

10324-166

04/07/2008

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF PREVENTION, PESTICIDES AND TOXIC SUBSTANCES

APR 7 2008

Ms. Erin Tesch
Consultant for Mason Chemical
Technology Sciences Group, Inc.
1150 18th Street, N.W., Suite 1000
Washington, D.C. 20036

Subject: Maquat 32
EPA Registration No.: 10324-166
Amendment Date: November 19, 2007
EPA Receipt Date: November 19, 2007

Dear Ms. Tesch,

The following amendment, submitted in connection with registration under section 3(c)(7)(A) of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is acceptable subject to the conditions listed below:

- Addition of public health organisms
- Addition of directions for use and marketing claims

Conditions

Revise the label as follows:

- 1) Revise the "Precautionary Statement" to indicate "Causes irreversible eye damage and *skin burns*. Harmful if swallowed, *inhaled*, or absorbed through the skin. Do not get in eyes, *on skin*, or on clothing..." Delete the statement, "Avoid contact with skin."
- 2) Revise the Precautionary Statements to include the following expanded "Wash thoroughly..." statement as per the Label Review Manual. Revise to include: "Wash thoroughly with soap and water after handling and before eating, drinking, *chewing gum*, using tobacco or *using the toilet*..."
- 3) Revise the Storage and Disposal statements by moving the "Packet Disposal" statement to the section for containers of 1 gallon or less.
- 4) Revise the statement under "Fungicidal Performance" on page two to read "this product was found to be effective against the following on hard non-porous environmental surfaces."

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Deleting the reference to testing in soil as the *Trichophyton mentagrophytes* study was not conducted in the presence of soil.

5) Revise the claim on page four, left column which begins: "Hospital beds, bed railings, bedpans..." to end as follows: "...oxygen hoods, dental chairs/countertops." by deleting "instruments/implements OR surfaces." Treatment of dental instruments is regulated by the FDA and thus such claims are not to be included on an EPA label.

6) The statement beginning "Glass, metal, stainless steel..." which includes the surfaces granite and marble on page four in the left column must be revised to qualify these surfaces as hard nonporous by stating "sealed granite" and "sealed marble".

7) Revise the statement on page four, left column beginning: "Large inflatable non-porous..." by deleting "fishing gear." This statement implies that exterior surfaces of inflatable rafts may be treated. This is not an appropriate use for this product as the Agency has concerns should this product come in contact with aquatic environments.

8) Revise the statement on page four, right column which begins: "Hair clippers, cutting implements..." by deleting: dryers, washers, and workstations. Your label does not include appropriate directions for treatment of these surfaces nor does your label clarify the specific surfaces to be treated. Also revise this section to indicate hard non-porous plastic rollers.

9) On page four, left column, delete the following marketing statement and list of treated articles. Your label does not include directions for the treatment of these surfaces.

"This product is effective against odor causing bacteria, bacteria which causes staining and discoloration, fungi (mold and mildew) and algae on the following:

- Air filters for furnaces, air-conditioners, air purification devices, automobiles, recirculating air handling systems
- Air filters/materials
- Buffer pads (abrasives and polishing)
- Cellulose sponges
- Fire hose fabric
- Humidifier belts
- Tents, tarpaulins, sails, ropes"

10) Revise the statement on page four, right column which begins: "This product may be applied through immersion tanks..." by deleting the reference to immersion tanks as your label does not include directions for treatment by this method.

11) Revise the statement on page four, right column which begins: "This product is for use as a sanitizer(200 ppm active)..." by revising the parts per million to read "732 ppm." You have not provided data to support non-food contact sanitizing at 200 ppm.

12) Delete the entire section on page five, left column beginning "This product is a disinfectant and non-food contact sanitizer for Hospital chemotherapy compounding..." The Agency does not

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have adequate information to determine if treatment of the listed surfaces would result in this product being in direct contact with a drug intended for human consumption.

13) Revise the section on page six, right column which begins: "This product has been designed for veterinarians..." ending: "it will disinfect metal clippers as well as many other hard, non-porous surfaces." Delete the references in this section to: "and providing protection against rust". This type of claim requires supporting data since products with these active ingredients are known to be corrosive to metal surfaces.

14) Revise this same section by deleting "germ free." Revise the statement to read "Regular use will help to maintain blades that operate with reduced friction and with smoother clipping action." It is false and misleading to state that this product will make a surface germ free. The claim implies that all germs will be killed which is not the case. The product has only proven efficacy against those public health organisms for which data has been provided.

15) Revise the section on page six, left column which begins "Use this product to clean, sanitize, and disinfectant non-porous personal protective safety equipment... hearing protectors and ear muffs" by clarifying what part of a headphone is disinfected by stating "hard nonporous surfaces of headphones."

16) Revise the section on page six, right column which begins: "Escherichia coli (E. coli) and ..." ending: "as a disinfectant on food contact surfaces." Revise the statement: "This product kills these bacteria and helps prevent the spread of food borne contamination on (treated) kitchen surfaces.... to read "This product kills these bacteria and helps prevent cross contamination on (treated) kitchen surfaces..."

17) Revise the statement at the beginning of page seven regarding the use of this product on food processing surfaces at 200-400 ppm to indicate: "in 40 CFR 180.940 (c) for use on..."

18) Revise the third sentence in section on page seven beginning: "Regular, effective cleaning and sanitizing..." by stating "Application of effective sanitizing procedures reduces the number of those microorganisms... indirectly through food"

19) Revise the first claim under "Virucidal Performance" on page seven which states "This product when used on activity against" by including the "10 minute contact time."

20) Revise the "Non-Food Contact Sanitization Performance" claim on page seven by adding the "60 second contact time."

21) Revise the "Fungicidal Performance" claim on page seven by adding the "10 minute contact time."

22) Revise the "Disinfection/Fungicidal" Directions on page seven to be in compliance with PR Notice 2000-5 regarding Mandatory Labeling, by deleting the term recommended from this section.

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23) Revise the Cleaning and Disinfection section on page eight to read as follows: "For heavily soiled areas, a precleaning step is required. For one step cleaning and disinfecting, use 4 ounce per 1 gallon of water. Apply use solution using a cloth mop or pressure sprayer as to thoroughly wet surface(s) to be disinfected/cleaned. Allow surfaces to remain wet for 10 minutes then air dry. Prepare a fresh solution at least daily or when solution becomes visibly dirty or diluted."

24) Revise the "For Disinfecting Hard, Non-Porous Surfaces against Avian Influenza A" on page eight by adding the following statement to this section: "For use in *homes, hospitals, hotels, motels, schools* the directions for hospital disinfection must be followed...water. *For use in animal housing facilities follow the animal premise directions.*"

25) Revise the use dilution rate for the "Disinfecting Hard, Nonporous Surfaces Against Avian Influenza A" on page eight by stating "4 oz per gallon of water." Both Avian Influenza strains indicated on your label will be inactivated at this rate.

26) Revise the "Preparation of sanitizer use solution" directions on page eight by indicating that "hard, nonporous, *nonfood* surfaces" are being treated. Also, place the statement, "With spray applications, cover or remove all food products" to appear as the first statement in this section.

27) Under "Personal Protection" of HIV directions on page nine, revise the statement by deleting "or" and stating "and" such that the statement reads, "When handling items ...*and* eye coverings."

28) Delete the *Note* section on page nine as it is in direct conflict with the Surgical Instrument Presoak directions listed above.

