



U.S. ENVIRONMENTAL PROTECTION AGENCY  
 Office of Pesticide Programs  
 Antimicrobials Division (7510P)  
 1200 Pennsylvania Ave., N.W.  
 Washington, D.C. 20460

**EPA Reg. Number:**

66171-104

**Date of Issuance:**

2/9/2015

**NOTICE OF PESTICIDE:**

Registration  
 Reregistration  
 (under FIFRA, as amended)

**Term of Issuance:**

Conditional

**Name of Pesticide Product:**

Liquidate

**Name and Address of Registrant (include ZIP Code):**

Gary Gaumer  
 Preserve International  
 P. O. Box 17003  
 Reno, NV 89511

**Note:** Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Antimicrobials Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered under the Federal Insecticide, Fungicide and Rodenticide Act.

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is conditionally registered in accordance with FIFRA section 3(c)(7)(A). You must comply with the following conditions:

1. Submit and/or cite all data required for registration/reregistration/registration review of your product under FIFRA when the Agency requires all registrants of similar products to submit such data.

**Signature of Approving Official:**

Seiichi Murasaki, Acting Product Manager 33

**Date:**

2/9/2015

2. *Include this text if there is a DCI or EDSP Order; otherwise, delete this section.* You are required to comply with the data requirements described in the DCI or EDSP Order identified below:
  - a. Hydrogen Peroxide GDCI-000595-1127
  - b. Peroxyacetic acid GDCI-063201-1125

You must comply with all of the data requirements within the established deadlines. If you have questions about the Generic DCI or EDSP Order listed above, you may contact the Team Leader for PM Team 36: [http://www.epa.gov/oppad001/contacts\\_ad.htm](http://www.epa.gov/oppad001/contacts_ad.htm).

3. Make the following label changes before you release the product for shipment:
  - Revise the EPA Registration Number to read, “EPA Reg. No. 66171-104.”
4. Submit one copy of the final printed label for the record before you release the product for shipment.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

If you fail to satisfy these data requirements, EPA will consider appropriate regulatory action including, among other things, cancellation under FIFRA section 6(e). Your release for shipment of the product constitutes acceptance of these conditions. A stamped copy of the label is enclosed for your records. Please also note that the record for this product currently contains the following CSFs:

- Basic CSF dated 09/25/2014

If you have any questions, please contact Karen M. Leavy at (703) 308-6237 or [Leavy.Karen@epa.gov](mailto:Leavy.Karen@epa.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "SEIICHI MURASAKI". The signature is written in a cursive style with a large initial "S" and "M".

Seiichi Murasaki  
Acting Product Manager 33  
Regulatory Management Branch I  
Antimicrobials Division (7510P)  
Office of Pesticide Programs

**PRECAUTIONARY STATEMENTS  
HAZARDS TO HUMANS and DOMESTIC  
ANIMALS**

**DANGER. CORROSIVE.** Causes irreversible eye damage and skin burns. Harmful if swallowed. May be fatal if inhaled. Do not get into eyes, on skin or on clothing. Do not breathe vapors or spray mist. Wear goggles or face shield and rubber gloves and protective clothing when handling. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove contaminated clothing and wash clothing before reuse.

**ENVIRONMENTAL HAZARD**

This pesticide is toxic to birds, fish and aquatic invertebrates. 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 into sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

**PHYSICAL OR CHEMICAL HAZARDS**

**STRONG OXIDIZING AGENT. CORROSIVE.** Mix only with potable water at 60-80°F. Product must be diluted in accordance with label directions prior to use. This product is not combustible; however, at temperatures exceeding 156°F, decomposition occurs releasing oxygen. The oxygen release could initiate combustion. Never bring this product in contact with other sanitizers, cleaners or organic substances.

Manufactured by:



PO Box 17003  
Reno, NV 89511  
775-853-9776

# Liquidate

## A Peroxyacetic Acid- Based Sanitizer/Disinfectant

**Hospital Disinfectant**

**For Use in Organic Production**

**Institutional/Industrial Sanitizer For Previously Cleaned Hard Non-Porous Food Contact Surfaces In:** Dairies, Wineries, Breweries, Food And Beverage Plants, Poultry And Egg Facilities and Animal Housing.

**Hard, Non-Porous Surface Disinfection In:** Hospitals, Schools, Industrial Facilities, Office Buildings, Veterinary Clinics.

**Odor-Causing Bacteria, Slime, Odor and Algae Control In:** Recirculating Cooling Water and Evaporative Coolers, Reverse Osmosis, Nano and Ultra Filtration and Agricultural Waters.

Antimicrobial Agent for use in oilfield and gas field well operations, Oil Field Water Flood/Salt Water Disposal Systems, Fracturing Fluids

Before Using This Product, Please Read This Entire Label Carefully

**Active Ingredients:**

Peroxyacetic Acid 5.9%  
Hydrogen Peroxide..... 27.3%

**Inert Ingredients** ..... 66.8%

**Total** ..... **100.0%**

**KEEP OUT OF REACH OF CHILDREN  
DANGER PELIGRO**

See left (back) (side) (right) panel (of label) (below) for additional precautionary statements and first aid statements.

EPA Reg. No.  
EPA Est. No.

66171-XX  
 66171-TN-001  
 66171-CA-001  
 10324-TN-002

Batch No.

Net Contents

### First Aid

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

**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 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 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.

**IF INHALED:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

**NOTE TO PHYSICIAN:** Probable mucosal damage may contraindicate the use of gastric lavage.

### DOT SHIPPING NAME

UN3109, Organic Peroxide Type F, Liquid, (Peroxyacetic acid, type F, stabilized), 5.2(8) PGII

# ACCEPTED

## 02/09/2015

Under the Federal Insecticide, Fungicide,  
and Rodenticide Act as amended, for the  
pesticide registered under  
EPA Reg. No. 66171-104

## DIRECTIONS FOR USE

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

**FOOD CONTACT SANITIZING PERFORMANCE:** At 1 fluid ounce per 3 gallons this product (or equivalent use dilution) eliminates 99.999% of the following bacteria in 60 seconds in 500 ppm hard water (calculated as CaCO<sub>3</sub>) according to the AOAC Germicidal and Detergent Sanitizing Action of Disinfectants test:

*Aeromonas hydrophila* (ATCC 23213)

*Clostridium perfringens-vegetative* (ATCC 13124)

*Enterobacter sakazakii* (ATCC 29544)

*Escherichia coli* (ATCC 11229)

*Escherichia coli* O103:K:H8 (ATCC 23982)

*Escherichia coli* O111:H8 BAA-184

*Escherichia coli* O121:K:H10 ECL 39W

*Escherichia coli* O145:H28 BAA-1652

*Escherichia coli* O157:H7 (ATCC 35150)

*Escherichia coli* O26:H11 BAA-1653

*Escherichia coli* O45:K:H- ECL 1001

*Klebsiella pneumoniae* (ATCC 4352)

*Salmonella enterica* (ATCC 10708)

*Salmonella enterica serotype enteritidis* (ATCC 4931)

*Salmonella typhi* (ATCC 6539)

*Shigella dysenteriae* (ATCC 9361)

*Shigella sonnei* (ATCC 25931)

*Staphylococcus aureus* (ATCC 6538)

*Xanthomonas axonopodis* (Citrus Canker) (ATCC 49118)

*Yersinia enterocolitica* (ATCC 23715)

**FOOD CONTACT SANITIZING PERFORMANCE:** At 1 fluid ounce per 6 gallons, this product (or equivalent use dilution) eliminates 99.999% of the following bacteria in 60 seconds in 500 ppm hard water (calculated as CaCO<sub>3</sub>) according to the AOAC Germicidal and Detergent Sanitizing Action of Disinfectants test on hard non-porous surfaces:

*Aeromonas hydrophila* (ATCC 23213)

*Clostridium perfringens-vegetative* (ATCC 13124)

*Enterobacter sakazakii* (ATCC 29544)

*Escherichia coli* (ATCC 11229)

*Escherichia coli* O103:K:H8 (ATCC 23982)

*Escherichia coli* O111:H8 BAA-184

*Escherichia coli* O121:K:H10 ECL 39W

*Escherichia coli* O145:H28 BAA-1652

*Escherichia coli* O157:H7 (ATCC 35150)

*Escherichia coli* O26:H11 BAA-1653

*Escherichia coli* O45:K:H- ECL 1001

*Klebsiella pneumoniae* (ATCC 4352)

*Salmonella enterica* (ATCC 10708)

*Salmonella enterica serotype enteritidis* (ATCC 4931)

*Salmonella typhi* (ATCC 6539)

*Shigella dysenteriae* (ATCC 11835)

*Shigella sonnei* (ATCC 25931)

*Yersinia enterocolitica* (ATCC 23715)

## SANITIZATION

This product is for use on pre-cleaned surfaces such as equipment, pipelines, tanks, vats, filters, evaporators, pasteurizers, and aseptic equipments in dairies, breweries, wineries, beverage and food processing/packing plants, and egg processing/packing equipment surfaces. This product is effective as a sanitizer when solution is prepared in water of up to 500 ppm hardness as CaCO<sub>3</sub>. This product has demonstrated greater than 99.999% reduction of organisms after 60 seconds exposure period in the AOAC Germicidal and Detergent Sanitizing Action of Disinfectants test.

**For Mechanical Operations:** Prepared use solution cannot be reused for sanitizing, but may be reused for other purposes such as cleaning.

**For Manual Operations:** Fresh cleaning solutions must be prepared daily or more often, if the solution becomes visibly diluted or soiled.

**SANITIZING FOOD CONTACT SURFACES:** This product can be used in Federally Inspected Meat and Poultry Facilities as a sanitizer. 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 – 3) fluid ounces of this product dissolved in 6 gallons of water (73 – 230 ppm active peroxyacetic acid) (or equivalent use dilution). Use immersion, coarse spray or circulation techniques as appropriate to the equipment. All surfaces must be exposed to sanitizing solution for a period of at least 60 seconds or more as specified by a governing code. Drain excess solution. Do not rinse.

**SANITIZATION OF CONVEYORS AND EQUIPMENT FOR MEAT, POULTRY, SEAFOOD, FRUIT, NUTS AND VEGETABLES:** For use in the static or continuous sanitizing, washing or rinsing of conveyors, slicers, saws, and equipment, apply a solution of this product using (1 – 3) fluid ounces per 6 gallons of water (73 – 230 ppm active peroxyacetic acid) (or equivalent use dilution). Apply sanitizing solution to the return portion of the conveyor or equipment using a coarse spray or similar means of wetting surfaces, so as to affect draining and prevent pooling. Allow sanitizer to thoroughly wet surface for a minimum 60 seconds contact time. Allow to air dry.

**SANITIZING OF CASING, SHELL OR HATCHING EGGS:** To sanitize clean shell eggs intended for food or food products, spray with a solution of this product by diluting (1 – 3) fluid ounces of product with 6 gallons of potable water (providing 73 – 230 ppm active peroxyacetic acid) (or equivalent use dilution). The solution must be equal to or warmer than the eggs, but not to exceed 130°F. Wet eggs thoroughly and allow to surface to drain. Eggs that have been sanitized with this product can be broken for use in the manufacture of egg products without a prior potable water rinse. Eggs must be reasonably dry before casing or breaking. The sanitizing solution must not be reused for sanitizing eggs. For hatching eggs, apply the sanitizing solution as eggs are gathered or prior to setting using a coarse spray or flood so as to lightly wet egg shells surfaces. Allow to drain and air dry.

