

## 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 protective eyewear (goggles, face shield, or safety glasses), chemical resistant apron or coveralls and chemical resistant gloves when handling concentrate. 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 peroxyoxygen remaining.

#### DICTIONS FOR USE

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

#### 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
- Food Processing/Packing Plants
- Meat and Poultry Processing/Packaging Plants
- Egg Processing/Packaging Equipment Surfaces and
- Milk and Dairy Products Processing/Packing Plants
- Final Sanitizing Bottle Rinse
- Seafood and Produce Processing/Packing Plants

#### Pathogenic Organisms

**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** 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. 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.
6. Fill closed systems with diluted sanitizer solution for a contact time of one (1) minute.
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 one (1) minute.
8. Allow surfaces to drain thoroughly before resuming operation.

#### Non-Pathogenic Spoilage Organisms

**VigorOx® LS-15** is an effective sanitizer against non-pathogenic spoilage organisms: yeasts, molds.

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. To control non-pathogenic organisms, a rate of up to 1.8 fluid ounces to 5 gallons potable water may be used. This will provide 500 ppm peroxyacetic acid and 325 ppm hydrogen peroxide.
5. Fill closed systems with diluted sanitizer solution for a contact time of one (1) minute or more.
6. 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 one (1) minute or more.
7. Allow surfaces to drain thoroughly before resuming operation.

#### SANITIZING HARD, NON-POROUS, NON-EDIBLE OUTSIDE SURFACES OF AIRTIGHT, SEALED PACKAGES CONTAINING FOOD OR NON-FOOD PRODUCTS

**VigorOx® LS-15** may be used as a final sanitizing rinse for hard, non-porous non-edible outside surfaces of airtight, sealed packages containing food or non-food products at a dilution of 0.31-1.83 fluid ounces per 5 gallons of potable water. This provides 85-500 ppm peroxyacetic acid. The treated hard, nonporous non-edible packaging, such as food wraps and meat casings must be removed and discarded before packaged food products are further processed or consumed. All surfaces must be exposed to the sanitizing solution for at least one (1) minute. Drain thoroughly. No rinse necessary. This is not to be used on porous surfaces.

#### SANITIZING FOOD PROCESSING UTENSILS

**VigorOx® LS-15** is an effective sanitizer against *Staphylococcus aureus*, *Escherichia coli*, *Listeria monocytogenes* and *Salmonella typhimurium* in commercial food processing facilities. This product is not for use in cafeteria settings.

1. Scrape/prewash utensils 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.

#### 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 vapor, coarse spray or flood so as to lightly wet all egg shell surfaces.
3. Allow to drain dry.

#### SANITIZATION OF SHELL EGGS

To sanitize clean shell eggs intended for food or food products:

1. Prepare a dilute solution by adding 0.31 to 0.45 fluid ounces of **VigorOx® LS-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.
2. The dilute solution must be equal to or warmer than the eggs, but not to exceed 130F.
3. Apply dilute solution as eggs are gathered as a vapor, coarse spray or flood. Wet eggs thoroughly.
4. Allow to drain.
5. Eggs should be reasonably dry before casing or breaking.
6. The solution must not be reused for sanitizing eggs.

This product can be used in Federally Inspected Meat and Poultry facilities as a sanitizer.

#### 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: *Xanthomonas campestris* (*axanopods*) pathogens 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 be 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.

#### SURFACE DISINFECTION

**VigorOx® LS-15** is an effective one-step cleaner and disinfectant against gram positive and negative bacteria (vegetative forms): *Staphylococcus aureus*, *Salmonella enterica*, *Pseudomonas aeruginosam* and viruses: Norovirus and *Legionella pneumophila*. (Viruses not approved in California.) 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 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, sinks, 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 poultry premises, trucks, hatcheries, and live stock quarters.

To Control Bacteria listed above: Prepare **VigorOx® LS-15** 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. Remove gross filth from surfaces to be disinfected by cleaning with a detergent or suitable cleaning product. Rinse with clean water. Apply **VigorOx® LS-15** by wiping, mopping, or as a coarse spray. Allow to soak for at least 10 minutes, then air dry.