29) Any ADBAC containing product supporting fogging directions for animal housing facilities and food processing plants must be revised to comply with the mitigation measures addressed in the ADBAC RED. Therefore, revise the following directions, "Fogging for Use in Dairies, Beverage, and Food Processing Plants" and "Food Processing Plants Using Fogging Devices" on pages nine and ten and "Sanitizing Hatchery Rooms using Fogging Devices" and "Sanitizing Incubators and Hatchers Using Fogging Devices" on page seventeen by adding the statement, "wear a dust mist respirator when mixing the use solution and pouring it into the fogging apparatus." Also, revise the second statement under "Note" to read "Under no circumstances must a room or building be entered by anyone *within two hours of the actual fogging and a minimum of 4 air exchanges (ACH) per hour in the facility.*"

30) Revise the "Food Contact Sanitizing Dilution Guide" on page eleven by first stating "Food Contact Sanitizing Dilution Chart." Also revise the table such that it is in compliance with 40 CFR 180.940 (a) and (c) to reflect the following:

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40CFR 180.940 (a) PUBLIC EATING PLACES, DAIRIES, & FOOD PROCESSING EQUIPMENT

Food Contact Sanitizing Dilution Chart

To prepare a 200ppm active quaternary solution use the following dilution table. Prepare the correct dilution rate based upon the appropriate use site.

Active quat solution	2.5 gallons	5 gallons	10 gallons	20 gallons
200 ppm	4 ounce	8 ounces	16 ounces	32 ounces

40CFR 180.940(c) FOOD PROCESSING EQUIPMENT AND UTENSILS

Food Contact Sanitizing Dilution Chart

To prepare a 200, 300 or 400 ppm active quaternary solution use the following dilution table. Prepare the correct dilution rate based upon the appropriate use site.

Active quat solution	2.5 gallons	5 gallons	10 gallons	20 gallons
200 ppm	4 ounce	8 ounces	16 ounces	32 ounces
300 ppm	6 ounce	12 ounces	24 ounces	48 ounces
400 ppm	8 ounce	16 ounces	32 ounces	64 ounces

- 31) Revise the step three of the "US Public Health Service Food Service Sanitization Recommendations Cleaning and Sanitizing" on pages eleven and twelve by adding the "60 seconds contact time."
- 32) Revise the "For use as a sanitizer on dishes, glassware, silverware, eating utensils, cooking utensils" section on page twelve by deleting the phrase: "For heavily soiled areas". This statement does not provide clarity to this section as all food contact surfaces must be pre-scraped and pre-cleaned.
- 33) Revise the "Sanitizing of Food Processing Equipment (Ice Machines) and Other Hard Surfaces in Food Contact Locations" by deleting the statement at the end of the first section: "No potable water rinse is allowed." This statement is not in agreement with item #3 which indicates that a potable water rinse is to take place prior to the application of the sanitizer.
- 34) Revise the parts per million under "Sanitizing Egg Shells Intended for Food Directions" on page fourteen to read 200 ppm. The Agency is considering the treatment of eggs as a raw agricultural commodity in which a tolerance must be established. If you would like to support a higher parts per million rate, you must submit a tolerance petition.
- 35) In the animal premise section of your label on page fourteen, you indicate that your product is effective against 3 pathogens at a concentration of 4 ounce product per gallon of water including an avian pathogen and canine pathogen. Your product is effective against most of the animal pathogens listed at a higher rate of 6 ounce of product per gallon of water including additional avian and canine pathogens. Since applicators treating animal facilities which include housing for birds and dogs will not be aware of the specific pathogens which may be present,

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revise the following sections on pages fourteen through sixteen to only indicate the higher rate (6 ounces) and deleting all reference to the lower rate and organism guide. (Your previous stamped label for this product only indicated treatment of animal facilities at the higher rate.)

- A) Veterinary Clinics/Animal Life Science Laboratories/Animal Care Facilities/Animal Research Centers...
- B) Rendering Plant/Dressing Plant Disinfectant/Fungicide/Virucidal...
- C) Terrarium and Small Animal Cage...
- D) Farm Premise Disinfection Directions
- E) For Use in Equine, Dairy and Hog Farms
- F) Veal, Calving Hog, Cattle and Horse Operations
- G) For Use For Treatment of Animal Housing Facilities
- H) Disinfection/Fungicide/Virucide of Poultry/Turkey Equipment, Swine Quarters...
- I) Hatcheries
- J) Vehicles
- K) Disinfectant Directions for Chick Vans, Egg Trucks...
- L) Disinfectant/Virucidal Directions to Treat Hard Non-Porous, Non-Food Contact Surfaces of Automated Tray, Rack and Buggy Washers
- M) Disinfectant/Virucidal Directions to Treat Hard Non-Porous, Non-Food Contact Surfaces in Egg Receiving and Egg Holding Areas

36) Delete the reference in the "Reptile Tank Cleaning and Disinfection Directions" to treatment with a solution of 6 oz of product per gallon of water since reptile cages are not intended to house birds or dogs:

37) Revise the Veal, Calving, Hog, Cattle and Horse Operations directions on page fifteen. Since this product is intended to treat hard non-porous surfaces, revise the fifth statement to read: "Saturate all surfaces with the disinfecting and virucidal solution 6 oz. per gallon of water (or equivalent dilution) and allow *surfaces* to remain wet for a period of 10 minutes."

38) Repeat the Note on page fifteen in the Reptile Tanks Cleaning section to also appear at the end of the "Terrarium and Small Animal Cage..." section modifying the statement to refer to small animals instead of reptiles.

39) Revise page sixteen by correcting the header "DISINFECTANT DIRECTIONS FOR CHICK VANS, EGG TRUCKS HATCHERY and FARM VEHICLES SERVICEMAN VEHICLES (VEHICLES) to read "DISINFECTANT DIRECTIONS FOR CHICK VANS, EGG TRUCKS HATCHERY AND FARM VEHICLES" as the term serviceman vehicles is too broad and does not necessarily refer to vehicles found at these sites.

40) Revise the "Disinfecting/Virucide Grooming Clippers" directions on page seventeen by adding the statements, "*Rinse surfaces thoroughly. Then wipe dry with a clean soft cloth.*" Also, revise the last statement to read "Remove hair, dandruff, and dust particles prior to disinfecting the blades" and move it to be the first statement in this set of directions.

41) Revise the "Cleaning Hair Clippers and Electric Shears" and "Cleaning Barber/Salon Shears

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and Other Implements" directions on page seventeen by placing the statement, "Turn off clipper/shear," immediately prior to the contact time statement. Also, add the statement, "Rinse surfaces thoroughly." It must appear after the contact time statement.

42) Revise the "Cleaning Barber/Salon Sheers and Other Implements" directions on page seventeen by adding the statement, "Rinse surfaces thoroughly" and deleting the statement, "No rinsing is necessary."

43) A number of corrections are required in the bathroom section on page fifteen. Make the following revisions:

A. To Clean and Disinfect: Delete the statement: "Flush toilet and use toilet mop to push water from the bowl over the trap." Also add the statement: "A preliminary cleaning is required for the removal of heavy soil prior to disinfection."

B. To Disinfect Toilet Bowls: Delete the statement: "Remove water from the bowl."

C. To Disinfectant Toilet Bowls: Delete: "use toilet (bowl) mop to push water from the bowl over the trap." Revise to state: "To disinfect, squirt, 4 ounce of this product under the rim and around sides. Scrub bowl with mop. Allow solution..."