**REVERSE OSMOSIS (RO), NANO, AND ULTRA FILTRATION CLEANING-SANITIZATION:** This product is used in the sanitization of nano filtration (NF) and ultra filtration (UF) and reverse osmosis (RO) membranes and their associated piping systems. This product is to be added continuously in food, beverage, and drinking water systems for RO (reverse osmosis) systems only in accordance with the instructions below. This product is not for use in kidney dialysis equipment. This product will not totally eliminate all vegetative microorganisms in RO, or NF or UF membranes and their associated piping systems due to their construction or assembly, but can be relied upon to reduce the number of microorganisms to acceptable levels when used as directed. Prior to using this product check with membrane manufacturer to confirm compatibility of membranes with various types of concentrations of peroxyacetic acid solutions.

**Batch Sanitization of NF, UF and RO Systems:** Isolate incompatible equipment, such as carbon filters and ion exchangers. Clean system with an appropriate cleaner and follow with RO permeate water or potable water. Remove mineral deposits if necessary with an acidic cleaner, and rinse as before. Fill entire system with water and add up to 1% of this product by volume (560 ppm) for heavily fouled systems. The typical sanitation use solution dosing of this product is 1 – 2 fluid ounces per 5 gallons of water (87.5 – 175 ppm active peroxyacetic acid) (or equivalent use dilution). Recirculate the sanitizing solution through the piping and membrane system at 20°C for 10 minutes minimum, or up to 4 hours, depending on the severity of cleaning to be done. Open and close process valves and solenoids to be sure all parts are in contact with the solution. For occasional intermittent feed, do not exceed 87.5 ppm active, which equals 1 fluid ounce of this product per 5 gallons of feed water. Do not use the intermittent feed method for on-line use of potable water or direct food contact systems. Rinse the system with RO permeate or potable water until residual per oxygen concentration is below 1 ppm.

**RO Continuous or Intermittent Addition:** For continuous addition methods for RO systems, use 2 – 5 ppm active (36 – 90 ppm as product), which equals 2 – 5 fluid ounces of this product per 430 gallons of process water. For occasional intermittent feed, do not exceed 87.5 ppm active peroxyacetic acid which is equal to 1 fluid ounce of this product per 5 gallons of feed water. Do not use intermittent feed method for on-line use in potable water or direct food contact systems.

**FINAL SANITIZING BOTTLE RINSE:** This product can be used as a final sanitizing rinse, followed by adequate draining, for the returnable and non-returnable bottles at a 0.13% – 0.39% dilution 1 to 3 fluid ounces of this product in 6 gallons of water, which yields 73 – 230 ppm active peroxyacetic acid.

**FOAM CLEANING OF FOOD AND NON FOOD CONTACT SURFACES:** As an adjunct to cleaning and sanitizing procedures this product may be added to Macat AO-12 (amine oxide) and foamed on environmental or equipment surfaces using conventional foam generating equipment. The resilient foam blend can be used on equipment, floors, walls, ceilings, drains, etc and should be left on the surface for a minimum of 1 minute or longer. On food contact surfaces do not exceed 3 fluid ounces of this product per 6 gallons of water. **Directions for mixing:** Manually or mechanically blend 1 to 3 fluid ounces of this product and 6 to 12 fl. oz of Macat AO-12 (amine oxide) (foam additive) per 6 gallons of water. The dilution water must not exceed 150°F.

**BOOSTER FOR ALKALINE DETERGENTS TO CLEAN FOOD PROCESSING EQUIPMENT:** This product is an effective oxygen bleach cleaning booster for use with alkaline detergents. For cleaning applications as a detergent booster, use 2 – 7 fluid ounces per gallon (of water) detergent solution to aid in the removal of organic soils. All hard nonporous food contact surfaces treated with this boosted detergent must be rinsed thoroughly with potable water rinse followed by sanitizing with an approved food contact surface sanitizer.

**BOOSTER FOR ACID DETERGENTS TO CLEAN FOOD PROCESSING EQUIPMENT:** This product is an effective oxygen bleach cleaning booster for use with acidic detergents. For cleaning applications as a detergent booster, use 2 – 7 fluid ounces per gallon detergent solution to aid in the removal of organic soils. All hard nonporous food contact surfaces treated with this boosted detergent must be rinsed thoroughly with potable water rinse followed by sanitizing with an approved food contact surface sanitizer.

**SURFACES TREATED TO CONTROL THE SPREAD OF CITRUS CANKER:** This product is used to control the spread of citrus canker between inanimate and animate surfaces to plants. This product is for sanitizing surfaces such as packing house conveyors, harvesting equipment and containers. **This product is not for treatment of infected plants.**

**PACKING HOUSE SANITIZATION:** This product is an effective sanitizer against microorganisms such as *Xanthomonas campestris (axonopodis) pathovars citrumeto* (citrus canker surrogate) and *Staphylococcus aureus, Escherichia coli and Salmonella enterica*.

1. Remove gross contamination with a cleaner or other suitable detergent and rinse with potable water.
2. Use this product at a dilution of 1 fl. oz. per 3 gallons of water (150 ppm active peroxyacetic acid) (or equivalent use dilution) as a general sanitizing coarse spray to reduce bacteria and fungi contamination of walls, floors, conveyors and harvesting containers.
3. Allow sanitizer to contact surface for at least 60 seconds.
4. Allow to air dry. Do not rinse.

**FIELD EQUIPMENT SANITIZATION:** This product is used to sanitize harvest equipment such as pickers, trailers, trucks (including truck body parts and tires), bins, packing crates, ladders, power tools, gloves, rubber boots, pruning shears or other hard non-porous equipment that may transfer *Xanthomonas campestris (axonopodis) pathovars citrumeto* (citrus canker surrogate). This product is also used to sanitize hard non-porous surfaces contaminated with *Staphylococcus aureus, Escherichia coli and Salmonella enterica*.

1. Before sanitization, move the field equipment in an area with an impervious surface and with controlled drainage. Ensure that no sanitizing solution will be released to the environment.
2. Remove gross contamination with a cleaner or other suitable detergent and rinse with potable water.
3. Use this product at a dilution of 1 fl. oz. per 3 gallons of water (150 ppm active peroxyacetic acid) (or equivalent use dilution) as a general sanitizing coarse spray.
4. Allow sanitizer to contact surface for at least 60 seconds.
5. Allow to air dry. Do not rinse.

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

1. Prior to fogging, remove and carefully protect all food products and packaging materials.
2. Ensure room is properly ventilated. Wear a dust mist respirator when mixing the use solution and pouring it into the fogging apparatus. Vacate all personnel from the room during fogging and for a minimum of 2 hours after fogging and a minimum of 4 air exchanges (ACH) per hour in the facility. Ensure there is no strong odor which is characteristic of acetic acid, before allowing personnel return to work area.
3. Fog areas using one quart per 1000 cu. ft. of room area with 0.3% (3.5 fl. oz. per 10 gallons of water) (or equivalent use dilution) solution.
4. Allow surfaces to drain thoroughly and air dry before operations are resumed.

**NON FOOD CONTACT HARD SURFACE DISINFECTION:** This product disinfects, as it cleans, in one operation. This product is to be used to disinfect floors, walls, and other hard nonporous surfaces such as tables, chairs, countertops, bathroom fixtures, sinks, bed frames, shelves, racks, carts, refrigerators, coolers, glazed tile, linoleum, vinyl, glazed porcelain, and use sites on this label made of plastic, stainless steel, or glass. Areas of use in hospitals include surgical and obstetrical suite; housekeeping services; physical therapy departments; nursing services; autopsy facilities. Also use this product in hospitals and nursing homes, other health-care facilities schools, colleges, veterinary clinics, animal life science laboratories, industrial facilities, dietary areas, office buildings, recreational facilities, retail and wholesale establishments.

## Disinfection/Deodorization

**COMBINATION DISINFECTION AND CLEANING:** This product is effective against the labeled organisms at (2 fluid ounces per 1 gallon ) (4 fluid ounces per gallon) (2 fluid ounce per 5 gallons) of water in hard water (400 ppm as CaCO<sub>3</sub>) 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 required contact of (2) (10) minutes and then either allow to air dry or if desired 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

**To Clean/Remove Soap Scum:** Apply this product onto soils and wipe clean (with a dry paper towel or lint-free cloth or microfiber cloth or sponge). No rinsing necessary. (For best results, use a dry paper towel or lint-free cloth or microfiber cloth or sponge.) Repeat for heavily soiled areas. For stubborn stains or heavily soiled areas or tougher jobs, allow product to penetrate [dirt and/or soap scum] before wiping. For best results, use regularly to prevent dirt and soap scum build up.

**To Deodorize:** Apply this product use solution to completely wet all surfaces. Let stand for (2) (10) minutes to kill odor causing bacteria then wipe or allow to air dry. For heavily soiled areas, a precleaning is required.

**To Clean and Deodorize Toilets:** To clean and deodorize toilet bowl, squirt liberally (1/2 cup) on toilet sides and upper toilet bowl rim. Swab or brush all surfaces let stand for (2) (10) minutes and flush.

## Marketing Claims

*(Note to reviewer: Wording in parenthesis is interchangeable)*

- Effective in 2 minutes against (Clostridium difficile) (C. difficile)(C. diff) spores
- Concentrated broad-spectrum disinfectant/virucide with efficacy against (Clostridium difficile) (C.difficile) (C. diff) spores
- Effective one-step disinfectant-cleaner (and Clostridium difficile sporicide) for use in hospitals (ambulatory care centers, long term care facilities, and other healthcare settings)
- Proven "one-step" disinfectant - virucide which is effective in water up to 400ppm hardness in the presence of 5% serum contamination
- Proven "one-step" disinfectant – virucide.
- Is designed for killing (Clostridium difficile) (C. difficile) (C. diff) spores (on surfaces) (on precleaned,hard non-porous surfaces) in hospitals
- Effective against (insert any organism from list of organisms) and (Clostridium difficile) (C.difficile) (C. diff) spores (in hospitals)
- Effective for daily use against (insert any organism from list of organisms) (and) (Clostridium difficile) (C. difficile) (C. diff) spores (in hospitals)
- Kills (Clostridium difficile) (C. difficile) (C. diff) spores in 2 minutes.
- Daily use product with (Clostridium difficile) (C. difficile) (C. diff) spore efficacy (allows for product standardization) (eliminates need for separate sporicide) (bleach)
- Daily defense against (Clostridium difficile) (C. difficile) (C. diff) spores
- Tough on (Clostridium difficile) (C. difficile) (C. diff) spores but easy on surfaces and designed for daily use.
- Economical concentrate sporicide designed for daily cleaning and easy on surfaces.
- Effective against Multidrug Resistant Organisms (MDROs) (Staphylococcus aureus, (Resistant to Methicillin [MRSA), Staphylococcus aureus, (Genotype USA300) (Community Associated Methicillin Resistant) (CA-MRSA), Staphylococcus aureus, (Genotype USA400) (Community Associated Methicillin Resistant) (CA-MRSA), Staphylococcus aureus, (Intermediate Vancomycin Resistance) (VISA), Enterococcus faecalis (Resistant to Vancomycin) (VRE), Escherichia coli (Extended-Spectrum Beta Lactamase producing) (ESBL), Klebsiella pneumoniae (Carbapenemase producer) (KPC).
- Cuts cleaning time
- (Is a heavy duty disinfectant cleaner that) cleans, disinfects and deodorizes in one labor saving step.
- This product kills, eliminates, removes and destroys germs, bacteria and viruses on environmental surfaces.
- Contains hydrogen peroxide
- Daily cleaning

