

### 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. 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. VigorOx® SP-15 Antimicrobial Agent is not combustible; however, 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 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.

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

- 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

- 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

- Move person to fresh air.
- If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth if possible.
- Call a poison control center or doctor for further treatment advice.

###### If swallowed

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

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

4/7

**FMC** and VigorOx® are trademarks of FMC Corporation



ACCEPTED  
with COMMENTS  
in EPA Letter Dated:  
**073107**

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act  
amended, for the pesticide,  
registered under EPA Reg. No. **05462-3**

**FMC Corporation**  
**Active Oxidants Division**  
**1735 Market Street**  
**Philadelphia Pennsylvania 19103**

## Storage and Disposal

### Storage

**NEVER RETURN VigorOx® SP-15 Antimicrobial Agent 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 decomposition, isolate container, douse container with cool water and dilute with large volumes of water.

Avoid damage to containers. Keep container closed at all times when not in use. Keep container 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 leak if this can be done without risk. Shut off ignition sources; no flames, smoking, flares, or spark producing tools. Keep 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 discharge into 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.

VigorOx® SP-15 Antimicrobial Agent which is to be discarded should be disposed of as hazardous waste after contacting the appropriate local, state, or Federal agency to determine proper procedures.

### Container Disposal

Empty drums are not returnable to FMC unless special arrangements have been made. Triple rinse drums with water. Dispose of drums in accordance with local, state, and Federal regulations. **DO NOT REUSE.**

## Directions for Use

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

### Biofouling Control in Pulp and Paper Mill Systems

For use in the manufacture of paper and paperboard intended for food and non-food contact.

VigorOx® SP-15 Antimicrobial Agent can be used to control bacterial, fungal and yeast growth in pulp, paper and paperboard mills.

1. Severely fouled systems should be cleaned before initial treatment with VigorOx® SP-15 Antimicrobial Agent. Refer to the plant operations manual for directions for cleaning severely fouled systems. The product should be added directly to the system and not mixed with any other chemicals or additives. Other chemicals can be added separately. Contamination with other chemicals could result in product decomposition.
2. Add the VigorOx® SP-15 Antimicrobial Agent at a point in the system where it can be mixed uniformly with the pulp, e.g., the beater, hydropulper, fan pump, broke pump etc.
3. Intermittent feed method: Apply 0.5 lb to 1.2 lb (7 to 16 fluid ounces) of VigorOx® SP-15 Antimicrobial Agent per ton (dry basis) of pulp or paper produced for two to three hours every eight-hour shift. Maintain a concentration that provides adequate control. Daily rate could change depending on the severity of the biofouling.

Continuous feed method: Initially, use the intermittent feed method to achieve control. When control is accomplished, apply VigorOx® SP-15 Antimicrobial Agent continuously at the rate determined adequate for intermittent control. Then reduce the rate of addition to the lowest level sufficient to maintain control. Depending on the severity of the biofouling, control usually can be maintained using a continuous rate of 0.2 to 1.2 lb (2.6 to 16 fluid ounces) of VigorOx® SP-15 Antimicrobial Agent solution per ton (dry basis) of pulp or paper produced on a continuous basis. This will provide 15 to 90 ppm of peroxyacetic acid and 10 to 60 ppm of hydrogen peroxide.

### Control of Bacteria and Fungi in Dispersed Pigments

VigorOx® SP-15 Antimicrobial Agent can be used to control bacteria and fungi in the manufacture and storage of dispersed pigments used in paint and paper production such as kaolin clay, titanium dioxide, calcium carbonate, calcium sulfate, barium sulfate, magnesium silicate and kieselguhr.

Apply 0.2 to 1.2 lb (2.6 to 16 fluid ounces) (90 to 545 grams) of VigorOx® SP-15 Antimicrobial Agent solution to each 1,000 lb (454 Kg) of fluid. This will provide 200 to 1200 ppm of product (30 to 180 ppm of peroxyacetic acid and 20 to 120 ppm of hydrogen peroxide).