D. To Disinfect Toilet Bowls (third section): Delete the second statement: "With swab applicator...water over the trap."

E. Toilet Bowl (And Urinal) Disinfection/Cleaner Directions: Revise the second statement to read: "Empty bowl or urinal and apply solution of 4 ounces of this product per 128 ounces of water to exposed surfaces including..."

F. To Clean and Disinfect Urinals: Revise the third statement to read: "Then squirt a solution of 4 ounces of this product per 128 ounces of water around the edges..."

G. To Disinfect Urinal: Revise statement #2 to read: "Apply solution of 4 ounce of this product per 128 ounces of water directly to the urinal..." Revise #3 to indicate: "Then pour additional solution on applicator."

44) Revise the Deodorization/Mold & Mildew section on page nineteen by correcting the "For Deodorizing Septic Storage Tanks" section. Delete the reference to disinfection in this section as these directions are for deodorization of septic storage tanks.

45) Revise the "Mold and Mildew Control" directions on page nineteen by adding the statement, "...control the growth of mold and mildew and the odors caused by them when applied to pre-cleaned hard nonporous surfaces..."

46) Delete the word "recommended" from the "Water/Smoke Damage Restoration" directions in the left column and "Smoke Damage Restoration" directions in the right column on page twenty to reflect PR Notice 2000-5. Revise this section to include the following statement: "Saturate affected materials with enough product to remain wet for at least 10 minutes. Use proper ventilation."

47) Revise the section heading "Carpet Deodorizer/Sanitizer Against Odor Causing Bacteria ...Hospital Use" on page twenty by deleting the term, "Sanitizer." Also, revise the first statement in this section by deleting the term, sanitizer. The term, sanitizer, is an established

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public health claim that cannot be associated with a nonpublic health organisms. The use of the term in conjunction with a nonpublic health organisms is construed as false and misleading statement.

48) Revise the last statement in the "Non-Agricultural Use Requirements" directions on page twenty-one by stating "WPS applies when this product is used to *protect*..... greenhouses."

49) Revise the "Disinfection of Hard, Non-Porous Surfaces in Whirlpool (Foot Spa) Units" heading on page twenty one by deleting "foot spa." The directions for use in this section are not appropriate for treatment of foot spas.

50) Delete the "Artificial Turf" directions on page twenty two. Your label does not indicate a specific claim in association with this use. Including this use on a pesticidal label without a specific claim leaves it open to broad interpretation. Such unqualified use sites/surfaces are not acceptable on pesticide labels. Also delete the reference to artificial turf on page four.

51) Revise second to last statement in the Disinfect/Deodorize" directions on page twenty-two by stating "The pre-clean step must be done according to the "*Kitchen/Bathroom/Household Cleaning directions*."

52) Delete from page twenty two the heading: "Sanitizing Exterior Household Surfaces Directions" and the "Preparation of Use Solution" as well as "Application" sections on this label. You have not indicated the surfaces which you expect to be treated using these methods. This information will assist the Agency in determining if your directions for use are appropriate.

DATA MATRIX CORRECTIONS

1) On page 3 of the end-use data matrix, the citation for the study, EPA Hard Surface Mildew Fungistatic (*A. niger*) is incorrect. You must revise it to read 46515501.

2) The proposed label supports a claim against *E. aerogenes* (ATCC 13408), yet the submitted end-use data matrix does not cite a supporting study. After comparing 10324-56's matrix and product label, you must add the following study and MRID number, AOAC Use Dilution (*E. aerogenes*) 46440901, to your data matrix to support this organism:

General Comments

A stamped copy of the accepted labeling is enclosed. Submit one (1) copy of your final printed labeling before distributing or selling the product bearing the revised labeling.

Submit and/or cite all data required for registration/reregistration of your product under FIFRA section 3 (c) (5) and section 4 (a) when the Agency requires all registrants of similar products to submit such data.

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If the above conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6 (e). Your release for shipment of the product bearing the amended labeling constitutes acceptance of these conditions. Should you have any questions concerning this letter, please contact Jacqueline McFarlane at (703) 308-6416.

Sincerely,



Velma Noble
Product Manager (31)
Regulatory Management Branch I
Antimicrobials Division (7510P)

Enclosure: Stamped Label

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MASON CHEMICAL COMPANY

"The Quaternary Specialists"

721 W. Algonquin Road | Arlington Heights, IL 60005 | 847-290-1621 or 800-362-1855

E.P.A. Reg. No. 10324-166

E.P.A. Est. No. 10324-IL-1

MAQUAT® 32

Net Contents

Batch No.

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

WARNING. KEEP OUT OF REACH OF CHILDREN. Causes substantial but temporary eye injury. Harmful if absorbed through the skin. Do not get in eyes, on skin, or on clothing. Wear goggles, face shield or safety glasses and rubber gloves and protective clothing when handling. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco. Remove contaminated clothing and wash clothing before reuse.

(If container is 5 gallons or larger the following statement must appear on the label.)

ENVIRONMENTAL HAZARD

This pesticide is toxic to fish. Do not discharge effluent containing this product into lakes, streams, rivers, bays, 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

Do not use or store near heat or open flame.

Do not mix with oxidizers, anionic soaps and detergents.

(If the container is greater than one gallon use the following storage and disposal statements.)

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Open dumping is prohibited. Store only in original container. Store in a dry place no lower in temperature than 50°F or higher than 120°F. Do not reuse empty container. Keep this product under locked storage sufficient to make it inaccessible to children or persons unfamiliar with its proper use.

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 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.

CONTAINER DISPOSAL (Larger than 1 gal.): Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

PACKET DISPOSAL: Do not reuse. Discard empty container and put in trash.

(If container is one gallon or less use the following storage and disposal statements.)

STORAGE AND DISPOSAL

Store in original container and place in locked storage area. Keep from freezing. Do not contaminate water, food, or feed by storage or disposal. Small spills may be mopped up or flushed away with water or absorbed on some absorbent material. Wrap container and put in trash. Securely wrap original container in several layers of newspaper and discard in trash.

PELIGRO: SI NO PUEDE LEER EN INGLES, PREGUNTE A SU SUPERVISOR SOBRE LAS INSTRUCCIONES DE USO APROPIADAS ANTES DE TRABAJAR CON ESTE PRODUCTO.

DETERGENT/DISINFECTANT

Cleaner, Disinfectant, Detergent, Fungicide (against Pathogenic fungi), Deodorizer, Sanitizer, Virucide*, Mildewstat (on hard inanimate surfaces) – For Hospitals, Nursing Homes, Whirlpool, Home, Institutional, Industrial, School, Dairy, Equine, Poultry/Turkey Farm, Veterinary, Restaurant, Food Handling and Process Areas, Federally Inspected Meat and Poultry Plants, Bar and Institutional Kitchen Use and for Sanitizing Ice Machines.

Athletic Surface Disinfectant.

Formulated for effective Poultry Sanitation.

Formulated for effective Swine Premise Sanitation.

Formulated for effective Mushroom Farm Sanitation.

Small Fly Ovicidal Treatment.

ACTIVE INGREDIENTS:

n-Alkyl (60%C ₁₄ , 30%C ₁₆ , 5%C ₁₂ , 5%C ₁₈)	
dimethyl benzyl ammonium chloride	0.781%
n-Alkyl (68%C ₁₂ , 32%C ₁₄)	
dimethyl ethylbenzyl ammonium chloride	0.781%

INERT INGREDIENTS: 98.438%

TOTAL: 100.000%

KEEP OUT OF REACH OF CHILDREN

WARNING

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

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 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.