- Designed for healthcare (non-critical hard non-porous surfaces)
- Makes cleaning easier
- The smell of clean
- Evaporates completely
- Clear drying formula
- Leaves no visible residue
- Will not leave grit or soap scum.
- No rinsing
- Removes and/or cleans (insert stains(s)/soils(s) from list below)
  - Bathtub ring
  - Blood
  - Body oils
  - Dirt
  - Fecal matter

- Grime
- Laboratory stains
- Other common soils and/or stains
- Other organic matter
- Urine

- Cleans
- Cleans everyday messes
- Cleans to a shine
- Fast strong cleaning
- For Discharge Cleaning
- Fragrance free.
- No added (perfumes) (fragrances) (and) (or) (dyes)
- Good for use with microfiber cloths
- May be used to clean and disinfect finished floors. Cleans and disinfects without dulling gloss
- May be used to clean and disinfect floor areas, sinks, faucets, bathrooms and tubs
- Do not use on marble or un-sealed/un-coated terrazzo floors
- Compatible with (sites) (surfaces) (material compatibility chart)
- Multi surface cleaner disinfectant
- Non-abrasive
- For non-scratch cleaning of showers and tubs, shower doors and curtains, fixtures and toilet bowls.
- Is a complete, chemically balanced disinfectant that provides clear use solutions even in the presence of hard water.
- [Chlorine] bleach free, does not contain (chlorine) bleach, non (chlorine) bleach
- Will not (stain) (discolor) (bleach) uniforms or fabrics
- Color safe
- This product does not damage furnishing, equipment or clothing.
- Tough on germs, easy on surfaces
- Economical concentrate
- Is effective yet economical.
- Is an economical concentrate (that can be diluted for use) (with a mop and bucket, cloth, microfiber cloth, sponge, coarse spray device or by soaking).
- Intended for use with the (insert company name and/or name of appropriate dispenser)
- Closed loop automated dispensing reduces employee exposure to concentrate product.
- Closed loop automated dispensing reduces the risk of spills.
- (Insert company name *and/or* name of appropriate dispenser) controls dilution to reduce waste of concentrate.
- (Insert company name *and/or* name of appropriate dispenser) ensures appropriate ppm levels of actives in use solution.
- (Insert company name *and/or* name of appropriate dispenser) makes accurate dispensing quick and easy.
- Non-flammable
- Concentrate (Concentrated).
- Disinfects (Disinfectant)
- Cleans (Cleaner)
- Designed for daily use on common materials found in hospitals.
- Deodorizes (Deodorant) (Deodorizer)

- Deodorizes by killing microorganisms that causes offensive odors.
- Kills odor causing bacteria
- No harsh alcohol smell
- No harsh bleach smell
- This product will deodorize hard, nonporous surfaces (where obnoxious odors may develop) (sites) (surfaces) (material compatibility chart)
- This product will deodorize surfaces and other places bacteria growth can cause malodors (sites) (surfaces) (material compatibility chart)
- This product deodorizes areas that are hard to keep fresh smelling,
- Will disinfect, clean and deodorize surfaces in rest rooms and toilet areas, behind and under sinks and counters, garbage cans and garbage storage areas, and other places where bacterial growth can cause malodors.

#### MATERIAL COMPATABILITY

[finished] floors  
Aluminum  
baked enamel surfaces  
brass  
chrome  
glass  
glazed ceramic tile

glazed porcelain  
laminated surfaces  
plastic and painted surfaces  
plastic surfaces  
polished nickel finish  
shower stall  
stainless steel  
vinyl

**NOTE:** This product is compatible with the listed materials. 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.

#### GENERAL USE SITES:

This product is designed specifically as a general (non-abrasive) cleaner and disinfectant for use in:

Animal Life Science Laboratories  
Athlete/Recreational Facilities  
Cruise Ships  
Dental Offices  
Examination Rooms  
Food Service Establishments(Restaurants)  
(Commercial Kitchens)  
Hospitals

ICU Areas  
Locker Rooms  
Lodging Establishments  
Manufacturing Facilities  
Nursing Homes  
Office Building  
Operating Rooms  
Patient Rooms

Pet Shops  
Public Restrooms  
Retail Businesses  
Schools  
Shower Rooms  
Transportation Terminals  
Veterinary Clinics

#### MEDICAL USE SITES

(Assisted Living or Full Care) Nursing Homes  
(bedside) commodes  
(crash) (emergency) carts  
(exam or examination) tables  
(external) (surfaces of) ultrasound transducers (and/or probes)  
(hard, nonporous) edges of privacy curtains  
(hospital or patient) bedf(s) (springs) (railings) (frames) (linings)  
(inner) (inside of)] drawers  
(Mayo) (instrument) stands  
(Medical) (Physician's) (Doctor's) offices  
(Medical) Clinics  
Ambulances or (Emergency Medical) Transport Vehicles  
Ambulatory Care Centers  
Ambulatory Surgical Centers(ASC)  
anesthesia machines  
Anesthesia Rooms or Areas

apheresis machines  
autoclaves  
bathroom doorknob  
bed rails  
bedpans  
bedside tables  
blood pressure cuffs  
cabinet handles  
call boxes  
carts  
CAT Lab(oratories)  
CAT or Computerized Axial Tomography equipment  
cellular phones  
Central Service Areas  
Central Supply Rooms (Areas)  
chairs  
charging stations  
closet handles

coated mattresses  
coated pillows  
computer mouse  
computer peripherals  
computer screens  
computer tables  
cords  
counters  
Critical Care Units (CCUs)  
desktops  
diagnostic equipment  
Dialysis Clinics (Facilities)  
dialysis machines  
docking stations  
Doctor's Offices  
Donation Centers (blood) (plasma) (semen) (milk) (apheresis)  
Emergency Rooms (ERs)



environmental surfaces  
 Examination Rooms or Areas  
 exterior of pipes  
 exterior surfaces of air vents or air vent exteriors  
 external surfaces of (medical) equipment or (medical) equipment surfaces  
 Eye Surgical Centers  
 footboards  
 glucometers  
 Glucometers  
 gurneys  
 handheld (electronic) devices  
 hard, nonporous (environmental) hospital or medical surfaces  
 headboards  
 Headboards  
 Healthcare Settings or Facilities  
 high touch surfaces  
 Hospices  
 Hospitals  
 Intensive Care Units or ICU(s) (areas)  
 Isolation Areas  
 isolettes  
 IV (stands) (pumps) (poles)  
 keyboards  
 Laboratories  
 laptops  
 Laundry Rooms  
 Long Term Care Facilities  
 loupes  
 mammography equipment  
 Medical Facilities

medication carts  
 mobile devices  
 mobile electronic equipment  
 mobile workstations  
 mouse pads  
 MRI or Magnetic Resonance Imaging equipment  
 nurse-call (devices) (buttons) (and cords)  
 Nursing Homes  
 Nursing or Nurses' Stations  
 operating room tables and lights  
 Operating Rooms (ORs)  
 operator light switches  
 Ophthalmic Offices  
 or Areas  
 Orthopedics  
 Out-Patient (Surgical Centers (OPSC)) (Clinics) (Facilities)  
 overbed tables  
 paddles  
 pagers  
 patient chairs  
 patient monitoring equipment  
 patient support and delivery equipment  
 Pharmacies  
 phlebotomy trays  
 phone cradle  
 Physical therapy (PT) equipment surfaces  
 Physical Therapy Rooms or Areas Patient Areas  
 Physicians' Offices  
 plastic mattress covers  
 power cords  
 Psychiatric Facilities  
 Public (Care) Areas

pulse oximeters  
 PVC tubing  
 Radiology or X-Ray Rooms  
 reception (counter) (desks) (areas)  
 Recovery Rooms  
 Rehabilitation Centers  
 remote controls  
 respirators  
 Respiratory Centers  
 respiratory therapy equipment  
 Respiratory Therapy Rooms or Areas  
 Restrooms  
 scales  
 sequential compression devices  
 shower fixtures  
 side rails  
 slit lamps  
 spine backboards  
 stethoscopes  
 stools  
 stretchers  
 support bars  
 Surgery Rooms  
 tablet PCs  
 toilet handholds  
 traction devices  
 Waiting Rooms or Waiting Areas  
 walls (around toilet) (in patient rooms)  
 wash basins  
 wheelchairs  
 x-ray equipment

## Hospital/Health facilities

This product use solution cleans, disinfects and deodorizes hard, nonporous hospital/medical surfaces in one step with no rinsing required.

This product use solution is a one step (hospital use) germicidal (disinfectant) cleaner and deodorant (odor counteractant) (odor neutralizer) designed for general cleaning, (and) disinfecting (deodorizing) (of) hard, nonporous inanimate surfaces. Quickly removes dirt, grime, fungus, food residue, blood and other organic matter commonly found in hospitals (health care facilities) (on medical surfaces). It (also) eliminates odors leaving (restroom) surfaces smelling clean and fresh. Use where odors are a problem.

This product use solution is a (broad spectrum) (germicidal) (disinfectant) cleaner and deodorizer designed for general cleaning (and) disinfecting (deodorizing) (of) hard, nonporous surfaces. Quickly removes dirt, grime, blood and other organic matter commonly found in hospitals (in healthcare facilities) (on medical surfaces).

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 pre-clean or decontaminate critical or semi-critical medical devices prior to sterilization or high level disinfection.

