



Vortexx™

PRODUCT DESCRIPTION

Vortexx™ peroxyacid-based sanitizer delivers antimicrobial activity on yeast, molds and bacteria. Vortexx enhances finished product quality when used in a total Ecolab product and professional services program by reducing pathogenic organisms. For a list of organisms, see directions for use.

BENEFITS

- ▲ Multiple sanitizing applications.
- ▲ No rinsing required. Vortexx ingredients are cleared by the US Environmental Protection Agency (EPA) in 40 CFR Part 180 as a sanitizer for hard surface food contact.

Sanitizes at lower temperatures

- ▲ Effective against many microorganisms listed in Directions For Use on back of this sheet, at a variety of temperatures, reducing energy costs when used at lower temperatures. Other sanitizers are generally used at temperatures of 75°F or higher. With Vortexx, ambient temperature use-solutions produce excellent sanitizing results.

Delivers antimicrobial activity in a variety of applications and conditions

- ▲ Vortexx is a peroxyacid/organic acid sanitizer. This system enables Vortexx to be used at much lower concentrations than peracetic acid alone, with yeast, mold and bacteria antimicrobial activity.
- ▲ Useful for CIP, spray, soak or foam additive sanitizing applications with an approved additive such as Liquid K™.
- ▲ Suitable for use in bottle rinse applications.
- ▲ Registered for continuous treatment of conveyors to help reduce the incidence of undesirable microorganisms on critical conveyor surfaces during processing.

Compatible with most materials used in processing operations

- ▲ All types of stainless steel and aluminum, and most rubber and plastic materials when used at recommended use concentration and temperature.
- ▲ Low use-solution pH reduces mineral film build-up.
- ▲ Low foaming formulation minimizes CIP cycle time.

Environmental implications

- ▲ Active ingredients rapidly break down into water, oxygen, acetic acid and octanoic acid.
- ▲ Low phosphorus formulation minimizes phosphate-related effluent fees.

PROPERTIES

Form.....liquid
 Colorclear, colorless
 Odorpungent, acetic acid
 Foamminimal
 Spec. Grav. @ 68°F (20°C)1.082
 Pounds per gallon.....9.01 (4.09 kg)
 100% solution pH<1.0
 pH 1% solution.....2.5

ACTIVE INGREDIENTS:

Hydrogen Peroxide6.9%
 Peroxyacetic Acid.....4.4%
 Octanoic Acid3.3%

INERT INGREDIENTS:.....85.4%
TOTAL:.....100.0%

EPA REG. NO. 1677-158

Consult your Ecolab Representative for specific use instructions and recommended dispensing equipment. For cautionary and first aid information, consult the Safety Data Sheet (SDS) or product label.

DIRECTIONS FOR USE

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

SANITIZATION: Vortexx is recommended for use on pre-cleaned surfaces such as equipment, pipelines, tanks, vats, fillers, evaporators, pasteurizers and aseptic equipment in dairies, dairy farms, breweries, wineries, beverage and food processing plants. This product is effective as a sanitizer when solution is prepared in water of up to 500 ppm hardness as CaCO₃.

NOTE: FOR MECHANICAL OPERATIONS: Prepared use solutions may not be reused for sanitizing but may be reused for other purposes such as cleaning.
 FOR MANUAL OPERATIONS: Fresh sanitizing solutions must be prepared at least daily or more often if the solution becomes diluted or soiled.

SANITIZING FOOD CONTACT SURFACES: Prior to sanitizing, remove gross food particles, then wash with a detergent solution, followed by a potable water rinse. Sanitize with a concentration of 1 to 2 oz. Vortexx per 6 gallons of water (0.13 - 0.26% v/v concentration). At this dilution Vortexx is effective against *Staphylococcus aureus*, *Escherichia coli*, *Escherichia coli* 0157:H7, *Listeria monocytogenes*, *Salmonella typhimurium* (milk isolate), *Cronobacter sakazakii*, and *Vibrio cholerae*, as well as beverage spoilage organism *Lactobacillus malefermentans*. Use immersion, coarse spray or

circulation techniques as appropriate to the equipment. All surfaces must be exposed to the sanitizing solution for a period of not less than one minute unless a longer time is specified by the governing sanitary code. Drain thoroughly. Do not rinse.