ACCEPTED
WITH COMMENT
EPA Letter filed
APR 97 2008
Under the Federal Insecticide,
Fungicide, and Rodenticide Act as
amended, for the pesticide,
registered under EPA Reg. No.

Transportation Information

DOT Hazard Class: Not Applicable

DOT Proper Shipping Name: Not Applicable

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ORGANISM LIST

(Note: For reference use only. This is a list of all organisms covered by this label. Please see appropriate Directions for Use for proper use dilution.)

Disinfection in Institutions (Hospitals, Dental Offices, Nursing Homes, and Other Health Care Institutions) and Non-Medical Facilities (Households, Schools, Restaurants, Food Services, Beverage, Food Processing Plants and Other Non-Medical Facilities): This product is bactericidal according to the AOAC Use Dilution Test method on hard, inanimate surfaces modified in the presence of 5% organic serum against:

Corynebacterium ammoniagenes (ATCC 6872)
Enterobacter aerogenes (ATCC 13408)
Enterococcus faecalis (ATCC 29212)
Enterococcus faecalis (Vancomycin resistant) – VRE (ATCC 51299)
Escherichia coli (ATCC 11229)
Klebsiella pneumoniae (ATCC 4352)
Legionella pneumophila (ATCC 33153)
Proteus mirabilis (ATCC 9240)
Pseudomonas aeruginosa, PRD-10 (ATCC 15442)
Salmonella enterica (ATCC 10708)
Salmonella schottmuelleri (ATCC 8759)
Serratia marcescens (ATCC 14756)
Shigella dysenteriae (ATCC 11835)
Staphylococcus aureus (Methicillin resistant) ATCC 33592
Staphylococcus aureus (Vancomycin resistant) – VISA (HIP 5836)
Staphylococcus aureus (ATCC 6538)
Community Associated Methicillin Resistant *Staphylococcus aureus* (CA-MRSA)

Streptococcus faecalis
Streptococcus salivarius (ATCC 7073)

Virucidal Performance: This product was evaluated in the presence of 5% serum and found to be effective against the following viruses on hard, non-porous environmental surfaces:

Avian Influenza A (H5N1) virus
Avian Influenza A/Turkey/Wisconsin virus (ATCC VR-798)
Adenovirus Type 2 (causative agent of upper respiratory infections)
Hepatitis B Virus (HBV)
Hepatitis C Virus (HCV)
Herpes simplex, Type 1 (causative agent of fever blisters)
Herpes simplex, Type 2
HIV-1 (AIDS Virus)
Human Coronavirus
Influenza A2 /Japan (representative of the common flu virus)

Animal Premise Virucidal Performance: This product was evaluated in the presence of 5% serum and found to be effective against the following viruses on hard, non-porous environmental surfaces:

Avian Influenza A (H5N1) virus
Avian Influenza A/Turkey/Wisconsin virus (ATCC VR-798)
Avian Reovirus (ATCC VR-2449)
Bovine Viral Diarrhea Virus (ATCC VR-534)
Canine Coronavirus
Canine Distemper virus
Equine Arteritis Virus
Infectious Avian Laryngotracheitis virus
Infectious Bovine Rhinotracheitis virus (IBR)
Infectious Bronchitis Virus
Newcastle disease virus
Porcine Respiratory & Reproductive virus (PRRSV)
Porcine Rotavirus
Pseudorabies virus
Transmissible Gastroenteritis (TGE) virus
Vaccinia Virus (representative of the pox virus group)

Non-Food Contact Sanitization Performance: This product is an effective one-step sanitizer on hard, non-porous environmental surfaces against:

Klebsiella pneumoniae
Staphylococcus aureus

Food Contact Sanitization Performance: This product eliminates 99.999% of the following bacteria in 250 ppm hard water (calculated as CaCO₃) according to the AOAC Germicidal and Detergent Sanitizing Action of Disinfectants test.

Escherichia coli
Staphylococcus aureus

Fungicidal Performance: This product was evaluated in the presence of 5% serum and found to be effective against the following on hard, non-porous environmental surfaces:

Aspergillus niger (ATCC 6275)
Trichophyton mentagrophytes (ATCC 9533)

MARKETING CLAIMS

Maquat[®] 32 for use in:

- Hospitals, nursing homes, medical and dental offices and clinics, physician offices, operating rooms, radiology rooms, isolation wards, and medical research facilities, hospices.
- Patient care rooms & facilities, recovery (rooms), anesthesia, Emergency Rooms, X-ray cat labs, exam rooms, newborn nurseries, neonatal units, orthopedics, whirlpool surfaces, footbath surfaces, respiratory therapy, surgi-centers, labs, blood collection rooms, central supply, housekeeping & janitorial rooms, ophthalmic/optometric facilities.
- EMS & fire facilities, emergency vehicles, ambulance(s), ambulance equipment/surfaces, carts, gurneys, stretchers, police cars, fire trucks.
- Day care centers and nurseries, sick rooms, elder care centers, kindergartens, and preschools.
- Acute care institutions, alternate care institutions, home healthcare institutions.
- Life care retirement communities.
- Restaurants, restaurants and bars, bars, taverns, cafeterias, institutional kitchens, fast food operations and food storage areas.
- Supermarkets, convenience stores, retail and wholesale establishments, department stores, shopping malls, gift shops, video stores, bookstores, dressing rooms and laundries, photocopy centers, bicycle shops, auto repair centers.
- Computer manufacturing sites, toy factories.
- Food establishments, coffee shops, donut shops, bagel stores, pizza stores, liquor stores.
- Crime scenes and funeral homes, mortuaries, burial vaults, mausoleums, autopsy rooms, cadaver processing areas.
- Police stations, courthouses, correctional facilities, jails, prisons, municipal government buildings, penitentiaries, correctional institutions, bus stations, train stations.
- Institutional facilities, laboratories, factories, business and office buildings, restrooms, hotels and motels, and transportation terminals.
- Public restrooms, public facilities, waysides, travel rest areas, shower rooms, shower stalls, bathrooms.
- Hotel, motels, dormitories.
- Kitchens, bathrooms and other household areas.
- Homes (households), condos, apartments, vacation cottages, summer homes.
- Institutions, schools and colleges, churches, classrooms, community colleges, universities, athletic facilities and locker rooms, exercise rooms, exercise facilities, gyms, gymnasiums, fieldhouses.
- Cosmetic manufacturing facilities, medical device manufacturing facilities, biotechnology firms, pharmaceutical manufacturing facilities, warehouses.
- Health clubs, spas, tanning spas, tanning beds, footbath surfaces, massage/facial salons, hair/nail/pedicure salons, barber/beauty shops, salons, tattoo parlors.