**[Note to reviewer: The following disinfection sections are optional registrant language. Each section must be used in its entirety if chosen by the registrant. The headings "Health Care Disinfectant #1", "Health Care Disinfectant #2", "Health Care Disinfectant #3", and "General Disinfectant" will not appear on the end use product label.]**

**At 2 fluid ounces per gallon of water (or equivalent use dilution) and in the presence of 5% blood serum and 400 ppm hard water with a 2 minute contact time, this product is effective against the following (organisms) (viruses) on hard, non-porous (inanimate) surfaces:**

**(Health Care Disinfectant #1)**

**DISINFECTION IN INSTITUTIONS (Hospitals, Dental Offices, Nursing Homes, and Other Health Care Institutions):** At 2 fluid ounces per gallon of water (or equivalent use dilution) and in the presence of 5% blood serum and 400 ppm hard water with a 2-minute contact time, this product is effective against the following organisms on hard non-porous (inanimate) surfaces:

*Acinetobacter baumannii* (ATCC 19606)  
*Bordetella pertussis* (ATCC 12743)  
Community Acquired Methicillin Resistant *Staphylococcus aureus* CA-MRSA 300 NRS-384  
Community Acquired Methicillin Resistant *Staphylococcus aureus* CA-MRSA 400 NRS 123  
*Escherichia coli* (ATCC 11229)  
*Escherichia coli* with beta-lactamase resistance (ESBL) BAA-196  
*Klebsiella pneumonia* (ATCC 4352)  
*Klebsiella pneumonia* Carbapenem Resistant BAA-1705

Methicillin Resistant *Staphylococcus aureus* MRSA (ATCC 33592)  
*Proteus mirabilis* (ATCC 9240)  
*Pseudomonas aeruginosa* (ATCC 15442)  
*Salmonella enterica* (ATCC 10708)  
*Staphylococcus aureus* (ATCC 6538)  
*Streptococcus pneumonia* (ATCC 6305)  
*Streptococcus pyogenes* ATCC 19615)  
Vancomycin Intermediate Resistant *Staphylococcus aureus* VISA HIP 5836  
Vancomycin Resistant *Enterococcus faecalis* VRE (ATCC 51575)

**\*VIRUCIDAL PERFORMANCE:** At 2 fluid ounces per gallon of water use level (or equivalent use dilution) and in the presence of 5% blood serum and 400 ppm hard water with a 2-minute contact time, this product was evaluated and found to be effective against the following viruses on hard non-porous surfaces:

Herpes simplex virus type 1 (ATCC VR-733)  
Herpes simplex virus type 2 (ATCC VR-734)  
Human Immunodeficiency virus type 1 HTLV-III B  
Influenza A virus (ATCC VR-544)  
Respiratory syncytial (RSV) virus (ATCC VR-26)

Rhinovirus type 37 (ATCC VR-1147)  
Rotavirus  
Vaccinia virus (ATCC VR-119)

**FUNGICIDAL ACTIVITY:** At 2 fluid ounces per gallon use-level (or equivalent use dilution) and in the presence of 5% blood serum and 400 ppm hard water with a 2-minute contact time, this product is effective against the following organism:

*Candida albicans* (ATCC 10231)

**PREPARATION OF DISINFECTION/VIRUCIDAL\*/FUNGICIDAL USE SOLUTION:** For use with water hardness up to 400 ppm. Before using this product, food products and packaging materials must be removed from the room or carefully protected. For heavily soiled areas, a preliminary cleaning is required. Apply 2 fluid ounces of this product per gallon of water use solution (or equivalent use dilution) to disinfect hard, (inanimate,) non-porous surfaces. Apply use solution with a brush, cloth, mop, sponge or mechanical spray device ((hand pump) coarse pump or trigger spray device), thoroughly wetting surfaces as required. For sprayer applications, spray 6-8 inches from surface. Do not breathe spray. Rub with brush, sponge, mop or cloth. Treated surfaces must remain wet for 2 minutes. Rinse or allow to air dry. Rinsing is not necessary unless floors are to be coated with finish or restorer. Rinse all surfaces that come in contact with food such as countertops, appliances, tables and stovetops with potable water before reuse. Change cloth, sponge or towels frequently to avoid redeposition of soil. Do not use this product to clean or disinfect utensils, glassware, dishes or interior surfaces of appliances. (Prepare a fresh solution) (A fresh solution must be prepared) at least daily or when use solution becomes visibly (diluted) (soiled) (dirty).

**\*KILLS HIV ON PRECLEANED ENVIRONMENTAL SURFACES/ OBJECTS PREVIOUSLY SOILED WITH BLOOD/BODY FLUIDS** in health care settings or other settings in which there is an expected likelihood of soiling of inanimate surfaces/objects with blood or body fluids and in which the surfaces/ objects likely to be soiled with blood or body fluids can be associated with the potential for transmission of Human Immunodeficiency Virus Type 1 (HIV-1) (associated with AIDS).

**SPECIAL INSTRUCTIONS FOR CLEANING AND DECONTAMINATION AGAINST HIV-1 ON SURFACES/OBJECTS SOILED WITH BLOOD/BODY FLUIDS.**

**Personal Protection:** (Clean up must always be done wearing protective latex gloves, gowns, masks and eye protection) (Specific barrier protection items to be used when handling items soiled with blood or body fluids are disposable latex gloves, gowns, masks and eye coverings).

**Cleaning Procedure:** Blood and other body fluids (containing HIV-1) must be thoroughly cleaned from surfaces and objects before application of this product.

**Disposal of Infectious Materials:** Blood and other body fluids, cleaning materials and clothing must be autoclaved and disposed of according to federal, state and local regulations for infectious waste disposal.

**Contact Time:** Leave surface wet for 2 minutes with a 2 fluid ounce per gallon of water use solution (or equivalent use dilution).

**CLEANING AND DISINFECTION:** For heavily soiled areas, a pre-cleaning step is required. For all general cleaning and disinfection, use 2 fluid ounces of this product per gallon of water (or equivalent use dilution). Apply use solution with a brush, mop, cloth, sponge or mechanical spray device ((hand pump) coarse pump or trigger spray device) so as to wet all surfaces thoroughly to be cleaned and disinfected. For sprayer applications, spray 6-8 inches from surface. Rub with brush, sponge, mop or cloth. Do not breathe spray. Allow

surfaces to remain wet for 2 minutes and then let air dry or wipe up excess liquid. Change cloth, sponge or towels frequently to avoid redeposition of soil. (Prepare a fresh solution) (A fresh solution must be prepared) at least daily or when use solution becomes visibly (diluted) (soiled) (dirty).

#### **ANIMAL PREMISES**

**DISINFECTION OF ANIMAL AND POULTRY PREMISES, TRUCKS, COOPS AND CRATES:** This product is used in animal hospitals, animal laboratories, kennels, pet shops, zoos, pet animal quarters, poultry premises, poultry hatcheries, and livestock quarters. When used as directed this product is specifically designed to disinfect, deodorize and clean (inanimate,) hard, non-porous surfaces such as walls, floors, sink tops, furniture, operating tables, kennel runs, cages, and feeding equipment. In addition this product will deodorize those areas which are generally hard to keep smelling fresh, such as garbage storage areas, empty garbage bins and cans, and any other areas which are prone to odors caused by microorganisms.

**DISINFECTION OF POULTRY PREMISES:** For heavily soiled areas, a pre-cleaning step is required. Prepare a fresh solution for each use. Remove all poultry and feeds from [(premises) (area to be disinfected)], trucks, coops, and crates. Remove all litter and droppings from floors, walls and surfaces of facilities occupied or traversed by poultry. Empty all troughs, racks, and other feeding and watering appliances. Thoroughly clean all surfaces with a detergent and rinse with water. Saturate surfaces with 2 fluid ounces per gallon water (or equivalent use dilution) solution of this product for a period of 2 minutes. Thoroughly scrub treated feed racks, troughs, automatic feeders, fountains and waterers with a detergent and rinse with potable water before reuse. Ventilate buildings, coops and other enclosed spaces. Do not house poultry or employ equipment until treatment has been absorbed, set or dried. All treated equipment that comes in contact with food, feed, or drinking water must be rinsed with potable water before reuse. Change cloth, sponge or towels frequently to avoid redeposition of soil. [(Prepare a fresh solution) (A fresh solution must be prepared)] at least daily or when use solution becomes visibly (diluted) (soiled) (dirty).

**DISINFECTION AND DEODORIZING OF ANIMAL HOUSING FACILITIES (BARN, KENNELS, HUTCHES, ETC.):** Remove animals and feed from [(premises) (area to be disinfected)], vehicles, and enclosures. Remove all litter- and droppings from floors, walls, and surfaces of barns, pens, stalls, chutes, and other facilities and fixtures occupied or traversed by animals. Empty all troughs, racks and other feeding and watering equipment. Thoroughly clean all surfaces with soap or detergent and rinse with water. Saturate surfaces by applying 2 fluid ounces per gallon of water (or equivalent use dilution) solution of this product with a mop, brush, or coarse spray. Wet all surfaces and allow to remain wet for 2 minutes. Immerse all halters and other types of hard non-porous equipment used in handling and restraining animals, as well as forks, shovels and scrapers used for removing litter and manure. Ventilate buildings and other enclosed spaces. Do not house [(animals) (livestock)] or employ equipment until treatment has been absorbed, set or dried. Thoroughly scrub all treated feed racks, mangers, troughs, automatic feeders, fountains and waterers with a soap or detergent, and rinse with potable water before reuse. Change cloth, sponge or towels frequently to avoid redeposition of soil. [(Prepare a fresh solution) (A fresh solution must be prepared)] at least daily or when use solution becomes visibly (diluted) (soiled) (dirty).

At 4 fluid ounces per gallon of water (or equivalent use dilution) and in the presence of 5% blood serum and 400 ppm hard water with a 2 minute contact time, (5-minute contact time for Canine Parvovirus, Hepatitis B Virus, Hepatitis C Virus), this product is effective against the following (organisms) (viruses) (spores) on hard, non-porous (inanimate) surfaces:

(Health Care Disinfectant #2)

#### SPORICIDAL

##### *Clostridium difficile*

This product kills and/or inactivates spores of *Clostridium difficile* on hard, non-porous surfaces. This product is effective against *Clostridium difficile* endospores after a 2 minute exposure time.

#### SPECIAL INSTRUCTIONS FOR CLEANING PRIOR TO DISINFECTION AGAINST *Clostridium difficile* SPORES

**Personal Protection:** Wear appropriate barrier protection such as gloves, gowns, masks or eye covering.

**Contact time:** Leave surface wet for 2 minutes with 4 fluid ounces. per gallon use solution.

**Cleaning Procedure:** Fecal matter/waste must be thoroughly cleaned from surfaces/objects before disinfection by application with a clean cloth, mop, and/or sponge saturated with the disinfectant product. This cleaning may be accomplished with any cleaning solution, including this product. Cleaning is to include vigorous wiping and/or scrubbing, until all visible soil is removed. Special attention is needed for high-touch surfaces. Surfaces in patient rooms are to be cleaned in an appropriate manner, such as from right to left or left to right, on horizontal surfaces, and top to bottom, on vertical surfaces, to minimize spreading of the spores. Restrooms are to be cleaned last. Do not reuse soiled cloths.

**Infectious Materials Disposal:** Materials used in the cleaning process that may contain feces/wastes are to be disposed of immediately in accordance with local regulations for infectious materials disposal.

