

Precautionary Statements Hazards to Humans and Domestic Animals

DANGER - Corrosive. Causes irreversible eye damage and skin burns. Harmful if swallowed. May be fatal if absorbed through the skin. 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. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Remove contaminated clothing and wash before reuse.

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

Environmental Hazards - This pesticide is toxic to birds, mammals, fish and aquatic life. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the 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.

Storage and Disposal

Do Not Contaminate Water, Food, or Feed by Storage and Disposal.

Pesticide Storage

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

Avoid damage to containers. Keep 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 leaks 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.

Product 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 five gallons. Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Empty rinsate into application equipment or mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Empty drums are not returnable to 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.

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

PER-OX

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

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

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

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

For use as a sanitizer on food contact surfaces in contact with products labeled as organic.

For use as a coarse spray for surfaces to be sanitized or disinfected.

PER-OX is for sanitizing hard, inanimate, non-food contact surfaces (general environmental surfaces).

PER-OX is for use in the disinfection of hard, non-porous surfaces in general commercial environments such as:

- Food processing plants

- Pharmaceutical and chemical facilities

For use as an antimicrobial container rinse to control beverage spoilage microorganisms.

Active Ingredients:	Peroxyacetic Acid	5.25%
	Hydrogen Peroxide.....	22.00%
Inert Ingredients:	72.75%
TOTAL	100.00%

KEEP OUT OF REACH OF CHILDREN DANGER

See Left Panel for Additional Precautionary Statements

FIRST AID	
If in eyes	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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.
<p>Note to Physician: Probable mucosal damage may contraindicate the use of gastric lavage. 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 be used to clean or decontaminate critical or semi-critical medical devices prior to sterilization or high-level disinfection.</p>	

EPA Registration No. 833-4 Net Contents:
EPA Est. No. 833-PA-1 Lot Number:

Sanitizing Hard, Non-porous Food Contact Surfaces

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

Clean equipment immediately after use:

1. Remove gross particulate matter with a warm water flush.
2. Wash equipment with detergent or cleaning solution.
3. Rinse equipment with potable water.
4. Prepare product solution by adding 1.0 to 5.6 fluid ounces to 5 gallons potable water. This provides 90 to 500 ppm peroxyacetic acid.
5. Fill closed systems with diluted sanitizer solution and allow a contact time of one (1) minute. If sanitizing at temperatures of 5°C (40°F) or lower, use 5.6 fluid ounces of product to 5 gallons of potable water.
6. If sanitizing against *Listeria monocytogenes*, use 1.25 to 5.6 fluid ounces of this product to 5 gallons of potable water. This will provide 112 to 500 ppm of peroxyacetic acid.
7. For open or not completely closed systems, use a coarse spray, mop/wipe or flood technique to apply the solution to the surface and allow a contact time of one (1) minute.
8. Allow surfaces to drain thoroughly before resuming operation.

General Environmental (Non-Food Contact) Surfaces Sanitation

PER-OX is an effective sanitizer on inanimate, hard, non-food contact surfaces against *Staphylococcus aureus* and *Klebsiella pneumonia*. Sanitization of surfaces such as floors, walls, tables, chairs, benches, drains, etc. can be accomplished using the following procedure:

1. Wash surface/item with a detergent or cleaning solution.
2. Rinse surface/item with potable water.
3. Prepare sanitizer solution by adding 1 to 17 fluid ounces of PER-OX to 15 gallons of potable water to prepare a solution containing 30 to 500 ppm peroxyacetic acid.
4. Immerse items in diluted sanitizer solution or apply diluted sanitizer solution to surface/item using a mop, wipe, coarse spray, or flood technique. Allow contact for at least 5 minutes.
5. Allow items and/or surfaces to drain adequately or air dry.

Hard Surface Disinfection

PER-OX is an effective broad spectrum disinfectant against Gram positive and Gram negative bacteria including *Staphylococcus aureus* and *Salmonella enterica* and may be used to clean, disinfect, and deodorize hard, non-porous inanimate surfaces such as:

- Food processing equipment and facilities
- Floors, walls, and other non-porous surfaces such as tables, chairs, counter tops, garbage cans, bins, bathroom fixtures, sinks, shelves, racks, carts, refrigerators, coolers, glazed tile, linoleum, vinyl, glazed porcelain, plastic (such as polypropylene and polyethylene), stainless steel, or glass.
- Chemical and pharmaceutical processing facilities and equipment

To disinfect surfaces that may be contaminated with Gram positive or Gram negative bacteria including *Staphylococcus aureus* and *Salmonella enterica* use the following procedure:

1. Prepare a PER-OX disinfecting solution by adding 3.2 to 30 oz. of PER-OX to 5 gallons of potable water. This will provide 288 to 2700 ppm peroxyacetic acid.
2. Remove gross filth from surfaces to be disinfected by cleaning with a suitable detergent or cleaner. Rinse surface with potable water.
3. Apply PER-OX disinfecting solution by wiping, mopping, or as a coarse spray. Allow at least 10 minutes contact time, then air dry.
4. Applications on food contact surfaces require a sterile or potable water rinse following disinfection.