- Museums, art galleries, post offices, performance/theater centers, banks, libraries, movie houses, bowling alleys.
 - Recycling centers.
 - Humidifier water tanks.
 - Campgrounds, playgrounds, recreational facilities, picnic facilities, sports arenas, sports complexes.
 - Food processing plants, USDA inspected food-processing facilities, dairy farms, hog farms, equine farms, poultry and turkey farms and egg processing plants, meat/poultry processing plants, meat/poultry producing establishments, mushroom farms, rendering plants, canneries, caterers, bakeries.
 - Processing facilities for Fish, Milk, Citrus, Wine, Fruit, Vegetable, Ice Cream and Potatoes and beverage plants.
 - Tobacco plants premise and equipment
 - Veterinary clinics, animal life science laboratories, animal research centers, animal quarantine areas, animal breeding facilities, animal grooming areas, animal holding areas, kennels, dog/cat animal kennels, breeding and grooming establishments, pet animal quarters, zoos, pet shops, tack shops, operating rooms, washing areas, waiting rooms, examination rooms and other animal care facilities.
 - Farmhouses, barns, sheds, tool sheds, cattle barns, swine barns, sheep barns, horse barns, brooder houses.
 - Household and automotive garages, boats, ships, barges, watercraft, campers, RV's, trailers, mobile homes, cars, automobiles, automobile interiors, trucks, delivery trucks, boxcars, tankers, tank trucks, buses, trains, taxis and airplanes, helicopters.
 - Cruise lines, cruise ships, airline terminals, airports, shipping terminals, public transportation.
 - Commercial florist and flower shops.
 - Basements, cellars, bedrooms, attics, living rooms, porches.
- This product may be used on washable hard, non-porous surfaces such as:
- Food preparation and Storage areas.
 - Dishes, glassware, silverware, cooking utensils, eating utensils, plastic and other non-porous cutting boards, plastic and other non-porous chopping blocks, coolers, ice chests, refrigerator bins used for meat, vegetables, fruit and egg, Tupperware[®].
 - Kitchen equipment such as food processors, blenders, cutlery, trash compactors and other utensils.
 - Countertops (counters), Slurpee[®] machines, stovetops (stoves), sinks (bathroom, kitchen), tub surfaces, appliances, refrigerators, ice machines.
 - Interior hard, non-porous surfaces of water softeners, reverse osmosis units, ice machines, water coolers, water holding tanks and pressure tanks.
 - Beer fermentation and holding tanks, bottling or pre-mix dispensing equipment.
 - Citrus processing equipment and holding tanks.
 - Wine processing equipment and holding tanks.
 - Drinking fountains.

• Dishes, silverware, glasses, cooking utensils, eating utensils and other similar size food processing equipment can be sanitized by immersion. NO POTABLE WATER RINSE ALLOWED (DO NOT RINSE).

• Hospital beds, bed railings, bedpans, gurneys, traction devices, MRI, CAT, examining tables, scales, paddles, wheelchairs, cervical collars, neck braces, spine backboards, stretchers, unit stools, CPR training mannequins, curing lights, light lens covers, slit lamps, operating room lights, operating tables, oxygen hoods, dental chairs/countertops/instruments/implements OR surfaces.

• Ultrasonic baths, whirlpools, whirlpool bathtubs.

• Highchairs, baby cribs, diaper changing stations, infant bassinets/cribs/warmers/incubators/care equipment, folding tables, laundry pails.

• Shower stalls, shower doors and curtains, bathtubs and glazed tiles, chrome plated intakes, toilets, toilet seats, toilet bowls, toilet bowl surfaces, urinals, empty diaper pails, portable and chemical toilets and latrine buckets, glazed porcelain, glazed tile and restroom fixtures.

Glass, metal, stainless steel, glazed porcelain, glazed ceramic, granite, marble, plastic, (such as polycarbonate, polyvinylchloride, polystyrene or polypropylene), sealed limestone, sealed slate, sealed stone, sealed terra cotta, sealed terrazzo, chrome and vinyl, Plexiglass®, vanity tops.

• Tables, chairs, desks, folding tables, bed frames, lifts, washable walls, cabinets, doorknobs and garbage cans, trash barrels, trash cans, trash containers, cuspidors and spittoons.

• Enameled surfaces, painted woodwork (finished), Formica®, vinyl and plastic upholstery, washable wallpaper.

• Foundations, steps, plumbing fixtures, finished baseboards, and window sills.

• Exhaust fans, refrigerated storage and display equipment, coils and drain pans of air conditioning and refrigeration equipment and heat pumps.

• Large, inflatable, non-porous plastic and rubber structures: animals, promotional items, moonwalks, slides, obstacle course play, exercise equipment and fishing gear.

• Hard non-porous surfaces of picnic tables and outdoor furniture or Non-wooden picnic tables and outdoor (patio) furniture, except cushions and wood frames (Note: Only one statement will be used on label.)

• Telephones and Telephone booths.

• External lenses vision correction including eyeglasses, (not for use on contact lenses), protective eyewear, goggles, light lens covers, optical instruments/implements.

• Hair clippers, cutting implements, ~~dryers~~, rollers, washable nail files, ~~washers and workstations~~.

• Hard hats, headphones.

• Kennels, kennel runs, cages, kennel/cage floors, conductive flooring, x-ray tables.

• Hatchers, setters, trays, racks, egg flats, walls, floors, ceilings, chick boxes, egg cases, vans and trash containers.

• Wrestling and gymnastic mats, athletic training tables, physical therapy tables.

• Crypton Barrier fabric

~~This product is effective against odor causing bacteria, bacteria which causes staining and discoloration, fungi (mold and mildew) and algae on the following:~~

~~Air filters, furnace air exchangers, air purification devices, automobiles, recirculating air handling systems.~~

• ~~Air filters/materials~~

• ~~Buffer pads (abrasive and polishing)~~

• ~~Cellulose sponges~~

• ~~Fire hose fabric~~

• ~~Humidifier belts~~

• ~~Tents, tarpaulins, sails, ropes.~~

• ~~Artificial turf surfaces~~

This product contains no phosphorous.

This product is a phosphate-free formulation designed to provide effective cleaning, deodorizing and disinfection in areas where housekeeping is of prime importance in controlling the hazard of cross contamination on treated surfaces.

This product delivers non-acid disinfection performance in an economical concentrate.

This product is an economical concentrate that can be used with a mop and bucket, trigger sprayers, sponge or by soaking.

This product is a complete, chemically balanced disinfectant/sanitizer that provides clear use solutions.

This product may be applied through immersion tanks, foaming apparatus, low-pressure sprayers, and fogging (wet misting) systems. Follow manufacturers' instructions when using this equipment.

Use this product on the multi-touch surfaces responsible for cross-contamination.

This product is for use as a disinfectant on hard, non-porous surfaces (at 488 ppm active). A potable water rinse is required after application on food contact surfaces.

This product is for use as a sanitizer on hard, non-porous, non-food contact surfaces (200 ppm active). A potable water rinse is required.

This product meets AOAC efficacy standards for hard surface, non-food contact sanitizers.

This product meets AOAC efficacy standards for hard surface sanitizers.

One step cleaner.

Cleans and shines.

Antibacterial.

Cross contamination is of major housekeeping concern. This product has been formulated to aid in the reduction of cross-contamination on treated surfaces not only in hospitals, but also in schools, institutions and industry.

This product is an effective non-food contact sanitizer in the presence of soils.

This product is an effective disinfectant/non-food contact sanitizer in the presence of 5% serum contamination.

This product is for use in kitchens, bathrooms, and other household areas.

This product is a multi surface cleaner, deodorizer and disinfectant. Use on windows, mirrors, and other non-food contact glass surfaces.

This product may be used in work areas such as tool rooms and garages for odor control and light duty cleaning.

Cleans everyday kitchen messes.

Cleans kitchen surfaces and food preparation areas.

Great for use (on) (in) the (kitchen), (bathroom), (floors) and other household areas. Removes (eliminates) odors. Deodorizes. Will not harm most surfaces.