**DISINFECTION IN INSTITUTIONS (Hospitals, Dental Offices, Nursing Homes, and Other Health Care Institutions):** At 4 fluid ounces per gallon of water (or equivalent use dilution) and in the presence of 5% blood serum and 400 ppm hard water with a 2-minute contact time, this product is effective against the following organisms on hard non-porous (inanimate) surfaces:

*Acinetobacter baumannii* (ATCC 19606)

*Bordetella pertussis* (ATCC 12743)

Community Acquired Methicillin Resistant *Staphylococcus aureus* CA-MRSA 300 NRS-384

Community Acquired Methicillin Resistant *Staphylococcus aureus* CA-MRSA 400 NRS 123

*Escherichia coli* (ATCC 11229)

*Escherichia coli* with beta-lactamase resistance (ESBL) BAA-196

*Klebsiella pneumonia* (ATCC 4352)

*Klebsiella pneumonia* Carbapenem Resistant BAA-1705

Methicillin Resistant *Staphylococcus aureus* MRSA (ATCC 33592)

*Proteus mirabilis* (ATCC 9240)

*Pseudomonas aeruginosa* (ATCC 15442)

*Salmonella enterica* (ATCC 10708)

*Staphylococcus aureus* (ATCC 6538)

*Streptococcus pneumonia* (ATCC 6305)

*Streptococcus pyogenes* (ATCC 19615)

Vancomycin Intermediate Resistant *Staphylococcus aureus* VISA HIP 5836

Vancomycin Resistant *Enterococcus faecalis* VRE (ATCC 51575)

**\*VIRUCIDAL PERFORMANCE:** At 4 fluid ounces per gallon of water use level (or equivalent use dilution) and in the presence of 5% blood serum and 400 ppm hard water with a 2-minute contact time, this product was evaluated and found to be effective against the following viruses on hard non-porous surfaces:

Adenovirus type 5 (ATCC VR-5) Strain Adenoid 75

Herpes simplex virus type 1 (ATCC VR-733)

Herpes simplex virus type 2 (ATCC VR-734)

Human Immunodeficiency virus type 1 HTLV-III B

Influenza A virus (ATCC VR-544)

Murine Norovirus (MNV-1)

Norovirus (ATCC VR-782)

Respiratory syncytial (RSV) virus (ATCC VR-26)

Rhinovirus type 37 (ATCC VR-1147)

Rotavirus

Vaccinia virus (ATCC VR-119)

**\*VIRUCIDAL PERFORMANCE:** At 4 fluid ounces per gallon of water use level (or equivalent use dilution) and in the presence of 5% blood serum and 400 ppm hard water with a 5-minute contact time, this product was evaluated and found to be effective against the following viruses on hard non-porous surfaces:

Canine Parvovirus (CPV)

Hepatitis B Virus

Hepatitis C Virus (ATCC VR-1422)

At 4 fluid ounces (of (this product) (Product Name)) per gallon of water (or equivalent use dilution) ((and in the presence of 400 ppm hard water (CaCO<sub>3</sub>)) (and) (5% serum), (this product) (Product Name) was proven to be effective against (*Duck*) Hepatitis B Virus with a contact time of 5 minutes. (*This statement not for use in CA*).

At 4 fluid ounces (of (this product) (Product Name)) per gallon of water (or equivalent use dilution) (and in the presence of 5% organic load), (this product) (Product Name) was proven to be effective against Duck Hepatitis B Virus (HBV) and Bovine Viral Diarrhea Virus BVDV, surrogate for human Hepatitis C virus, with a contact time of 5 minutes. (*This statement must be used in CA*)

At 4 ounces per gallon of water use level (or equivalent dilution), this product was evaluated in the presence of 5% serum in 400 ppm hard water with a 5-minute contact time and found to be effective against the following viruses on hard, non-porous environmental surfaces:

Canine Parvovirus (CPV)

**FUNGICIDAL ACTIVITY:** At 4 fluid ounces per gallon use-level (or equivalent use dilution) and in the presence of 5% blood serum and 400 ppm hard water with a 2-minute contact time, this product is effective against the following organism:

*Candida albicans* (ATCC 10231)

*Trichophyton mentagrophytes* (ATCC 9533) (Athlete's foot fungus) (a cause of Ringworm)

**PREPARATION OF DISINFECTION/VIRUCIDAL\*/FUNGICIDAL USE SOLUTION:** For use with water hardness up to 400 ppm. Before using this product, food products and packaging materials must be removed from the room or carefully protected. For heavily soiled areas, a preliminary cleaning is required. Apply 4 fluid ounces of this product per gallon of water use solution (or equivalent use dilution) to disinfect hard, (inanimate,) non-porous surfaces. Apply use solution with a brush, cloth, mop, sponge or mechanical spray device ((hand pump) coarse pump or trigger spray device), thoroughly wetting surfaces as required. For sprayer applications, spray 6-8 inches from surface. Do not breathe spray. Rub with brush, sponge, mop or cloth. Treated surfaces must remain wet for 2 minutes (5 minutes for HBV and HCV). Rinse or allow to air dry. Rinsing is not necessary unless floors are to be coated with finish or restorer. Rinse all surfaces that come in contact with food such as countertops, appliances, tables and stovetops with potable water before reuse. Change cloth, sponge or towels frequently to avoid redeposition of soil. Do not use this product to clean or disinfect utensils, glassware, dishes or interior surfaces of appliances. (Prepare a fresh solution) (A fresh solution must be prepared)] at least daily or when use solution becomes visibly [(diluted) (soiled) (dirty)].

**\*KILLS HIV, HBV AND HCV ON PRECLEANED ENVIRONMENTAL SURFACES/ OBJECTS PREVIOUSLY SOILED WITH BLOOD/BODY FLUIDS** in health care settings or other settings in which there is an expected likelihood of soiling of inanimate surfaces/objects with blood or body fluids and in which the surfaces/ objects likely to be soiled with blood or body fluids can be associated with the potential for transmission of Human Immunodeficiency Virus Type 1 (HIV-1) (associated with AIDS) and (*Duck*) Hepatitis B Virus (HBV).and Bovine Viral Diarrhea Virus BVDV (surrogate for human Hepatitis C virus) (*Note: "Duck" description is required in CA*)

**SPECIAL INSTRUCTIONS FOR CLEANING AND DECONTAMINATION AGAINST HIV-1, HBV AND HCV ON SURFACES/OBJECTS SOILED WITH BLOOD/BODY FLUIDS.**

**Personal Protection:** (Clean up must always be done wearing protective latex gloves, gowns, masks and eye protection) (Specific barrier protection items to be used when handling items soiled with blood or body fluids are disposable latex gloves, gowns, masks and eye coverings).

**Cleaning Procedure:** Blood and other body fluids (containing HIV-1, HBV and HCV) must be thoroughly cleaned from surfaces and objects before application of this product.

**Disposal of Infectious Materials:** Blood and other body fluids, cleaning materials and clothing must be autoclaved and disposed of according to federal, state and local regulations for infectious waste disposal.

**Contact Time:** Leave surface wet for 2 minutes with a 4 fluid ounce per gallon of water use solution for HIV (leave surface wet for 5 minutes for HBV and HCV) (or equivalent use dilution).

**CLEANING AND DISINFECTION:** For heavily soiled areas, a pre-cleaning step is required. For all general cleaning and disinfection, use 4 fluid ounces of this product per gallon of water (or equivalent use dilution). Apply use solution with a brush, mop, cloth, sponge or mechanical spray device ((hand pump) coarse pump or trigger spray device) so as to wet all surfaces thoroughly to be cleaned and disinfected. For sprayer applications, spray 6-8 inches from surface. Rub with brush, sponge, mop or cloth. Do not breathe spray. Allow surfaces to remain wet for 2 minutes for HIV (5 minutes for HBV and HCV) and then let air dry or wipe up excess liquid. Change cloth, sponge or towels frequently to avoid redeposition of soil. (Prepare a fresh solution) (A fresh solution must be prepared) at least daily or when use solution becomes visibly (diluted) (soiled) (dirty).

#### **ANIMAL PREMISES**

**DISINFECTION OF ANIMAL AND POULTRY PREMISES, TRUCKS, COOPS AND CRATES:** This product is used in animal hospitals, animal laboratories, kennels, pet shops, zoos, pet animal quarters, poultry premises, poultry hatcheries, and livestock quarters. When used as directed this product is specifically designed to disinfect, deodorize and clean (inanimate,) hard, non-porous surfaces such as walls, floors, sink tops, furniture, operating tables, kennel runs, cages, and feeding equipment. In addition this product will deodorize those areas which are generally hard to keep smelling fresh, such as garbage storage areas, empty garbage bins and cans, and any other areas which are prone to odors caused by microorganisms.

**DISINFECTION OF POULTRY PREMISES:** For heavily soiled areas, a pre-cleaning step is required. Prepare a fresh solution for each use. Remove all poultry and feeds from [(premises) (area to be disinfected)], trucks, coops, and crates. Remove all litter and droppings from floors, walls and surfaces of facilities occupied or traversed by poultry. Empty all troughs, racks, and other feeding and watering appliances. Thoroughly clean all surfaces with a detergent and rinse with water. Saturate surfaces with 4 fluid ounces per gallon water) (or equivalent use dilution) solution of this product for a period of 2 minutes ((5 minutes) [*if claiming Canine parvovirus*]). Thoroughly scrub treated feed racks, troughs, automatic feeders, fountains and waterers with a detergent and rinse with potable water before reuse. Ventilate buildings, coops and other enclosed spaces. Do not house poultry or employ equipment until treatment has been absorbed, set or dried. All treated equipment that comes in contact with food, feed, or drinking water must be rinsed with potable water before reuse. Change cloth, sponge or towels frequently to avoid redeposition of soil. [(Prepare a fresh solution) (A fresh solution must be prepared)] at least daily or when use solution becomes visibly (diluted) (soiled) (dirty).

**DISINFECTION AND DEODORIZING OF ANIMAL HOUSING FACILITIES (BARN, KENNELS, HUTCHES, ETC.):** Remove animals and feed from [(premises) (area to be disinfected)], vehicles, and enclosures. Remove all litter- and droppings from floors, walls, and surfaces of barns, pens, stalls, chutes, and other facilities and fixtures occupied or

traversed by animals. Empty all troughs, racks and other feeding and watering equipment. Thoroughly clean all surfaces with soap or detergent and rinse with water. Saturate surfaces by applying 4.0 fluid ounces per gallon of water (or equivalent use dilution) solution of this product with a mop, brush, or coarse spray. Wet all surfaces and allow to remain wet for 2 minutes((5 minutes) [*if claiming Canine parvovirus*]). Immerse all halters and other types of hard non-porous equipment used in handling and restraining animals, as well as forks, shovels and scrapers used for removing litter and manure. Ventilate buildings and other enclosed spaces. Do not house [(animals) (livestock)] or employ equipment until treatment has been absorbed, set or dried. Thoroughly scrub all treated feed racks, mangers, troughs, automatic feeders, fountains and waterers with a soap or detergent, and rinse with potable water before reuse. Change cloth, sponge or towels frequently to avoid redeposition of soil. [(Prepare a fresh solution) (A fresh solution must be prepared)] at least daily or when use solution becomes visibly (diluted) (soiled) (dirty).

**Commercial AGRICULTURAL OR INDUSTRIAL water system injection for the oxidization of odors when they form:** In well systems, Liquidate is injected with a peristaltic pump through a 1/4 inch plastic tube (or other comparable injection system) inserted into the well all the way to the well intake screens. The most distant faucet is tested with a supplied test strip until a residual of 25-50 ppm hydrogen peroxide is detected indicating that the system has been thoroughly treated. The injection pump should then be adjusted to deliver 25 ppm on a consistent basis to the water system. When treating the watering system for sick animals, the most distant faucet is tested with a test strip until a residual of 100-1,000 ppm hydrogen peroxide is detected indicating that the system has been thoroughly treated. When this level is reached the injection is immediately reduced until the test strip indicates the 25 ppm is reached and the system is maintained at the 25 ppm level. This process can be repeated monthly to ensure a clean water system and avoid screen clogging.