FINAL SANITIZING BOTTLE RINSE: Vortexx may be used as a final sanitizing rinse for returnable and non-returnable bottles (e.g. glass or PET) at a 0.13% dilution (1 oz. to 6 gallons) up to 0.26% dilution (2 oz. to 6 gallons). At this dilution, Vortexx is effective against *Staphylococcus aureus*, *Escherichia coli*, *Escherichia coli* 0157:H7, *Listeria monocytogenes*, *Salmonella typhimurium*, *Cronobacter sakazakii*, *Vibrio cholerae*, and *Lactobacillus malefermentans*. All surfaces must be exposed to the sanitizing solution for a period of not less than 1 minute. Drain thoroughly. Do not rinse.

FINAL BOTTLE AND CLOSURE CLEANING RINSE: Vortexx may be used as a final cleaning rinse for returnable and non-returnable bottles (e.g. glass or PET) and closures not requiring a final food contact surface sanitizing rinse when used up to 2 oz. per 6 gallons of water (up to 0.26% v/v or 2600 ppm product). Drain thoroughly. Do not rinse.

Vortexx™

DIRECTIONS FOR USE (CONT.)

CLEANING HARD SURFACE

DIRECTIONS FOR USE AS A HARD SURFACE CLEANER:

For hard surface cleaning applications, remove gross food particles, then wash using Vortexx up to 2 oz. per 6 gallons of water (up to 0.26% v/v or 2600 ppm product). All hard food contact surfaces treated with this cleaning system must be drained thoroughly. Do not rinse.

CLEANING HARD SURFACE FOOD PROCESSING

EQUIPMENT- NO RINSE: For hard surface cleaning applications, remove gross soil particles from surfaces, then thoroughly clean surfaces with a concentration up to 2 oz. per 6 gallons of water (up to 0.26% v/v or 2600 ppm product). Use immersion, coarse spray or circulation techniques as appropriate to clean surfaces. Allow surfaces to drain thoroughly. Do not rinse.

CLEANING HARD SURFACE PROCESSING EQUIPMENT- RINSE FOR FOOD CONTACT SURFACES:

For hard surface cleaning applications, remove gross soil particles from surfaces, then thoroughly clean surfaces with a concentration up to 1.0% (5 oz./4 gallons). All treated hard non-porous food contact surfaces must be rinsed thoroughly with a potable water rinse prior to reuse.

CONTINUOUS TREATMENT OF CONVEYORS: Wash, rinse and sanitize conveyor equipment. During processing, apply Vortexx at no more than 0.13% - 0.26% v/v (1 to 2 oz. per 6 gallons of water) concentration to conveyor with Mikro Master or other suitable feeding equipment. At this dilution Vortexx is effective against *Staphylococcus aureus*, *Escherichia coli*, *Escherichia coli* 0157:H7, *Listeria monocytogenes*, *Salmonella typhimurium* (milk isolate), *Cronobacter sakazakii*, and *Vibrio cholerae*. Controlled volumes of Vortexx are applied to return portion of conveyor through nozzles so located as to permit maximum drainage of Vortexx from equipment and to prevent puddles on top of belt. During interruptions in operations, coarse spray the processing equipment with Vortexx solution at not more than 0.26% v/v concentration. Conveyor equipment must be free of product when applying coarse spray. Conveyor surface must be exposed to the sanitizing solution for a period of not less than 60 seconds.