### 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).

VigorOx® SP-15 Antimicrobial Agent is for use in treating raw (make-up) and process waters, closed and opened loop systems such as heat exchanges, 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 VigorOx® SP-15 Antimicrobial Agent 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 VigorOx® SP-15 Antimicrobial Agent 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 to 1.2 lb (10 to 16 fluid ounces) of VigorOx® SP-15 Antimicrobial Agent solution per 1000 gallons of water in the system. Repeat until control is achieved. 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 could 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) of VigorOx® SP-15 Antimicrobial Agent solution per 1000 gallons of water in the system. When microbial control is achieved, start adding VigorOx™ SP-15 Antimicrobial Agent solution continuously at a rate of 1.0 lb (14 fluid ounces) per 1000 gallons of water (provides 17 ppm peroxyacetic acid and 12 ppm of 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 VigorOx™ SP-15 Antimicrobial Agent for every 100 gals of make-up water.

## Control of Bacteria and Fungi in Coating Preservation

Do not use for coatings preservation applications involving direct or indirect food contact.

VigorOx® SP-15 Antimicrobial Agent can be used as an in-container preservative for the control of bacteria and fungi in water-based coatings such as paper coatings.

- Add 0.2 to 1.2 lb (2.6 to 16 fluid ounces) (90 to 545 grams) of VigorOx® SP-15 Antimicrobial Agent solution to each 1,000 lbs (454 Kg) of water (provides 200 to 1200 ppm of product or 30 to 180 ppm peroxyacetic acid and 20 to 120 ppm of hydrogen peroxide).

## Aseptic Food Processing Operations

This product may be used to achieve commercial sterility of food packaging prior to fill.

Apply VigorOx® SP-15 Antimicrobial Agent on film that will be formed into food packaging or the exterior and interior of preformed food containers and closure systems (caps, seals, etc.). Apply 4000 ppm peroxyacetic acid at a minimum 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 lieu of a rinse, films may be mechanically stripped of excess sanitizing solution.

This product may be used on food packaging as an aseptic packaging antimicrobial rinse in food packaging processing operations that have 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 in an aseptic food processing operation includes testing required for the process validation.

## Sanitization of Non-porous Food Contact Surfaces

For use in circulation cleaning and institutional/industrial sanitizing of previously cleaned non-porous food contact surfaces and equipment, such as pipelines, tanks, vats, fillers, 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, and in
- Final Sanitizing Bottle Rinse

VigorOx® SP-15 Antimicrobial Agent is 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 VigorOx® SP-15 Antimicrobial Agent 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 of hydrogen peroxide.
5. Fill closed systems with diluted sanitizer solution for a contact time of one (1) minute.
6. If sanitizing against *Listeria monocytogenes* use 0.4 to 0.45 fluid ounces (109 to 123 ppm peroxyacetic acid and 73 to 82 ppm hydrogen peroxide) of product to 5 gallons of potable water.
7. For open or not completely closed systems, use a coarse spray, mop/wipe or flood technique to apply the solution to the surface for a contact time of at least one (1) minute. Allow surfaces to drain thoroughly before resuming operation.

## Eating Establishment Sanitizing

VigorOx® SP-15 Antimicrobial Agent is an effective sanitizer against *Staphylococcus aureus*, *Escherichia coli*, *Listeria monocytogenes* and *Salmonella typhimurium*.

1. Scrape/prewash plates, utensils, cups, glasses, etc. whenever possible.

Master SP-15 Antimicrobial Agent – Draft – Mechanical strip

2. Wash all items with a detergent.
3. Rinse thoroughly with potable water.
4. Prepare VigorOx® SP-15 Antimicrobial Agent solution as follows: Add 0.31 to 0.45 fluid ounces of the product to 5 gallons of potable water. This will provide 85 to 123 ppm peroxyacetic acid and 57 to 82 ppm of hydrogen peroxide.
5. Immerse all items for at least one (1) minute or for a longer contact time if specified by the local governing sanitizing code.
6. If sanitizing against *Listeria monocytogenes* use 0.4 to 0.45 fluid ounces (109 to 123 ppm peroxyacetic acid and 73 to 82 ppm hydrogen peroxide) of product to 5 gallons of potable water.
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 VigorOx® SP-15 Antimicrobial Agent solution (0.31 to 0.45 fluid ounces of the product to 5 gallons of potable water) into the final rinse water. This provides 85 to 123 ppm 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

VigorOx® SP-15 Antimicrobial Agent 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/cans with a solution prepared by mixing 0.31 to 0.45 fluid ounces of VigorOx® SP-15 Antimicrobial Agent to 5 gallons of potable water. This provides 85 to 123 ppm peroxyacetic acid and 57 to 82 ppm of hydrogen peroxide. Allow to drain dry.