**Cleaning Poultry & Livestock Drinking Water Lines:** • For drinking water lines 500 feet in length or less, using water holding tanks, make a 3% Liquidate stock solution by mixing 3 gallons Liquidate with 97 gallons of water. • For drinking water lines exceeding 500 feet in length, using holding tanks, make a 3% Liquidate stock solution by mixing 6 gallons Liquidate with 194 gallons of water. • Pump the 3% Liquidate stock solution, completely filling the drinking water lines. • If the drinking water lines are not supplied by water from holding tanks, you may either prepare a 3% Liquidate stock solution in a 50 gallon tank by mixing one & one-half (1.5) gallons Liquidate with forty-eight & one-half (48.5) gallons of water, pumping this solution into the water line, repeating this process as often as needed, until water line is filled or you may fill the water line, using a proportioner, set to inject undiluted Liquidate at a rate of 1:33 (3%). • After the waterline is filled with the 3% Liquidate solution, activate nipple drinkers to insure contact with drinkers. • Allow the 3% Liquidate solution to remain in the water lines for 24 – 48 hours. • Flush lines with fresh water until water is visibly clear.

At 2 fluid ounces per 5 gallons of water (or equivalent use dilution) and in the presence of 5% blood serum and 400 ppm hard water with a 10-minute contact time, this product is effective against the following organisms on hard, non-porous (inanimate) surfaces:

**(Health Care Disinfectant #3)**

**\*\*DISINFECTION IN INSTITUTIONS (Hospitals, Dental Offices, Nursing Homes, and Other Health Care Institutions):** At 2 fluid ounces per 5 gallons of water (or equivalent use dilution) and in the presence of 5% blood serum and 400 ppm hard water with a 10-minute contact time, this product is effective against the following organisms on hard non-porous (inanimate) surfaces:

*Bordetella bronchiseptica* (ATCC 10580)

*Campylobacter jejuni* (ATCC 29428)

*Corynebacterium ammoniagenes* (ATCC 6872)

*Vancomycin Resistant Enterococcus faecalis VRE* (ATCC51575)

*Escherichia coli O 157:H7*(ATCC 35150)

*Klebsiella pneumoniae* (ATCC4352)

*Listeria monocytogenes* (ATCC 19117)

*Pseudomonas aeruginosa* (ATCC 15442)

*Salmonella enterica* (ATCC 10708)

*Salmonella typhi* (ATCC 6539)

*Shigella sonnei* (ATCC 25931)

*Staphylococcus aureus* (ATCC 6538)

Community Acquired Methicillin Resistant *Staphylococcus aureus* (CA MRSA) NRS 123, USA400)

*Vancomycin Intermediate Resistant Staphylococcus aureus VISA*(HIP 5836)

At 1½ fluid ounces per 5 gallons of water (or equivalent use dilution) and in the presence of 5% blood serum and 400 ppm hard water with a 10-minute contact time, this product is effective against the following organisms on hard, non-porous (inanimate) surfaces:

### (General Disinfectant)

**GENERAL DISINFECTION IN NON-MEDICAL FACILITIES (Households, Schools, Restaurants, Food Services, Beverage and Food Processing Plants and Other Non-Medical Facilities):** At 1½ fluid ounces per 5 gallons of water (or equivalent use dilution) and in the presence of 5% blood serum and 400 ppm hard water with a 10-minute contact time, this product is effective against the following organisms on hard non-porous (inanimate) surfaces:

*Bordetella bronchiseptica* (ATCC 10580)

*Corynebacterium ammoniagenes* (ATCC 6872)

*Vancomycin Resistant Enterococcus faecalis VRE* (ATCC 51575)

*Escherichia coli 0157:H7*(ATCC 35150)

*Listeria monocytogenes* (ATCC 19117)

*Salmonella enterica* (ATCC 10708)

*Salmonella typhi* (ATCC 6539)

*Shigella sonnei* (ATCC 25931)

*Staphylococcus aureus* (ATCC 6538)

*Vancomycin Intermediate Resistant Staphylococcus aureus VISA* (HIP 5836)

**\*VIRUCIDAL PERFORMANCE:** At 1½ fluid ounces per 5 gallons of water use level (or equivalent use dilution) and in the presence of 5% blood serum and 400 ppm hard water with a 10-minute contact time, this product was evaluated and found to be effective against the following viruses on hard non-porous surfaces:

*Avian Adenovirus*

*Avian Infectious Bronchitis Virus*

*Avian Influenza A (H5N1) virus*

*Hepatitis B Virus* (VR 733)

*Herpes Simplex Type1 virus* (ATCC VR733 )

*Herpes Simplex Type2 virus* (ATCC VR734)

*HIV-1 (AIDS virus)*

*Human Coronavirus*

*Infectious Bursal disease*

*Infectious Laryngotracheitis*

*Influenza A virus H1N1*

*Newcastle disease virus*

*Porcine Respiratory & Reproductive Syndrome virus*

*Porcine Rotavirus*

*Pseudorabies*

*Transmissible Gastroenteritis*

*Vesicular Stomatitis*

**FUNGICIDAL ACTIVITY:** At 1½ fluid ounces per 5 gallons use-level (or equivalent use dilution) and in the presence of 5% blood serum and 400 ppm hard water with a 10-minute contact time, this product is effective against the following organism:

*Trichophyton mentagrophytes* (ATCC 9533) (Athlete's foot fungus) (a cause of Ringworm)

**PREPARATION OF DISINFECTION/VIRUCIDAL\*/FUNGICIDAL USE SOLUTION:** For use with water hardness up to 400 ppm. Before using this product, food products and packaging materials must be removed from the room or carefully protected. For heavily soiled areas, a preliminary cleaning is required. Apply 2 fluid ounces of this product per 5 gallons of water use solution (or equivalent use dilution) to disinfect hard, (inanimate,) non-porous surfaces. Apply use solution with a brush, cloth, mop, sponge or mechanical spray device ((hand pump) coarse pump or trigger spray device), thoroughly wetting surfaces as required. For sprayer applications, spray 6-8 inches from surface. Do not breathe spray. Rub with brush, sponge, mop or cloth. Treated surfaces must remain wet for 10 minutes. Rinse or allow to air dry. Rinsing is not necessary unless floors are to be coated with finish or restorer. Rinse all surfaces that come in contact with food such as countertops, appliances, tables and stovetops with potable water before reuse. Change cloth, sponge or towels frequently to avoid redeposition of soil. Do not use this product to clean or disinfect utensils, glassware, dishes or interior surfaces of appliances. [(Prepare a fresh solution) (A fresh solution must be prepared)] at least daily or when use solution becomes visibly [(diluted) (soiled) (dirty)].

**GENERAL DISINFECTION DIRECTIONS:** For heavily soiled areas, a preliminary cleaning is required. Apply use solution of 1½ fluid ounces per 5 gallons of water (or equivalent use dilution) to hard, (inanimate,) non-porous surfaces, thoroughly wetting surfaces as required, with a cloth, brush, mop, sponge or mechanical spray device ((hand pump) coarse pump or trigger spray device). For sprayer applications, spray 6-8 inches from surface. Do not breathe spray. Rub with brush, sponge, mop or cloth. Allow surfaces to remain wet for 10 minutes. Rinse or allow air dry or wipe up excess liquid. Change cloth, sponge or towels frequently to avoid redeposition of soil. Do not use this product to clean or disinfect utensils, glassware, dishes or interior surfaces of appliances. [(Prepare a fresh solution) (A fresh solution must be prepared)] at least daily or when use solution becomes visibly (diluted) (soiled) (dirty).

**\*KILLS HIV, AND HBV ON PRECLEANED ENVIRONMENTAL SURFACES/ OBJECTS PREVIOUSLY SOILED WITH BLOOD/BODY FLUIDS** in health care settings or other settings in which there is an expected likelihood of soiling of inanimate surfaces/objects with blood or body fluids and in which the surfaces/ objects likely to be soiled with blood or body fluids can be associated with the potential for transmission of Human Immunodeficiency Virus Type 1 (HIV-1) (associated with AIDS) and (*Duck*) Hepatitis B Virus (HBV). (*Note: "Duck" description is required in CA*)

**SPECIAL INSTRUCTIONS FOR CLEANING AND DECONTAMINATION AGAINST HIV-1, AND HBV ON SURFACES/OBJECTS SOILED WITH BLOOD/BODY FLUIDS.**

**Personal Protection:** [(Clean up must always be done wearing protective latex gloves, gowns, masks and eye protection) (Specific barrier protection items to be used when handling items soiled with blood or body fluids are disposable latex gloves, gowns, masks and eye coverings)].

**Cleaning Procedure:** Blood and other body fluids (containing HIV-1 and HBV) must be thoroughly cleaned from surfaces and objects before application of this product.



**Disposal of Infectious Materials:** Blood and other body fluids, cleaning materials and clothing must be autoclaved and disposed of according to federal, state and local regulations for infectious waste disposal.

**Contact Time:** Leave surface wet for 10 minutes with a 1½ fluid ounces per 5 gallons of water use solution (or equivalent use dilution).

**CLEANING AND DISINFECTION:** For heavily soiled areas, a pre-cleaning step is required. For all general cleaning and disinfection, use 2 fluid ounces of this product per 5 gallons of water (or equivalent use dilution). Apply use solution with a brush, mop, cloth, sponge or mechanical spray device ((hand pump) coarse pump or trigger spray device) so as to wet all surfaces thoroughly to be cleaned and disinfected. For sprayer applications, spray 6-8 inches from surface. Rub with brush, sponge, mop or cloth. Do not breathe spray. Allow surfaces to remain wet for 10 minutes and then let air dry or wipe up excess liquid. Change cloth, sponge or towels frequently to avoid redeposition of soil. [(Prepare a fresh solution) (A fresh solution must be prepared)] at least daily or when use solution becomes visibly [(diluted) (soiled) (dirty)].

**FOR USE AS A ONE-STEP CLEANER/DISINFECTANT:**

1. Pre-clean heavily soiled areas.
2. Apply use solution of 2 fluid ounces per 5 gallons (or equivalent use dilution) to hard, non-porous (environmental) surfaces using a sponge, brush, cloth, mop or mechanical spray device ((hand pump) coarse pump or trigger spray device). Wet all treated surfaces thoroughly.
3. To disinfect, all surfaces must remain wet for 10 minutes.
4. Wipe surfaces (and let air dry).
5. [(Prepare a fresh solution) (A fresh solution must be prepared)] at least daily or when use solution becomes visibly (diluted) (soiled) (dirty).

**Note:** All food contact surfaces such as appliances and kitchen countertops must be rinsed with potable water. Do not use this product to clean or disinfect glassware, utensils, dishes or interior surfaces of appliances.

**ANIMAL PREMISES**

**DISINFECTION OF ANIMAL AND POULTRY PREMISES, TRUCKS, COOPS AND CRATES:** This product is used in animal hospitals, animal laboratories, kennels, pet shops, zoos, pet animal quarters, poultry premises, poultry hatcheries, and livestock quarters. When used as directed this product is specifically designed to disinfect, deodorize and clean (inanimate,) hard, non-porous surfaces such as walls, floors, sink tops, furniture, operating tables, kennel runs, cages, and feeding equipment. In addition this product will deodorize those areas which are generally hard to keep smelling fresh, such as garbage storage areas, empty garbage bins and cans, and any other areas which are prone to odors caused by microorganisms.