SANITIZING NON-FOOD CONTACT SURFACES: Pre-clean surfaces as directed above. Sanitize non-food contact surfaces such as floors, walls, tables, chairs, benches, drains, troughs, and drip pans with 1 oz. Vortexx per 8 gallons of water (0.1% v/v concentration) up to 2 oz. per 6 gallons of water (up to 0.26% v/v concentrate). At this concentration the product is effective against *Staphylococcus aureus*, *Enterobacter aerogenes*, *Escherichia coli* 0157:H7, *Listeria monocytogenes* and *Salmonella typhimurium* (milk isolate), in 500 ppm hard water. The product is also effective against beverage spoilage organisms: *Aspergillus niger*, *Saccharomyces cerevisiae*, *Pediococcus damnosus*, and *Lactobacillus malefermentans*. All surfaces must be exposed to the sanitizing solution for a period of not less than 5 minutes. Drain thoroughly and allow to air dry. Do not rinse.

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

Vortexx may be used as a final sanitizing rinse for hard, non-porous outside surfaces of airtight, sealed packages containing food or non-food products at a 0.13% - 0.26% v/v dilution (1 to 2 oz. per 6 gallons of water). 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. Do not rinse. This is not to be used on porous surfaces.

FOAM SANITIZING NON-FOOD CONTACT SURFACES: (This use not approved in the state of California.)

Vortexx is an effective foam sanitizer of pre-cleaned non-food contact surfaces, such as boots, floors, walls, drains, and equipment surfaces. For this application, prepare a solution of 0.13% v/v (1 oz. per 6 gallons water) Vortexx and 0.13% v/v (1 oz. per 6 gallons water) Liquid K. For example, in 6 gallons of water, add 1 ounce of Vortexx and 1 ounce of Liquid K. Apply solution as a foam using recommended equipment. Wet surfaces thoroughly. At this concentration, the product is effective against *Staphylococcus aureus*, *Enterobacter aerogenes*, and *Listeria monocytogenes*. Surfaces must be exposed to the sanitizing foam for a period of not less than 5 minutes. No rinse is necessary. Contact your Ecolab representative for information on Liquid K foaming agent and a recommended foam generation device.

SANITIZING NON-FOOD CONTACT PACKAGING

EQUIPMENT: Prior to use of this product, remove gross soil particles from surfaces. Wash with a recommended detergent solution, rinse thoroughly with potable water. For sanitization against *Staphylococcus aureus*, *Enterobacter aerogenes*, *Escherichia coli* 0157:H7, *Listeria monocytogenes* and *Salmonella typhimurium* (milk isolate), as well as beverage spoilage organisms, *Aspergillus niger*, *Pediococcus damnosus*, *Lactobacillus malefermentans* and *Saccharomyces cerevisiae*, apply 0.1 - 0.5% (1 to 5 oz. per 8 gallons of water) of Vortexx to surfaces at a temperature of 25° to 45°C and allow to remain wet for at least 5 minutes. Allow surfaces to drain thoroughly before operations are resumed. Drainage may be followed by a potable or sterile water rinse.

SANITIZE PRE-CLEANED OR NEW RETURNABLE OR NON-RETURNABLE BOTTLED WATER CONTAINERS:

To sanitize pre-cleaned or new returnable or non-returnable containers for bottled water processing, apply Vortexx at a concentration of 0.75 to 2.2% (9 to 26 oz. per 10 gallons of water) at a temperature of 40° to 60°C for at least 7 seconds. At these conditions, Vortexx is effective against *Staphylococcus aureus*, *Escherichia coli*, *Salmonella typhi*, *Pediococcus damnosus*, *Lactobacillus malefermentans*, *Saccharomyces cerevisiae* and *Aspergillus niger*. After thorough draining, rinse interior container surfaces with a disinfected water rinse free of pathogenic bacteria.

