

VigorOx[®] LS-15

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[®] LS-15 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[®] LS-15 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)

For Organic Production. **VigorOx[®] LS-15** 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[®] LS-15 is for use as a coarse spray for surfaces to be sanitized.

VigorOx[®] LS-15 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[®] LS-15 can be used with the non-foaming agent, Paradigm[™], as an antimicrobial container rinse and for hard, non-porous surface sanitization and disinfection.

VigorOx[®] LS-15 is for sanitizing surfaces such as packinghouse conveyers and harvesting equipment and containers.

VigorOx[®] LS-15 is for sanitization of hatching eggs.

VigorOx[®] LS-15 is for use in fogging applications as an adjunct to acceptable manual cleaning and sanitizing room surfaces.

VigorOx[®] LS-15 is for porous and non-porous hard surface sterilization except aseptic packaging which is limited to hard surfaces only.

VigorOx[®] LS-15 is for use in the disinfection of hard surfaces in general commercial and medical environments and as an antimicrobial rinse of Prcleaned or New Returnable or Non-Returnable Containers.

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[®] LS-15 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.

Net Contents: 55 Gallons

Pounds:



FMC Corporation
Peroxygens Division
1735 Market Street
Philadelphia Pennsylvania 19103

Storage and Disposal

Storage

NEVER RETURN VigorOx[®] LS-15 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[®] LS-15 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 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. Turn the container over into its other 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 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.

Foam Sanitization

VigorOx[®] LS-15 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[®] LS-15 solution by adding 0.3 to 0.5 fluid ounces per 4.5 gallons potable water.
2. After preparing the VigorOx[®] LS-15 diluted solution, add 1 to 10 fluid ounces of HRS[™] or add 2 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[®] LS-15.
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 boot 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:

- 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[®] LS-15 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[®] LS-15 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.

VigorOx[®] LS-15 may be mixed with the non-foaming agent, Peradigm[™] and applied at room temperature or at a minimum of 25 °C.

1. Mix 0.5 fluid ounce VigorOx[®] LS-15 with Peradigm[™] in 4.5 gallons of water.
2. Add a maximum of 43 fluid ounces of Peradigm[™] to the dilute solution, and bring total volume to 5 gallons. This provides 125 ppm peroxyacetic acid and 85 ppm hydrogen peroxide.
3. Apply solution, allowing a minimum contact time of 30 seconds.
4. Rinse with sterile or potable water.

Eating Establishment Sanitizing

VigorOx® LS-15 is 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 VigorOx® LS-15 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® LS-15 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® LS-15 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™ LS-15 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® LS-15 to 5 gallons of potable water. This provides 85 to 123 ppm 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.

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

VigorOx® LS-15 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® LS-15 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.

Packinghouse Sanitization

VigorOx® LS-15 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® LS-15 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, 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® LS-15 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® LS-15 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® LS-15 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® LS-15 solution.
4. Allow surfaces to drain thoroughly before operations are resumed.

Surface Disinfection

VigorOx® LS-15 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, glazed tile, linoleum, vinyl, sealed asphalt, glazed 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® LS-15 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 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® LS-15 by wiping, mopping, or as a coarse spray. Allow to soak for at least 10 minutes, then air dry.

VigorOx[®] LS-15 may be mixed with the non-foaming agent, Peradigm[™].
Preclean surfaces prior to disinfection.

1. Prepare a diluted solution of VigorOx[®] LS-15 by adding a minimum of 1.0 fluid ounce to 4.5 gallons of water.
2. Add a maximum of 43 fluid ounces of Peradigm to the dilute solution, and bring total volume to 5 gallons.
3. Apply solution as previously described, allowing a minimum contact time of 10 minutes.

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

To reduce the number of nonpathogenic beverage spoilage organisms such as *Aspergillus versicolor*, *Byssoschlamys fulva*, *Pediococcus damnosus*, *Lactobacillus buchneri*, and *Saccharomyces cerevisiae*, use up to 10 fluid ounces of product per 5 gallons of water. This provides 2700 ppm peroxyacetic acid and 1800 ppm hydrogen peroxide. After applying the antimicrobial rinse, allow containers to drain thoroughly. Optional rinse with sterile or potable water.

VigorOx[®] LS-15 may be mixed with the non-foaming agent Peradigm[™] and applied at room temperature or at a minimum of 25 °C.

1. Mix a minimum of 0.5 fluid ounce VigorOx[®] LS-15 with Peradigm[™] in 4.5 gallons of water.
2. Add a maximum of 43 fluid ounces of Peradigm[™] to the dilute solution, and bring total volume to 5 gallons. This provides 125 ppm peroxyacetic acid and 85 ppm hydrogen peroxide.
3. Apply solution, allowing a minimum contact time of 30 seconds.
4. Rinse with sterile or potable water.

For Porous and Non-porous Hard Surface Sterilization

VigorOx[®] LS-15 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 VigorOx[®] LS-15 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[®] LS-15.
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 but which does not ordinarily penetrate the blood barrier or otherwise enter normally sterile areas of the body. This product may not be used to preclean or decontaminate any medical device.

Note: Before using VigorOx[®] LS-15 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 716-879-0400

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