## Sanitization of Hatching Eggs

1. Prepare a dilute solution by adding 0.31 to 0.45 fluid ounces of VigorOx® SP-15 Antimicrobial Agent to 5 gallons of potable water. This provides 85 to 123 ppm peroxyacetic acid and 57 to 82 ppm of hydrogen peroxide. 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. Allow to drain dry.

## Sanitization of Conveyors, Peelers, Slicers, and Saws for Meat, Poultry, Seafood, Fruits, and Vegetables

VigorOx® SP-15 Antimicrobial Agent is an effective sanitizer against *Staphylococcus aureus*, *Escherichia coli*, *Salmonella typhimurium*, and *Listeria monocytogenes*.

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

1. Remove all products from equipment unless treating only the return portion of a conveyor.
2. Prepare VigorOx® SP-15 Antimicrobial Agent solution by adding 0.31 to 0.45 fluid ounces to 5 gallons of potable water. This provides 85 to 123 ppm 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 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 surface may still be damp when food contact occurs.
4. If sanitizing against *Listeria monocytogenes* use 0.4 to 0.45 fluid ounces (109 to 123 ppm peroxyacetic acid and 73 to 82 ppm hydrogen peroxide) of product to 5 gallons of potable water.
5. Allow equipment to drain adequately before reusing; a dry surface is not required.

## Surfaces Treated to Control the Spread of Citrus Canker

VigorOx® SP-15 Antimicrobial Agent can be used to control the spread of citrus canker between inanimate surfaces and inanimate surfaces to plants. This product is for sanitizing surfaces such as packinghouse conveyers and harvesting equipment and containers. This product is not for treatment of infected plants.

6/7

## Packinghouse Sanitization

VigorOx® SP-15 Antimicrobial Agent is an effective sanitizer against microorganisms such as *Xanthomonas campestris* (axonopodis) pathovars citrumelo (citrus canker surrogate) and *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 VigorOx® SP-15 Antimicrobial Agent at a dilution of 3.1 fluid oz. 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, conveyers and harvesting containers.
3. Allow sanitizer to contact surface for at least one (1) minute.
4. Allow to air dry, do not rinse.

## Field Equipment Sanitization

VigorOx® SP-15 Antimicrobial Agent may be used to sanitize harvest equipment such as pickers, trailers, trucks (including truck body parts and tires), bins, packing crates, ladders, power tools, hand tools, gloves, rubber boots, pruning shears or other equipment that may transfer *Xanthomonas campestris* (axonopodis) pathovars citrumelo (citrus canker surrogate). This product can also be used to sanitize surfaces contaminated with *E. coli*, *Salmonella typhimurium*, and *S. aureus*.

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 VigorOx® SP-15 Antimicrobial Agent at a dilution of 3.1 to 5.0 fluid oz per 50 gallons of water (85 to 135 ppm peroxyacetic acid and 57 to 90 ppm hydrogen peroxide) as a general sanitizing coarse spray.
4. Allow sanitizer to contact surface for at least one (1) minute.
5. Allow to air dry, do not rinse.

## Fogging

VigorOx® SP-15 Antimicrobial Agent is for sanitizing hard room surfaces as an adjunct to acceptable manual cleaning and disinfecting 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 having personnel return to work area.
3. Fog areas using one quart per 1000 cu. ft. of room area with a 0.1% VigorOx® SP-15 Antimicrobial Agent solution.
4. Allow surfaces to drain thoroughly before operations are resumed.

## Surface Disinfection

VigorOx® SP-15 Antimicrobial Agent is an effective one-step cleaner and disinfectant against 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 be used in general commercial and medical environments to clean, disinfect, and deodorize inanimate surfaces, such as:

- Floors, walls, and other non-porous surfaces such as tables, chairs, counter tops, garbage cans/bins, bathroom fixtures, sinks, bed frames, shelves, racks, carts, refrigerators, coolers, tile, linoleum, vinyl, asphalt, porcelain, plastic (such as polypropylene and polyethylene), stainless steel or glass.
- Areas of use in 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, trucks, hatcheries, and live stock quarters.