ANTIMICROBIAL RINSE OF PRE-CLEANED OR NEW RETURNABLE OR NON-RETURNABLE CONTAINERS:

To reduce the number of beverage spoilage organisms, *Pediococcus damnosus*, *Lactobacillus malefermentans*, *Saccharomyces cerevisiae* and *Aspergillus niger*, apply Vortexx at a concentration of 0.75 to 2.2% (9 to 26 oz. per 10 gallons of water) at a temperature of 40° to 60°C for at least 7 seconds. After thorough draining, rinse interior container surfaces with a disinfected water rinse free of pathogenic bacteria.

ANTIMICROBIAL RINSE FOR PRE-CLEANED FOOD-CONTACT SURFACES:

Prior to antimicrobial rinsing, remove gross food particles, then wash with a detergent solution, followed by a potable water rinse. To reduce the number of food spoilage non-public health microorganisms *Bacillus coagulans*, *Bacillus sporothermodurans*, *Clostridium butyricum*, *Alicyclobacillus acidoterrestris* and *Geobacillus stearothermophilus*, apply Vortexx at a concentration of 1 to 2 ounces per 6 gallons of water (0.13 - 0.26 v/v concentration) at a temperature of 120 to 160°F for at least 5 minutes. Drain thoroughly. Do not rinse.

BACTERIOPHAGE CONTROL: When applied to pre-cleaned surfaces, Vortexx will reduce the incidence of *Lactococcus lactis* subsp. *Lactis*, *Lactococcus lactis* subsp. *Cremoris*, and *Streptococcus thermophilus* bacteriophage in cheese manufacturing establishments by spraying or immersion of equipment at concentrations of 1-2 oz. per 6 gallons (0.13 - 0.26% v/v concentration) of water. All surfaces must be exposed to the solution for a period of not less than one minute. Drain thoroughly. Do not rinse.

DISINFECTION: Vortexx disinfects as it cleans in one operation. Vortexx can be used to disinfect floors, walls and other hard, nonporous surfaces such as tables, chairs, counter tops, bathroom fixtures, sinks, shelves, racks, carts, refrigerators, coolers, tile, linoleum, vinyl, glazed porcelain, plastic (such as polypropylene and polyethylene), stainless steel, or glass. Areas of Use: Use Vortexx in veterinary clinics, animal life science laboratories, industrial facilities, office buildings, recreational facilities, retail and wholesale establishments.

COMBINATION DISINFECTION AND CLEANING: Vortexx is effective against *Staphylococcus aureus* and *Salmonella enterica* at 0.2% - 1.0% (1 oz./4 gallons to 5 oz./4 gallons) in hard water (500 ppm as CaCO₃) and 5% blood serum on hard nonporous surfaces. For heavily soiled areas a precleaning step is required. Apply solution with mop, cloth, sponge, brush, scrubber, or coarse spray device or by soaking so as to wet all surfaces thoroughly. Allow to remain wet for 10 minutes, then remove solution and entrapped soil with a clean wet mop, cloth, or wet vacuum pickup. Prepare a fresh solution daily or when it becomes soiled or diluted. Rinse food contact surfaces that come in contact with food with potable water prior to reuse.

Virucidal*: At 0.2% (1 oz./4 gals.) up to 1.0% (5 oz./4 gallons) Vortexx is effective against Influenza B, Influenza A (H3N2), Influenza A (H1N1), Influenza A (H10N7), Avian Influenza A (H3N2) and Reovirus on hard inanimate surfaces when used at 20°C with a 10 minute contact time in the presence of 500 ppm hard water and organic soil. Apply as directed under disinfection.

Fungicidal: Vortexx can be used on hard, non-porous inanimate surfaces such as shower room floors, locker room benches, shower stalls and bath mats. At 0.2% (1 oz./4 gallons) up to 1.0% (5 oz./4 gallons) the product is effective against *Trichophyton mentagrophytes* (Athletes Foot Fungi) and *Candida albicans* (pathogenic yeast) in the presence of protein (5% blood serum) in 500 ppm hard water with a 10 minute contact time. Apply as directed under disinfection.