Will not harm most surfaces. For a cleaner, fresher household. Removes stains. Removes dirt. Non-staining. Clear formula.

Cleans everyday kitchen messes like dirt, grease and food stains. Cuts through tough grease and grime.

Disinfects (and Sanitizes) kitchen surfaces (bathroom surfaces and floors). Sanitizes kitchen surfaces (bathroom surfaces and floors). Kills germs. Kills household bacteria.

(Kills) common kitchen (bathroom) germs (and viruses*).

This detergent/disinfectant has been designed specifically for hospitals, nursing homes, schools, food processing plants, food service establishments and other institutions where housekeeping is of prime importance.

This product is a concentrated Hospital Use disinfectant that is effective against a broad spectrum of bacteria, is virucidal*, (and) fungicidal, and eliminates odor causing bacteria when used as directed.

For larger areas, such as operating rooms and patient care facilities, this product is designed to provide both general cleaning and disinfection.

Will not cause swelling of transducer membrane or harm compressor plates.

This product is a versatile sanitizer and broad-spectrum disinfectant formulated for use in Ultrasonic Baths (Ultrasonic cleaning units).

Kill Avian Influenza on pre-cleaned environmental surfaces.

This product is a versatile cleaner, sanitizer and broad-spectrum disinfectant formulated for use on bath and therapy equipment (Whirlpools).

This product is a one-step disinfectant that is effective against a broad spectrum of bacteria, is virucidal* (including HIV-1, HCV & HBV) and inhibits the growth of mold and mildew and their odors when used as directed.

Hospital Use Disinfectant. Institutional Disinfectant (Sanitizer).

This product meets AOAC Use – Dilution Test Standards for hospital disinfectants.

Efficacy tests have demonstrated that this product is an effective bactericide and virucide* in the presence of organic soil (5% blood serum).

This product has passed the Virucidal Efficacy of a Disinfectant for Use on Inanimate Environmental Surfaces Utilizing (Duck) Hepatitis B Virus.

This product has passed the Virucidal Efficacy of a Disinfectant for Use on Inanimate Environmental Surfaces Utilizing Bovine Viral Diarrhea Virus BVDV (surrogate for human Hepatitis C virus).

This product has passed the Virucidal Efficacy of a Disinfectant for Use on Inanimate Environmental Surfaces Utilizing Human (and Canine) Coronavirus.

~~This product is a disinfectant and non-food contact sanitizer for Hospital Pharmacy Compounding, Cleanroom, and Laboratory areas to disinfect washable, hard non-porous surfaces such as Laminar-airflow equipment and BioSafety Cabinet work surfaces and exterior surfaces including countertops, sinks, plumbing fixtures, faces, incubators, Refrigerators and Centrifuge surfaces of metal, stainless steel, glass, plastic (such as polystyrene or polypropylene), Formica®, and vinyl.~~

Use this product to clean, sanitize and disinfect non-porous ambulance equipment and surfaces by rinsing all equipment that comes in prolonged contact with skin before reuse with clean warm water (about 120°F), and allow to air dry. (Precaution: Cleaning at 120°F temperature will avoid overheating and distortion of the ambulance equipment and surfaces that would necessitate replacement.)

This product maximizes (improves) labor results by effectively controlling odors.

When used as directed, this product will deodorize surfaces in restroom and toilet areas, behind and under sinks and counters, garbage cans and garbage storage areas, and other places where bacterial growth can cause malodors.

This product controls (reduces) (eliminates) (neutralizes) (destroys) odors to make your home (kitchen) (bathroom) sanitary.

This product neutralizes musty odors and tough odors from smoke, pet accidents, and spills on contact.

This product is specially formulated to effectively eliminate offensive odors caused by mold and mildew.

This product is effective against household germs and odors caused by animal waste, septic tank or sewage backup, smoke and bathroom and kitchen odors.

This product inhibits bacterial growth on moist surfaces and deodorizes by killing microorganisms that cause offensive odors. (*This statement is not applicable in California.*)

This product is for use in household and commercial humidifiers. Use of this product will control unpleasant (malodors) odors.

This product is effective at controlling mold and mildew odor on shower curtains.

This product provides long lasting freshness against tough (pet) odors such as odors from litter boxes and pet accidents.

This product cleans, shines, deodorizes and disinfects the hard, non-porous surfaces specified on the label. It inhibits the growth of mold and mildew, leaving bathrooms and kitchens clean and fresh smelling.

Eliminates odors caused by bacteria (and) (mildew) (and) (non-fresh foods). Kills odor causing bacteria in the kitchen (bathroom).

This product is for non-scratch cleaning of showers and tubs, shower doors and curtains, fixtures and toilet bowls.

This product will not leave a grit or soap scum.

This product is a no rinse disinfectant cleaner that disinfects, cleans and deodorizes in one labor saving step.

Kills Athlete's Foot fungus on bathroom surfaces.

This product is a versatile Disinfectant & Sanitizer for Veterinarian, Veterinary Practice, Animal Care, Animal Laboratory, and Agricultural and Farm Premise applications.

This product cleans by removing dirt, grime, blood, urine, fecal matter and other common soils found in animal housing facilities, livestock, swine poultry facilities, grooming facilities, farms, kennels, pet stores, veterinary clinics, laboratories or other

small animal facilities. It (also) eliminates odors leaving surfaces smelling clean and fresh.

This product can be used to disinfect, clean and deodorize terrarium and small animal cages, hot rock, substrate and cage furniture (plastic terrarium ornaments, driftwood, heat caves and water dishes. *(Use on rocks and driftwood not allowed in California)*)

This product has been designed for veterinarians, animal groomers, hair stylists, barbers and beauticians, for use in disinfecting and maintaining clippers. It acts as a virucide and bactericide while also cleaning and ~~providing protection against~~. Regular use will help to maintain ~~blades~~ blades that operate with reduced friction and with smoother clipping action. Will help to prolong equipment life. This product is designed for use in pet salons, animal hospitals, barber and beauty shops. When used as directed it will disinfect metal clipper blades as well as many other hard, non-porous surfaces.

This product cleans rodent soiled areas.

This product is for use in Poultry Premise Sanitation (Hatcheries)

Egg Receiving Area	Tray Dumping Area	Chick Processing Area
Egg Holding Area	Chick Holding Area	Chick Loading Area
Setter Room	Hatchery Room	Poultry Buildings

This product is for use in Swine Premise Sanitation:

Farrowing Barns and Areas	Dressing Plants	Blocks
Waterers and Feeders.	Loading Equipment	Creep Area
Hauling Equipment	Nursery	Chutes

Floor cleaner.

This product is effective against the control of small flies on floors, walls, drains, countertops, metal surfaces, painted surfaces, glazed porcelain, glazed tile, glass, chrome, rubber, and plastic in restaurants, kitchens, dishwashing areas, and bar and wait station areas.

This product is an effective antimicrobial cleaner designed for use by wholesale and retail florists, shippers and green houses.

When used as directed, this product will disinfect hard, non-porous surfaces such as flower buckets, floors and walls of coolers, design and packing benches and countertops.

This product may be relied on to deodorize coolers, buckets, garbage pails and other areas where obnoxious odors may develop.

Use This product to clean, disinfect and deodorize flower buckets, walls, floors of coolers, shippers, greenhouse packing areas, garbage pails and other areas where obnoxious odors may develop.