**DISINFECTION OF POULTRY PREMISES:** For heavily soiled areas, a pre-cleaning step is required. Prepare a fresh solution for each use. Remove all poultry and feeds from [(premises) (area to be disinfected)], trucks, coops, and crates. Remove all litter and droppings from floors, walls and surfaces of facilities occupied or traversed by poultry. Empty all troughs, racks, and other feeding and watering appliances. Thoroughly clean all surfaces with a detergent and rinse with water. Saturate surfaces with a 0.23 – 0.31% v/v (2 fluid ounces per 5 gallons of water) (or equivalent use dilution) solution of this product for a period of 10 minutes. Thoroughly scrub treated feed racks, troughs, automatic feeders, fountains and waterers with a detergent and rinse with potable water before reuse. Ventilate buildings, coops and other enclosed spaces. Do not house poultry or employ equipment until treatment has been absorbed, set or dried. All treated equipment that comes in contact with food, feed, or drinking water must be rinsed with potable water before reuse. Change cloth, sponge or towels frequently to avoid redeposition of soil. [(Prepare a fresh solution) (A fresh solution must be prepared)] at least daily or when use solution becomes visibly (diluted) (soiled) (dirty).

**DISINFECTION AND DEODORIZING OF ANIMAL HOUSING FACILITIES (BARN, KENNELS, HUTCHES, ETC.):** Remove animals and feed from [(premises) (area to be disinfected)], vehicles, and enclosures. Remove all litter- and droppings from floors, walls, and surfaces of barns, pens, stalls, chutes, and other facilities and fixtures occupied or traversed by animals. Empty all troughs, racks and other feeding and watering equipment. Thoroughly clean all surfaces with soap or detergent and rinse with water. Saturate surfaces by applying a 0.23-0.31% v/v (2.0 fluid ounces per 5 gallons of water) (or equivalent use dilution) solution of this product with a mop, brush, or coarse spray. Wet all surfaces and allow to remain wet for 10 minutes. Immerse all halters and other types of hard non-porous equipment used in handling and restraining animals, as well as forks, shovels and scrapers used for removing litter and manure. Ventilate buildings and other enclosed spaces. Do not house [(animals) (livestock)] or employ equipment until treatment has been absorbed, set or dried. Thoroughly scrub all treated feed racks, mangers, troughs, automatic feeders, fountains and waterers with a soap or detergent, and rinse with potable water before reuse. Change cloth, sponge or towels frequently to avoid redeposition of soil. [(Prepare a fresh solution) (A fresh solution must be prepared)] at least daily or when use solution becomes visibly (diluted) (soiled) (dirty).

**FOGGING IN FILLING, PACKAGING, AND DISPENSING ROOMS OR AREAS:** All surfaces must be cleaned and disinfected in accordance with label directions prior to fogging. Prior to fogging remove food products and packaging materials from the room or area or carefully protect them. Fog desired areas using one quart of a 0.3% to 1.5% solution of this product (2 to 10 fluid ounces of this product per 5 gallons of water) (or equivalent use dilution) per 1,000 cu. Ft. of room area. Conventional corrosion resistant fogging devices are required. Wear a dust mist respirator when mixing the use solution and pouring it into the fogging apparatus. Vacate the area of all personnel prior to, during and after fogging until the hydrogen peroxide concentration is below 0.5 ppm. Allow surfaces to drain thoroughly before operations are resumed. For all hard, non-porous food contact surfaces treated with disinfectant, a must be rinsed thoroughly with a potable water rinse

**CONTROL OF SLIME FORMING BACTERIA IN RECIRCULATING AND COOLING WATER SYSTEMS (COOLING TOWERS, EVAPORATIVE CONDENSERS, PASTEURIZERS):** Severely fouled systems must be cleaned before adding and/or using this product. This product is to be added in the system directly and not mixed with any other

chemicals or additives. Discontinue use of chlorine or bromine products prior to using this product. Contamination with other chemicals could result in product decomposition. Add this product at a point in the system where uniform mixing and even distribution will occur. For slug treatment add 20 fluid ounces of product per 1,000 gallons of process water (or equivalent use dilution). Repeat as necessary until microbiological control is evident. Thereafter, to maintain control, use 0.33 to 1.5 lbs. (4.5 – 20.5 fl. oz.) of this product per 1,000 gallons of process water (2 – 9 ppm active) (or equivalent use dilution) as a continuous or intermittent slug treatment. Continuous dosing methods usually require 2 – 5 ppm active (4.5 – 11.5 fl. oz. per 1,000 gallons of process water) (or equivalent use dilution) to achieve adequate control.

**ANTIMICROBIAL RINSE OR PRECLEANED OR NEW RETURNABLE OR NON RETURNABLE CONTAINERS:** To reduce the numbers of beverage spoilage organisms, use a 2 to 3% v/v solution, which equals 1,120 – 1,700 ppm active (2.56 - 3.84 fluid ounces to 1 gallon of water) of this product at a temperature range of 46 – 60°C for 30 seconds. Higher dilutions of 1 (one) fluid ounce per gallon of water is effective at 60°C. After adequate draining, rinse interior containers surfaces with sterile or potable water.

**FRUIT AND VEGETABLE WATER TREATMENT:** This product is used to help control spoilage or decay-causing bacteria and fungi in water or ice that contacts raw unprocessed fruits and vegetables. The commodity must be continuously sprayed using coarse spray, or submerged using a solution containing 1 fluid ounce of this product per 20 gallons of water (or equivalent use dilution). Adjust dose as necessary to maintain no more than 25 ppm active. Remove excess water or allow to drain. If using the submersion method, replace with a fresh solution at least daily, or when solution becomes visibly soiled. A final potable water rinse is not required.

#### POST HARVEST TREATMENTS

Use this product for treatment of waters used in handling, processing, packing and storage of raw fruits and vegetables. This product can also be used to control the growth of spoilage and decay causing bacterial and fungal diseases on post harvest fruits and vegetables. For post harvest applications, fruits and vegetables can be sprayed or submerged in the resulting solution for a minimum contact time of 30 seconds, followed by adequate draining.

**FOGGING:** This product can be applied by fogging to control the growth of non-public health microorganisms that can cause decay and/or spoilage on raw, post harvest fruits and vegetables during the post harvest process.

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

1. Ensure room is properly ventilated. Wear a dust mist respirator when mixing the use solution and pouring it into the fogging apparatus. Vacate all personnel from the room during fogging and for a minimum of 2 hours after fogging and a minimum of 4 air exchanges (ACH) per hour in the facility. Ensure there is no strong odor which is characteristic of acetic acid before allowing personnel return to work area. Do not enter room until hydrogen peroxide concentrations are correctly tested and are below 1 ppm on a time weighted average.
2. Fog areas using one quart of a 0.3% solution (3.5 fluid ounces per 10 gallons of water) (or equivalent use dilution) per 1 cu. ft. of room volume. Allow surfaces to drain thoroughly and air dry before operations are resumed.

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

**TREATMENT OF FRUIT AND VEGETABLE PROCESSING WATERS:** Use the product for the treatment of waters used in the processing of raw fruits and vegetables. Mix this product with water either batch-wise or continuously at a rate of 60 to 195 fluid ounces of this product to 1,000 gallons of water (or equivalent use dilution). This will provide 25 to 85 ppm of active in the use solution. The fruits and vegetables can be sprayed or submerged in the resulting solution for a minimum contact time of 45 seconds, followed by adequate draining. At this use dilution this product will control the growth of spoilage and decay causing non-public health organisms in process waters and on the surface of fresh cut or post harvest fruits and vegetables. This product is not allowed to be used for control of any public health organism on fruit and vegetable surfaces.

**AGRICULTURAL OR HORTICULTURAL USES:** There is a Restricted-Entry-Interval (REI) of zero (0) hours after the use of this product. This product must never be mixed or combined with any other pesticide or fertilizer. Upon soil contact this product decomposes rapidly to oxygen, carbon dioxide and water. The product is harmful to fish if exposed on a continuous basis at concentrations of 0.5 ppm or more of actives. Meter this product into pressurized pipes using a plastic or stainless steel injection/backflow device installed far enough upstream from the target equipment to ensure thorough mixing. For open flowing bodies of water, apply this product as far upstream as possible to allow adequate mixing prior to the flow entering any larger body of water. If open pouring of this product is required pour product as close to the surface of the water as possible to reduce odor exposure.

**TREATMENT OF IRRIGATION WATER SYSTEMS (SAND FILTERS, HUMIDIFICATION SYSTEMS, STORAGE TANKS, PONDS, RESERVOIRS, CANALS):** For the control of odor, sulfides, slime and algae in water systems, apply this product at 0.4 – 2 fluid ounces per 100 gallons of water (or equivalent use dilution) (2 – 10 ppm active). This feed rate equals 0.3 – 1.8 gallons per 10,000 gallons of water. Repeat dose as necessary to maintain control, which will vary with seasonal conditions. For prevention of algae some systems will require continuous low level dosing during warm sunny periods.

**DRIP IRRIGATION SYSTEM CLEANING:** To clean slime and algae from drip system tapes and emitters, meter this product upstream from pumps or filters at the rate of 1 – 2 fluid ounces per 50 gallons of water (or equivalent use dilution) (10 – 20 ppm active). This feed rate equals 2 – 3.5 gallons per 10,000 gallons of dilution water. When required during normal irrigation cycles, use this product at the required dose for a minimum of 30 minutes. Thereafter, the irrigation cycle must be discontinued and the line must not be flushed.

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

**FOLIAR SPRAY TREATMENT IN GREENHOUSES** (*Not for Use in California*): This product works immediately on contact with any plant surface for control/suppression of fungi. Apply this product to ornamentals, bedding plants, flowering plants, shrubs, and trees. To ensure that this fungicide is effective, thorough coverage and wetting of the foliage is necessary.

**Initial (Curative) Application:**

1. Use 2/3 to 1 1/3 fl. oz. (300 – 600 ppm) per gallon of clean water (or equivalent use dilution). Do not reuse already mixed solution. Make fresh solution at least daily or when use solution becomes visibly dirty, soiled or diluted.
2. Spray, mist or fog plants in the early morning or late evening.
3. Thoroughly wet all surfaces of plant including upper and lower foliage, stems, branches and stalks to ensure full contact with plant and flower tissue.
4. Apply for one to three consecutive days and then follow directions for preventative treatment after the initial application.

**Weekly Preventative Treatment:**

1. Use 0.14 to 0.23 fl oz (60 – 100 ppm) per gallon of clean water (or equivalent use dilution).
2. Spray, mist or fog plants.
3. Thoroughly wet all surfaces of plant including upper and lower foliage, stems, branches and stalks to ensure full contact with plant and flower tissue.
4. Spray every five to seven days as a preventative treatment.
5. At the first sign of disease, spray daily with a dilution of 2/3 to 1 1/3 fl. oz. per gallon of water (or equivalent use dilution) for three consecutive days and then resume weekly preventative treatment.