To Control Norovirus: **VigorOx® LS-15** disinfecting solution by adding 3.0 fluid ounces of the product to 5 gallons of potable water. This will provide 800 ppm peroxyacetic acid and 530 ppm hydrogen peroxide. For visibly 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 5 minutes, then air dry.

# VigorOx® LS-15

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

**VigorOx® LS-15** is for institutional/ industrial sanitizing of previously cleaned non-porous food contact surfaces such as:

- Commercial Food Processing Utensils
- 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** 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 sanitization of shell eggs.

**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 and as an antimicrobial rinse of Pre-cleaned or New Returnable or Non-Returnable Containers.

**VigorOx® LS-15** Antimicrobial Agent is for sanitizing hard, non-porous, non-edible outside surfaces of airtight, sealed packages containing food or non-food products.

**VigorOx® LS-15** may be used for the non-pesticidal purpose of cleaning room surfaces by fogging.

## 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 a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by 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.

## SEE SIDE PANEL FOR PRECAUTIONARY STATEMENTS



Manufactured by:

PeroxyChem, LLC

2005 Market St. Ste 3200

Philadelphia, PA 19103-7014



For Organic Use

To Control *Legionella pneumophila* for hard, non-porous surfaces: Prepare **VigorOx® LS-15** disinfecting solution by adding 1.1 fluid ounces of the product to 5 gallons of potable water. This will provide 300 ppm peroxyacetic acid and 200 ppm hydrogen peroxide. For visibly 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.

#### ANTIMICROBIAL RINSE OF PRECLEANED OR NEW RETURNABLE OR NON-RETURNABLE CONTAINERS

To reduce the number of nonpathogenic beverage spoilage organisms: *Aspergillus versicolor*, *Byssoschlamys fulva*, *Pediococcus damnosus*, *Lactobacillus buchneri*, and *Saccharomyces cerevisiae*, use 1 to 10 fluid ounces of product per 5 gallons of water. This provides 265 to 2700 ppm peroxyacetic acid and 175 to 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

**VigorOx® LS-15** may be used to sterilize both porous and non-porous hard surfaces in food-processing 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 steriant/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 pre-clean or decontaminate any medical device.

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

#### NON-PESTICIDAL CLEANING

All surfaces must be cleaned and disinfected in accordance with label directions prior to fogging.

1. Prior to fogging, remove or carefully protect all food products and packaging materials.
2. Vacate the area of all personnel prior to, during, and after fogging until the hydrogen peroxide concentration is below 0.5 ppm. Ensure room is properly ventilated after fogging.
3. Fog areas using one quart per 1000 cu. ft. of room area with a 0.30% (3.8 fluid ounces per 10 gallons of water) **VigorOx® LS-15** solution.
4. Allow surfaces to drain thoroughly before operations are resumed.

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

**NOTE:** Before using **VigorOx® LS-15** on metal surfaces, it is recommended that the diluted solution be tested on a small area to determine compatibility.

## 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

**Nonrefillable containers greater than 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. 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 or disposal. Repeat this procedure two more times. Empty drums are not returnable to PeroxyChem 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 mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Return to PeroxyChem for reuse.

## EMERGENCY TELEPHONE NUMBERS (24 HOURS)

**MEDICAL: COLLECT 303-389-1409**

**TRANSPORTATION: 800-424-9300**

**OTHER: COLLECT 716-879-0400**

EPA Reg. No. 65402-3

EPA Est. No. 65402-NY-001

EPL04212020 REV04242020

Net Contents:

5 Gallons (18.9 L) 45 lbs (20 kg)

55 Gallons (208 L) 495 lbs (224 kg)

330 Gallons (1249 L) 3000 lbs (1361 kg)

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PC-1039

D.O.T. Description: UN 3109, Organic Peroxide Type F, Liquid (<= 17% Peracetic Acid with <= 26% Hydrogen Peroxide), 5.2 (8)

# DO NOT STORE OR TRANSPORT ON WOODEN PALLETS

05/17