This product may be used as a general purpose antimicrobial detergent in florist shops, wholesale florist, shippers, green house packing areas and other commercial floriculture places for efficient cleaning and antimicrobial action against certain bacteria which cause: *(Not for use in California.)*

1. Plugging of stems with slime, which reduces uptake of water for various flowers including roses, chrysanthemums, gladioli and tulips.
2. Production of ethylene gas, which may injure blooms of the various sensitive flowers including carnations, snapdragons, some orchids, baby's breath, sweet peas, freesia and alstroemeria.

Use this product to disinfect non-porous salon/barber tools and instruments such as combs, brushes, scissors, clippers, trimmers, razors, blades, tweezers and manicure/pedicure instruments, and footbath surfaces.

Use this product to sanitize and disinfect non-porous salon/barber tools and instruments such as combs, brushes, scissors, clippers, trimmers, razors, blades, tweezers and manicure instruments.

Use this product to clean, sanitize and disinfect non-porous personal protective safety equipment, protective headgear, athletic helmets, wrestling/boxing headgear, athletic shoe soles, hard hats, headphones, half mask respirators, full face breathing apparatus, gas masks, goggles, spectacles, face shields, hearing protectors and ear muffs. Rinse all equipment that comes in prolonged contact with skin before reuse with clean warm water (about 120°F), and allow to air dry. (Precaution: Cleaning at 120°F temperature will avoid overheating and distortion of the personal safety equipment that would necessitate replacement.)

This product provides effective cleaning strength that will not dull most metal-interlock floor finishes, and does not require a rinse prior to recoat.

Controls the growth of odor-causing and slime-forming bacteria used in waterbed uses. Controls odors caused by bacteria. Prevents bubbles, preserves plasticizers, conditions vinyl interior, sequesters minerals.

This product is for use as a sanitizer on dishes, glassware and utensils (at 200 ppm active) and as a disinfectant on hard, non-porous surfaces (at 488 ppm active). A potable water rinse is not allowed after use as a sanitizer on food contact surfaces.

(OR)

This product is for use as a sanitizer in public eating places, dairy processing equipment and food processing equipment and utensils (at 200 ppm active) and as a disinfectant on hard, non-porous surfaces (at 488 ppm active). A potable water rinse is not allowed (Do not rinse) when used as a sanitizer on food contact surfaces.

This product is for use as a sanitizer on food processing equipment and utensils (at 200-400 ppm active) and as a disinfectant on hard, non-porous surfaces (at 488 ppm active). A potable water rinse is not allowed (Do not rinse) when used as a sanitizer on food contact surfaces.

This product is for use as a sanitizer in bottling and beverage dispensing equipment.

This product is for use as a sanitizer in sanitary filling of bottles and cans.

This product is for use in sanitizing bottles or cans in the final rinse application, and for external spraying of filling and closing machines.

This product is for use as a sanitizer in beer fermentation and holding tanks.

This product is for use as a sanitizer in wineries for use on holding tanks, floors and processing equipment.

This product is for use as a Food Grade Egg Shell sanitizer, with best results achieved in water temperatures ranging from 78 - 110 F.

Escherichia coli (E. coli) and Staphylococcus aureus (Staph) are common bacteria found where food is prepared and stored. This product kills these bacteria and helps prevent the spread of food borne contamination on (treated) kitchen surfaces listed on this label. A potable water rinse is required after application as a disinfectant on food contact surfaces.

heavily soiled areas, a preliminary cleaning is required. For sprayer applications use a coarse spray device. Spray 6-8 inches from surface. Rub with brush, sponge or cloth. Do not breathe spray.

(OR)

Add 4 ounces per gallon of water (or equivalent use dilution) (488 ppm active quat) to disinfect hard, non-porous surfaces. Treated surfaces must remain wet for 10 minutes. Prepare a fresh solution at least daily or when use dilution becomes diluted or soiled.

CLEANING AND DISINFECTION: For heavily soiled areas, a pre-cleaning step is required. For all general cleaning and disinfection, use 4 ounces of this product per gallon of water (or equivalent use dilution) (488 ppm active quat). Apply this product using a cloth, mop, or pressure sprayer so as to thoroughly wet surface to be disinfected (cleaned). For sprayer applications, use a coarse spray device. Allow surfaces to remain wet for 10 minutes and then let air dry. Prepare a fresh solution after each use. (Prepare a fresh solution at least daily or when solution becomes visibly dirty or diluted.)

(OR)

For Use as a One-Step Cleaner/Disinfectant:

1. Pre-clean heavily soiled areas.
2. Apply use solution (4 ounces per gallon) (488 ppm active quat) (or equivalent use dilution) to hard, non-porous environmental surfaces.
3. To disinfect, all surfaces must remain wet for ten (10) minutes.
4. Wipe surfaces or let air dry.

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.

For Disinfecting Hard, Non-Porous Surfaces Against Avian Influenza: For all use sites, the directions for use for hospital disinfection must be followed using a rate of 4 oz per gallon of water.

Preparation of sanitizer use solution: Add 6 ounces of this product to 1 gallon of water (or equivalent use dilution) (732 ppm active) to sanitize hard, non-porous surfaces. Apply sanitizer use solution to pre-cleaned, hard non-porous surfaces with a cloth, mop, sponge, sprayer or by immersion.

For sprayer applications, use a coarse pump or trigger sprayer. Spray 6-8 inches from surface and rub with brush, sponge or cloth. Do not breathe spray. With spray applications, cover or remove all food products.

Treated surfaces must remain wet for 60 seconds, then wipe with sponge, mop or cloth or allow to air dry.

Disinfection and Fungicidal Dilution Chart

Ounces of Product	Amount of Water
1 ounce	1 quart
2 ounces	½ gallon
4 ounces	1 gallon
12 ounces	3 gallons
20 ounces	5 gallons
40 ounces	10 gallons

HOSPITAL/HEALTH CARE /INSTITUTIONAL

(Note for reviewer: For labels that list medical premises and metal and/or stainless steel surfaces, one of the following statements must be used.)

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.

(Or)

This product is not for use on Medical device or medical equipment surfaces.

Hospitals, Dental Offices, Nursing Homes and other Health Care Institutions. For disinfecting floors, walls, countertops, bathing areas, lavatories, bed frames, tables, chairs, garbage pails and other hard, non-porous surfaces.

To disinfect hard, inanimate surfaces (such as walls, floors, table tops), add 4 oz. detergent/disinfectant (this product) per (to) gallon of water (488 ppm active quat) (or equivalent use dilution) (OR mix 4 oz. packet with one gallon of water). Apply solution with mop, cloth, sponge or mechanical sprayer so as to wet all surfaces thoroughly. Allow (treated surfaces) to remain wet for 10 minutes and then let air dry.

For sprayer applications, use a coarse spray device. Spray 6-8 inches from surface. Rub with brush, sponge or cloth. Do not breathe spray.

For heavily soiled areas, a pre-cleaning step is required.

Prepare a fresh solution at least daily or when use dilution becomes diluted or soiled.

At 4 ounces per gallon (or equivalent use dilution) (488 ppm active quat) in the presence of 5% blood serum and 400 ppm of hardness for a 2 minute contact time this product was found to be effective against HIV-1 (AIDS Virus).

At 6 ounces per gallon of water (or equivalent use dilution) (732 ppm active quat) in the presence of 5% organic load this product was proven to be effective against (Duck) Hepatitis B Virus with a contact time of 10 minutes.