**FOLIAR SPRAY TREATMENT FOR FIELD GROWN CROPS, CROPS GROWN IN COMMERCIAL GREENHOUSES OR CROPS GROWN IN SIMILAR SITES** (*Not for Use in California*): This product works immediately on contact with any plant surface for control/suppression of disease. Apply this product to growing crops and nursery stock such as woody ornamentals, bedding plants, flowering plants, roses, container plants, azaleas, rhododendrons, conifers, and shade trees. Use a dilution 1/8 fl. oz. / 1 1/4 fl. oz. per gallon of clean water (or equivalent use dilution). Good coverage and wetting of foliage is required to ensure full contact with plant and flower tissue.

**Initial (Curative) Application:**

1. Use 2/3 to 1 1/3 fl. oz. (300 – 600 ppm) per gallon of clean water (or equivalent use dilution). Do not reuse already mixed solution. Make fresh solution at least daily or when use solution becomes visibly dirty, soiled or diluted.
2. Spray, mist or fog plants and trees, including applications through irrigation (or chemigation) systems.
3. Thoroughly wet all surfaces of plant, upper and lower foliage, including stems, branches and stalks to ensure full contact with plant and flower tissue.
4. Apply for one to three consecutive days and then follow directions for preventative treatment after the initial application.

**Weekly Preventative Treatment:**

1. Use 2/3 to 1 1/3 fl. oz. (300 – 600 ppm) per gallon of clean water (or equivalent use dilution).
2. Spray, mist or fog plants and trees, including applications through irrigation or chemigation systems.
3. Thoroughly wet all surfaces of plant, upper and lower foliage, including stems, branches and stalks to ensure full contact with plant and flower tissue.
4. Spray every five to seven days as a preventative treatment.
5. At the first sign of disease spray daily with a dilution of 1 1/3 fl. oz. per gallon of water for three consecutive days and then resume weekly preventative treatment.

**FOR CUT FLOWERS** (*Not for Use in California*): Use this product to prevent fungal diseases such as *Botrytis*, Downy Mildew and Powdery Mildew on flowers in cold storage or in transit. Apply as a post harvest treatment. Use a dilution of 0.14 to 0.23 fl oz.(60-100) per gallon of clean water (or equivalent use dilution). Spray flowers after grading and prior to storage or shipment. Repeat weekly for flowers in storage.

**FOR BARE ROOT NURSERY STOCK** (*Not for Use in California*): Use this product to prevent *Botrytis* on budwood and nursery stock in storage. Use a dilution of 1 1/3 fl. oz. per gallon of water (or equivalent use dilution). Dip plants or spray until dripping wet. Repeat weekly if necessary.

**FOR TURF APPLICATIONS** (*Not for Use in California*): Broad spectrum treatment for control of algae, fungi and bacteria on turf. For use on all turf types such as commercial turf, lawns, athletic fields and golf course fairways, greens and tees.

Use this product to control fungi such as: *Anthraco*se, Brown Spot, Dollar Spot, Copper Spot, Fairy Ring, Pink Snow Mold, *Pythium*, *Phytophthora*, Summer Patch, *Rhizoctonia*, Scum, Take All Patch, *Fusarium* Blight, Stripe Smut, Leaf Spot, Algae, Slime Molds and their spores. This product controls on contact.

**FOR TREATMENT OF TURF** (*Not for Use in California*): Use on golf course fairways, greens and tees consisting of Bentgrass, Bluegrass, Bermudagrass, Fescue, Ryegrass, St Augustine grass and their mixtures to control/suppress algae, bacterial and fungal diseases and the odors and conditions that these organisms may cause. Typical preventative treatment rates involve using 2-6 fl. oz of this product diluted into 3-5 gallons of water per approximately 1000 square feet of turf area. For curative control, 2 to 3 consecutive treatments applied at a rate of 6–12 fl. oz. of this product diluted into 3-10 gallons of water per 1000 square feet may be required to eradicate disease. Drench soil to saturate the root systems in affected areas. Add a spreader surfactant for best results.

Optimum treatment time is early morning or late afternoon.

For best results, apply immediately after grass has been cut.

Applications can be made during wet or rainy weather.

Use spray solution the same day it is prepared. Do not store and reuse mixed spray solution.

This product can be injected through automatic irrigation systems in turf areas.

Refer to manufacturer's direction for specific instructions on using this product through irrigation systems.

**FOR SEED BED TREATMENT** (*Not for Use in California*): Prior to sowing seed, use dilution of 1:50 or 2 ½ fl. oz. per gallon of clean water. Thoroughly wet or drench the seedbed, to the point of saturation, with 60 to 100 gallons of dilute solution per 1000 square feet. Let sit for one hour then immediately seed soil.

After seeds have germinated, use dilution of 1:100 or 1¼ fl. oz. per gallon of clean water. Lightly spray or irrigate the soil and seedlings until thoroughly wetted. Repeat once a week until seed is well established.

**FOR SOIL TREATMENT PRE-INOCULATION WITH BENEFICIAL ORGANISMS** (*Not for Use in California*): Use this product to reduce the number of potential plant pathogenic organisms in the soil that will prevent beneficials from becoming established. Use a dilution of 1:50 or 2½ fl. oz per gallon of clean water. Thoroughly wet or drench the area to be inoculated. Wait one day before inoculating soil.

**FOR GRASSES GROWN FOR SEED OR SOD** (*Not for Use in California*): Treat with 40-128 fl. oz. of this product per 100 gallons of water; apply 50-100 gallons of spray solution per acre. Use sufficient water to achieve good coverage. Begin applications during stem elongations. Repeat weekly or as needed. Livestock can graze treated areas.

**FOR DISEASE CONTROL ON FRUITS AND VEGETABLES** (*Not for Use in California*): For curative treatment, spray diseased plants with a 1:100 or 1 ¼ fl. oz. dilution of this product per gallon of clean water. Apply for three consecutive days and then continue to apply a 1:100 dilution treatment at intervals of 5 to 7 days.

For preventive treatment, begin when plants are small. Apply treatments at a dilution of 1:100 or 1 ¼ fl. oz. of this product per gallon of clean water at 5-day intervals. On the fourth treatment, reduce the dilution rate to 1:300 or 0.5 fl. oz. per gallon of clean water and continue to apply at 5-day intervals until harvest.

**BIOFOULING CONTROL IN PULP AND PAPER MILL SYSTEMS:** For use in the manufacture of paper and paperboard intended for food contact and non food contact. This product can be used to control bacteria, fungi, and fresh water organisms in paper, paperboard, or nonwoven process water and influent water systems. Suitable dosing points include but are not limited to: stock chests, pulpers, the white water loop and white water storage systems and influent water streams. Add the product at a point in the system where uniform mixing and even distribution will occur.

**INFLUENT WATER SYSTEMS:** This product should be continuously fed to incoming fresh water streams (non-potable use only) at dosage rates from 10 – 978 ppm active (200 to 20,000 ppm of this product).

#### **MILL PROCESS WATERS**

**Continuous Feed:** This product should be fed continuously at dosages ranging from 10-978 ppm active (200 to 20,000 ppm of this product) This range is equivalent to 0.4 – 40 lbs of this product per ton (dry basis) of pulp or paper produced.

**Intermittent Feed:** This product should be feed intermittently (6 – 8 times per day) at dosages ranging from 10 – 978 ppm active (200 – 20,000 ppm of this product). This dosage is equivalent to 0.4 – 40 lbs of this product per ton (dry basis) of pulp or paper produced during the feed period.

**Shock Dose:** This product should be shocked dosed at dosages ranging from 98 – 1,956 ppm active (2,000–40,000 ppm of this product). This dosage is equivalent to 4 – 80 lbs of this product per ton (dry basis) of pulp or paper produced during the feed period.

**CONTROL OF BACTERIA AND FUNGI IN NONFOOD CONTACT DISPERSED PIGMENT:** This product can be used in the control of bacteria and fungi in the manufacture and storage of dispersed pigment such as kaolin clay, titanium dioxide, calcium carbonate, calcium sulfate, barium sulfate, magnesium silicate and diatomaceous earth used in paint and paper product. Add 0.26 – 1.31 lbs. (3.5 to 17.8 fl. oz.) of this product to each 1,000 lbs of pigment slurry. This will provide 14.6 – 73.5 ppm active (260.7 – 1,312.5 of this product).

#### **CONTROL OF BACTERIA AND FUNGI IN COATING PRESERVATION**

Not for the manufacture of material intended for food contact.

This product can be used as an in-container preservative for the control of bacteria and fungi in water based coating such as paper coatings. Add 0.26- 1.31 lbs (3.5 – 17.8 fl. oz) of this product to each 1,000 lbs. of preservative. This will provide 14.6 – 73.5 ppm active (260.7 – 1,312.5 ppm of this product).

**FOR ANTIMICROBIAL USE WITH AQUEOUS TREATMENT FLUIDS IN SUBTERRANEAN OILFIELD AND GAS-FIELD WELL OPERATIONS SUCH AS WELL DRILLING, FORMATION FRACTURING, PRODUCTIVITY ENHANCEMENT AND SECONDARY RECOVERY** (*Not for Use in California*): This product can be used in the control of bacteria including slime forming, spoilage and anaerobic sulfate reducing bacteria and fungi (yeast and molds) that lead to reservoir souring and metal corrosion.

This product must be introduced through a closed mixed/loading and delivery transfer system equipped with a metering device that is appropriate for its intended uses.

**DRILLING MUDS, FRACTURING FLUIDS, WELL SQUEEZED FLUIDS** (*Not for Use in California*): For the preservation of drilling muds, workover and completion fluids and other products susceptible to contamination, pre-mix with the fluid or add directly at the point of use at 11.4 fl. ounces per 1000 gallons of water (5 ppm active) to 1.8 gallons per 1000 gallons of water (100 ppm active) as required. Depending on the severity of the contamination, initial application may be added up to 17.9 gallons per 1000 gallons of water (1000 ppm active).

**FLOODING, INJECTION AND PRODUCED WATER** (*Not for Use in California*): For Water Flooding operations, add initially at 11.4 fl. ounces per 1000 gallons of water (5 ppm active to 1.8 gallons per 1000 gallons of water (100 ppm active) and repeat until control is achieved. Subsequent treatment may be continued on a weekly basis or as required.

Injection wells associated with gas storage systems may be treated up to 100 ppm active when diluted in the formation water. Any additional top-up water should be treated as required.

For hydrostatic systems, apply 11.4 fl. ounces per 1000 gallons of water (5 ppm active) to 1.8 gallons per 1000 gallons of water (100 ppm active) depending on the water quality and the duration of the shut-in.

**PIPELINE AND TANK MAINTENANCE** (*Not for Use in California*): For microbial control in water-bottoms in crude and refined hydrocarbon storage tanks, piping and transportation systems. Apply 11.4 fl. ounces per 1000 gallons of water (5 ppm active) to 1.8 gallons per 1000 gallons of water (100 ppm active) in the aqueous phase, directly injected into the water-bottom, pipeline or may be added to the hydrocarbon phase. Treatment may be applied daily or monthly for both storage and transportation systems as needed.

### STORAGE AND DISPOSAL

#### Do not contaminate water, food, or feed by storage and disposal

**PESTICIDE STORAGE:** Never return this product to the original container after it has been removed. Avoid all contaminate, 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 this product 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.

**PESTICIDE DISPOSAL:** Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance. 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. This product 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:** Non-refillable container. Do not reuse or refill this container. Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities. In addition, plastic containers may be disposed of by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.



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