Eating Establishment Sanitizing

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

1. Scrape/prewash plates, utensils, cups, glasses, etc. whenever possible.
2. Wash all items with a detergent.
3. Rinse thoroughly with potable water.
4. Prepare product solution by adding 1.0 to 5.6 fluid ounces to 5 gallons of potable water. This provides 90 to 500 ppm peroxyacetic acid.
5. Immerse all items for at least 2 minutes or for a contact time as specified by the local governing sanitation code.
6. If sanitizing against *Listeria monocytogenes*, use 1.25 to 5.6 fluid ounces of this product to 5 gallons of potable water. This will provide 112 to 500 ppm of peroxyacetic acid.
7. Place all sanitized items on a rack or drainboard to drain adequately. Air dry if items will not be reused immediately.

Sanitizing Tableware

For sanitizing tableware in low to ambient temperature warewashing machines, inject the diluted product solution (1.0 to 5.6 fluid ounces of the product to 5 gallons of potable water) into the final rinse water. Solution must contact tableware for a minimum of 60 seconds. Allow treated surfaces to air dry.

Final Sanitizing Bottle Rinse

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

1. Wash bottles with detergent or cleaning solution and rinse with potable water.
2. Rinse bottles with a solution prepared by mixing 1.0 to 5.6 fluid ounces of product to 5 gallons of potable water.
3. Solution must contact bottles/cans for a minimum of 60 seconds.
4. Allow to drain adequately.

Sanitization of Hatching Eggs

1. Prepare a dilute solution prepared by mixing 1.0 to 2.25 fluid ounces of product to 5 gallons of potable water.
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. Solution must contact eggs for a minimum of 60 seconds.
4. Allow to drain dry.

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

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

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

1. Remove all products from equipment if during treatment the sanitizer will directly contact the items.
2. Prepare sanitizer solution by adding 1.0 to 5.6 fluid ounces to 5 gallons of potable water. This will provide 90 to 500 ppm of peroxyacetic acid.
3. Apply sanitizer solution to the return portion of the conveyor or to the equipment by using a coarse spray or other means of wetting the surfaces. Treat for at least 1 minute. Control the volume of solution so as to permit maximum drainage and to prevent puddles. The conveyor may still be damp when food contact occurs.
4. If sanitizing against *Listeria monocytogenes*, use 1.25 to 5.6 fluid ounces of this product to 5 gallons of potable water. This will provide 112 to 500 ppm of peroxyacetic acid.
5. Allow equipment to drain adequately before reusing, a dry surface is not required.

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

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

1. Prepare solution by adding 7.0 to 30 fluid oz. to 5 gallons of potable water. This will provide 632 to 2707 ppm of peroxyacetic acid.
2. Apply solution, allowing a minimum contact time of 5 seconds.
3. Allow containers to drain thoroughly, and then rinse with sterile or potable water.

For Treatment of Raw, Unprocessed Fruit and Vegetable Surfaces and Process Water in Food Processing Facilities

Use PER-OX as a dip or spray to control 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 (*Geotrichum*)) and prevent spoilage of raw, post-harvest fruits and vegetables during the washing process. This product can be applied during physical cleaning processes, including at the roller spreader, washer manifold, dip tank, on the brushes or elsewhere in the washing process prior to, simultaneously with, or after detergent wash.

1. Prepare treatment solution by adding 1.0 fluid ounce per 5 gallons of potable water. This will provide 90 ppm of peroxyacetic acid.
2. Apply the diluted sanitizer solution using a coarse spray directed at the fruits or vegetables, or by soaking the fruits and vegetables in the solution. Allow a contact time of at least 45 seconds.
3. The treated produce can be drain dried without a potable water rinse.
4. Do not reuse solution after treatment.

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

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

For Treatment of Processed Fruit and Vegetable Surfaces and Process Water in Food Processing Facilities

Use PER-OX as a dip or spray to control 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 (*Geotrichum*)) and prevent spoilage of processed fruits and vegetables.

1. Prepare treatment solution by adding 0.89 fluid ounce per 5 gallons of potable water. This will provide 80 ppm of peroxyacetic acid.
2. Apply the diluted sanitizer solution using a coarse spray directed at the fruits or vegetables, or by soaking the fruits and 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.

In all applications, always prepare a new solution daily to ensure effectiveness.

Sanitizing Hard, Non-Porous, Non-Edible Outside Surfaces of Airtight, Sealed Packages Containing Food or Non-Food Products

PER-OX 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 1.0 to 5.6 fluid ounces per 5 gallons of potable water. This provides 90-500 ppm peroxyacetic acid. The treated hard, non-porous 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 a period of not less than 1 minute. Drain thoroughly. No rinse necessary. This is not to be used on porous surfaces.

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