STERILIZATION OF CLOSED SYSTEM MANUFACTURING, FILLING, AND PACKAGING EQUIPMENT IN ASEPTIC PROCESSES:

Prior to use of this product, remove gross soil particles from processing surfaces, then wash with a recommended detergent solution, followed by a thorough potable water rinse. Prepare a 5 - 6% sterilizing solution of Vortexx. Circulate, coarse spray, or flood the sterilizing solution as appropriate to the equipment. All surfaces must be exposed to the sterilizing solution for 30 minutes. This product is effective against *Clostridium sporogenes* and *Bacillus subtilis* at 5 - 6% (25 - 30 oz./4 gallons) in 100 ppm hard water and 5% organic load at 20°C. Thoroughly rinse food contact surfaces with either a sterile water or potable water rinse. This product is not for use as a sterilant on medical devices.

DISINFECTING PHARMACEUTICAL AND COSMETIC SURFACES:

Vortexx is recommended for use on hard, non-porous, environmental surfaces such as floors, walls and processing equipment in pharmaceutical and cosmetic processing facilities. Vortexx is effective against *Staphylococcus aureus* and *Salmonella enterica* at 0.2% (1 oz./4 gal) up to 1.0% (5 oz./4 gallons) in hard water (500 ppm as CaCO₃) and 5% blood serum. For heavily soiled areas a pre-cleaning step is required. Rinse all surfaces thoroughly with the disinfecting solution and maintain a contact time of at least 10 minutes. Product contact surfaces must be rinsed with sterile water.

POULTRY HOUSE DISINFECTION: Vortexx is effective against the Avian Influenza A (H3N2) virus.

Special Instructions for Inactivating Avian Influenza A.

1. Remove all poultry and feeds from premises, trucks, coops, and crates.
2. Remove all litter and droppings from floors, walls, and surfaces of facilities occupied or traversed by poultry.
3. Empty all troughs, racks, and other feeding and watering appliances.
4. Thoroughly clean all surfaces with soap or detergent and rinse with water.
5. Saturate surfaces with the recommended disinfecting solution for a period of 10 minutes.
6. Ventilate buildings, coops, and other closed spaces. Do not house poultry or employ equipment until treatment has been absorbed, set, or dried.
7. Thoroughly scrub treated feed racks, troughs, automatic feeders, fountains, and waterers with soap and detergent, and rinse with potable water before reuse.

FARM PREMISE DISINFECTION: Vortexx is effective against the Avian Influenza A (H3N2) virus.

Special Instructions for Inactivating Avian Influenza A.

1. Remove all animals and feed from premises, vehicles, and enclosures.
2. Remove all litter and manure from floors, walls and surfaces of barns, pens, stalls, chutes, and other facilities and fixtures occupied or traversed by animals.
3. Empty all troughs, racks, and other feeding and watering appliances.
4. Thoroughly clean all surfaces with soap or detergent and rinse with water.
5. Saturate all surfaces with the recommended disinfecting solution for a period of 10 minutes.
6. Immerse all halters, ropes, and other types of equipment used in handling and restraining animals, as well as forks, shovels, and scrapers used for removing litter and manure.
7. Ventilate buildings, cars, boats, and other closed spaces. Do not house livestock or employ equipments until treatment has been absorbed, set, or dried.
8. Thoroughly scrub all treated feed racks, mangers, troughs, automatic feeders, fountains, and waterers with soap and detergent and rinse with potable water before reuse.

NOTE: This product in its use solutions is compatible with stainless steel and aluminum surfaces. If product is intended to be used on any other surface, it is recommended that you apply product to a smaller test area to determine compatibility before proceeding with its use.

STATEMENT OF ASSURANCE

This product is effective under the intended conditions of use as outlined on the product label or specified in a Sanitation Standard Operating Procedure (SSOP).

A Letter of Guaranty as indicated in USDA's Sanitation Performance Guideline is available from your Ecolab representative.