Prepare VigorOx® SP-15 Antimicrobial Agent disinfecting solution by adding 1.1 to 9.5 oz. of the product to 5 gallons of potable water. This will provide 300 to 2600 ppm peroxyacetic acid and 200 to 1730 ppm hydrogen peroxide. If surfaces are moderately soiled, the disinfection 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 VigorOx® SP-15 Antimicrobial Agent by wiping, mopping, or as a coarse spray. Allow to soak for at least 10 minutes, then air dry.

## Antimicrobial Rinse of Precleaned or New Returnable or Non-Returnable Containers

If non-pathogenic beverage spoilage microorganisms (for example *Byssoschlamys fulva* and *Aspergillus versicolor*) are present, use up to 10 fluid oz. of product per 5 gallons of water. This provides 2700 ppm peroxyacetic acid and 1800 ppm hydrogen peroxide. After applying antimicrobial rinse, allow containers to drain thoroughly, then rinse with sterile or potable water.

## For Porous and Non-porous Hard Surface Sterilization

VigorOx® SP-15 Antimicrobial Agent 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 fl. oz. of VigorOx® SP-15 Antimicrobial Agent per gallon of clean water. This provides 3400 ppm of peroxyacetic acid and 2240 ppm of hydrogen peroxide.
3. Spray, sponge or flood to wet all 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 or potable water rinse, followed by application of a sanitizing solution of VigorOx® SP-15 Antimicrobial Agent.
5. Do not re-use solution; prepare new solution each time.

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

## 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 that the water is recirculating or mixing
2. Add VigorOx® SP-15 Antimicrobial Agent at a dilution of 1 fluid oz per 16 gallons of water. This provides 85 ppm peroxyacetic acid and 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 85 ppm peroxyacetic acid and 57 ppm hydrogen peroxide.
5. Prepare fresh process water daily. Do not reuse water that is badly fouled.

ACCEPTED  
with COMMENTS  
in EPA Letter Dated:

073107

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

65402-3

7/7

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

1. Add VigorOx® SP-15 Antimicrobial Agent at a dilution of 1.5 fl. oz. per 25 gallons of water. Ensure that the solution is thoroughly mixed. This provides 80 ppm of peroxyacetic acid and 50 ppm of hydrogen peroxide.
- 2.
3. 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 C.F.R. 173.315 (a) (5). A potable water rinse is not required following application of the diluted solution.

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

VigorOx® SP-15 Antimicrobial Agent can be applied as a dip or spray to control the growth of non-public health microorganisms such as *Xanthomonas campestris* (axonopodis) pathovars citrumelo (citrus canker surrogate) and *Aspergillus versicolor*, blue mold (*Penicillium* species), green mold (*Penicillium* species) and stem-end rot (*Geotrichium*) 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 treating solution by diluting 1 fluid oz. 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.

VigorOx® SP-15 Antimicrobial Agent can be used on the following raw and post-harvest fruits and vegetables,

- Root and tuber vegetables such as carrots and potatoes
- Bulb vegetables such as onions, garlic and shallots
- Leafy vegetables such as lettuce and spinach
- Brassica 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, nectarine, 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, mushroom, okra, papaya, peanut, pineapple, strawberry and water chestnut

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

**Note:** VigorOx® SP-15 Antimicrobial Agent may not be used in direct food contact on agricultural products labeled as organic.

**Note:** Before using VigorOx® SP-15 Antimicrobial Agent 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 daily to ensure effectiveness. Do not re-use solutions. Dispose of unused solution.

## EMERGENCY TELEPHONE NUMBERS (24 HOURS)

MEDICAL: COLLECT 303-595-9048  
TRANSPORTATION: 800-424-9300  
OTHER: COLLECT 716-879-9499

For more information see Material Safety Data Sheet  
Label Effective Date:

ACCEPTED  
with COMMENTS  
in EPA Letter Dated:  
**073107**

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act as  
amended, for the pesticide,  
registered under EPA Reg. No.  
**65402-3**