VigorOx® 15 F&V

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® 15 F&V is for sanitizing surfaces such as packinghouse conveyors and harvesting equipment and containers. It is effective against plant pathogens such as Xanthomonas campestris (axonopodis) pathovars citrulina (citrus canker surrogate).

VigorOx® 15 F&V is for use as a coarse spray for surfaces to be sanitized.

VigorOx® 15 F&V can be used with the HRS™ and HRS™ II foaming agents. For food-contact applications, the foaming agent must be used in compliance with applicable regulations under the Federal Food, Drug and Cosmetic Act.

VigorOx® 15 F&V can be used with the non-foaming agent Paradigm™ for hard, non-porous surface sanitization.

VigorOx® 15 F&V is for use in fogging applications as an adjunct to acceptable manual cleaning and sanitizing room surfaces.

VigorOx® 15 F&V 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.

For Organic Production, VigorOx® 15 F&V 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.

VigorOx® 15 F&V is for use in agricultural water and irrigation systems.

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® 15 F&V 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 peroxycarbonate 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.

FMC Corporation
Peroxygens Division
1735 Market Street
Philadelphia Pennsylvania 19103

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Net Contents: 55 Gallons   Pounds:

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Storage and Disposal

Storage
NEVER RETURN VigorOx® 15 F&V 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® 15 F&V 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
Containers greater than or equal to 5 gallons but less than or equal to 55 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 ¾ full with water. Replace and tighten closures. Turn 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. Turn the container over into its other end and tip it back and forth several times. Empty the rinseate into application equipment or a mix tank or store rinseate for later use for disposal. Repeat this procedure two more times. Empty drums are not returnable to FMC unless special arrangements have been made. Dispose of drums in accordance with local, state, and Federal regulations.

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

Sanitization of Conveyors, Peelers, Slicers, and Saws for Fruits and Vegetables
VigorOx® 15 F&V 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® 15 F&V 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® 15 F&V 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 conveyors and harvesting equipment and containers. This product is not for treatment of infected plants.

Packhouse Sanitization
VigorOx® 15 F&V is an effective sanitizer against microorganisms such as Xanthomonas campestris (axonopodis) pathovars citrulini (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® 15 F&V 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. Air to dry, do not rinse.

Foam Sanitization
VigorOx® 15 F&V can be applied as a foam for sanitization of previously cleaned, hard, non-porous food-contact surfaces and general environmental (non-food contact) hard, non-porous surfaces, such as floors, walls, ceilings, drains and boots. Foam applications can be used where penetration and retention of product for required times is difficult to achieve. Examples include operating conveyor belts, and vertical or uneven surfaces.

1. Prepare a dilute VigorOx® 15 F&V solution by adding 0.3 to 0.45 fluid ounces per 4.5 gallons potable water.
2. After preparing the VigorOx® 15 F&V diluted solution, add 1 to 10 fluid ounces of HRS™ or add to 20 fluid ounces of HRS™ II per 4.5 gallons of diluted solution. After the HRS™ or HRS™ II is added, adjust the total solution volume to 5 gallons. HRS™ and HRS™ II are the only approved foam-generating additives for use with VigorOx® 15 F&V.
3. Apply the sanitizing solution as a foam using commercially available foam generating equipment. Allow foam to contact surfaces at least one (1) minute. For foot bath application, allow foam to remain on the foot surface for one minute upon exiting the bath.
4. Drain items and/or surfaces thoroughly.

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 Food Processing/Packing Plants.

VigorOx® 15 F&V 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® 15 F&V 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.
For Treatment of Raw, Unprocessed Fruit and Vegetable Surfaces

VigorX® 15 F & V can be applied as a dip or spray to control the growth of non-public health microorganisms such as *Xanthomonas campestris (axonopodis)* pathovars citrulme (citrus canker surrogate) and *Apergillus 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 sprayer, 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 18 gallons of potable water. This will provide 65 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.

VigorX® 15 F & V 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, tomatoes, and eggplants
- Cucurbitis 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 plums
- Small fruits and berries: blueberries, blackberries, 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 vegetables and fruits such as asparagus, avocado, artichoke, banana, cranberry, fig, grapes, kiwifruit, mango, mushroom, okra, papaya, peanut, pineappple, strawberry and water chestnut

Agricultural and Horticultural Uses

A Restricted-Entry Interval of (0) hours is required for VigorX® 15 F & V in agricultural or 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 peroxyacetic acid. Motor VigorX® 15 F & V 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 ponding 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 VigorX® 15 F & V to control sulfides, odor, slime, and algae in sand filters, humidification systems, storage tanks, ponds, reservoirs, canals.

Apply VigorX® 15 F & V 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).
Drip Irrigation Systems

To clean slimes and algae from drip system filters, tapes and emitters, meter VigorOx® 15 F&V at 7.5 to 15 fluid ounces per 1000 gallons. This provides 10 ppm to 20 ppm peroxycetic acid. Use this product at the recommended dose for a minimum of 30 minutes during normal irrigation cycles. Upon irrigation cycle completion, discontinue use and flush the lines.

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

**Note:** Before using VigorOx® 15 F&V 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.

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**EMERGENCY TELEPHONE NUMBERS**

(24 HOURS)

MEDICAL: COLLECT 303-595-9048
TRANSPORTATION: 800-424-9300
OTHER: COLLECT 716-879-0400

For more information see Material Safety Data Sheet

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