At 6 ounces per gallon of water (or equivalent use dilution) (732 ppm active quat) in the presence of 5% organic load this product was proven to be effective against Bovine viral diarrhea virus (BVDV) (Surrogate for human Hepatitis C virus) with a contact time of 10 minutes.

(OR)

At 6 ounces per gallon of water (or equivalent use dilution) (732 ppm active quat) in the presence of 5% organic load this product was proven to be effective against (Duck) Hepatitis B Virus and Bovine viral diarrhea virus (BVDV) (Surrogate for human Hepatitis C virus) with a contact time of 10 minutes.

***KILLS HIV, HCV AND HBV ON PRE-CLEANED 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), Hepatitis B virus (HBV) and Hepatitis C virus (HCV).

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

Personal Protection: Specific barrier protection items to be used when handling items soiled with blood or body fluids are disposable latex gloves, gowns, masks, or eye coverings.

Cleaning Procedure: Blood and other body fluids must be thoroughly cleaned from surfaces and objects before application of the disinfectant.

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

Contact Time: Leave surfaces wet with 4 ounces per gallon of water (488 ppm active quat) (or equivalent use dilution) for 2 minutes for HIV. This contact time will not control other common types of virus and bacteria. Leave surfaces wet with 6 ounces per gallon of water (732 ppm active quat) (or equivalent use dilution) for 10 minutes for HBV and HCV.

Surgical Instrument Presoak: Add 6 ounces of this product to 1 gallon of water (or equivalent use dilution) (732 ppm active quat). Place pre-cleaned instruments in solution to presoak surgical instruments for a minimum of 10 minutes, then proceed with normal sterilization procedure. Prepare a fresh solution at least daily or more often if solution becomes cloudy or soiled.

~~NOTE: Plastics may remain immersed until ready to use. Instruments must be removed after 10 minutes, rinsed, dried, and kept in a clean non-contaminated receptacle. Prolonged soaking may cause damage to metal instruments.~~

Ultrasonic Bath Disinfectant Directions: Use this product to disinfect hard (inanimate) non-porous, non-critical objects compatible with Ultrasonic cleaning units. Pour (a) fresh solution of 4 ounces per gallon of water (or equivalent use dilution) (488 ppm active quat) directly into bath chamber. Pre-clean soiled objects. Place objects into unit and operate for a minimum of 10 minutes, according to manufacturers' use directions. Remove objects and rinse with sterile water (sterile water for injection), or allow to air dry. Replace solution at least daily or when solution becomes visibly dirty or discolored.

For Disinfecting Hard, Non-porous (Fiberglass) Bath and Therapy Equipment: To remove body oils, dead tissue, soil and all other buildups or organic matter on inanimate surfaces after using the unit, drain the water and refill with fresh water to just cover the intake valve. Add 4 ounces of this product for each gallon of water (or equivalent use dilution) (488 ppm active quat) in the unit at this point. Briefly start the pump to circulate the solutions. Turn off pump. Wash down the unit sides, seat of the chair lift, and any/all related equipment with a clean swab, brush or sponge. Product to surface contact time must be at least 10 minutes for proper disinfection. After the unit has been thoroughly disinfected, drain solutions from the unit and rinse any/all disinfected (cleaned) surfaces with fresh water. The unit is ready for reuse.

CLEANING AND DISINFECTING HARD, NON-POROUS SURFACES ON PERSONAL PROTECTIVE EQUIPMENT (RESPIRATORS): Pre-clean equipment if heavily soiled to ensure proper surface contact. Apply 6 ounces per gallon of water (732 ppm active) (or equivalent use dilution) solution to hard, non-porous surfaces of the respirator with a brush, coarse spray device, sponge or by immersion. Thoroughly wet all surfaces to be disinfected. Treated surfaces must remain wet for ten (10) minutes.

Remove excess solution from equipment prior to storage. The user must comply with all OSHA regulations for cleaning respiratory protection equipment (29 CFR § 1910.134).

**SANITIZER DIRECTIONS FOR NON-FOOD CONTACT SURFACES
IN INSTITUTIONAL FACILITIES**

Ultrasonic Bath Sanitizer Directions: Use this product to sanitize hard, (inanimate) non-porous, non-critical objects compatible with Ultrasonic cleaning units. Pour a fresh solution of 6 ounces per gallon of water (or equivalent use dilution) (732 ppm active quat) directly into bath chamber. Pre-clean soiled objects. Place objects into unit and operate for a minimum of 60 seconds, according to manufacturers' use directions. Remove objects and rinse with sterile water (sterile water for injection), or allow to air dry. Replace solution at least daily or when solution becomes visibly dirty or discolored.

FOOD PROCESSING PREMISES

Before use in federally inspected meat and poultry food processing plants and dairies, food products and packaging materials must be removed from room or carefully protected. A potable water rinse is not allowed (Do not rinse) following use of the product as a sanitizer on previously cleaned hard, food contact surfaces provided that the surfaces are adequately drained before contact with food so that little or no residue remains.

To Disinfect Food-Processing and Tobacco Premises: Before using this product, food products and packaging materials must be removed from area or carefully protected. For floors, walls and storage areas, add 4 ounces of this product to one gallon of water (or equivalent use dilution) (488 ppm active quat). For heavily soiled areas, a pre-cleaning step is required. Apply solution with a mop, cloth, sponge or hand pump trigger sprayer so as to wet all surfaces thoroughly. For sprayer applications, use a coarse spray device. Allow surface to remain wet for 10 minutes. Then remove excess liquid. After use, all surfaces in the area must be thoroughly rinsed with potable water.

To Disinfect Food Service Establishment Food Contact Surfaces: For countertops, exterior surfaces of appliances, and tables. Before using this product, food products and packaging materials must be removed from area or carefully protected. Add 4 ounces of this product to one gallon of water (or equivalent use dilution) (488 ppm active quat). For heavily soiled areas, a pre-cleaning step is required. Apply solution with a mop, cloth, sponge or hand pump trigger sprayer so as to wet all surfaces thoroughly. For sprayer applications use a coarse spray device. Allow surface to remain wet for 10 minutes. Then remove excess liquid and rinse the surface with potable water. After use, all surfaces in the area must be thoroughly rinsed with potable water.

For Use on Non-Food Contact Surfaces as a General Disinfectant in the Brewery Industry: Use 4 ounces of this product per gallon of water (or equivalent use dilution) (488 ppm active quat). Follow the Disinfectant directions above.

Directions for Fogging For Use in Dairies, Beverage and Food Processing Plants: Prior to fogging, food products and packaging material must be removed from the room or carefully protected. After cleaning, fog desired areas using one quart per 1000 cubic feet of room area with a product solution containing 10 ounces product to 1 gallon of water (or equivalent use dilution) (1,220 ppm). Vacate the area of all personnel during fogging and for a minimum of 2 hours after fogging. All food contact surfaces must be sanitized with an EPA approved food contact sanitizer solution of 200 ppm active

quaternary (2 ounces per 1 gallon of this product) prior to use. Allow food contact surfaces to drain thoroughly before operations are resumed.

NOTE: The fog generated is irritating to the eyes, skin and mucous membranes. Under no circumstances must a room or building be entered by anyone within two hours of the actual fogging. Use for a minimum of 4 air exchanges (ACH) per hour in the facility. If the building must be entered, then the individuals entering the building must wear a self-contained respirator approved by NIOSH/MSHA, goggles, long sleeves and long pants.

FOGGING IS TO BE USED AS AN ADJUNCT TO ACCEPTABLE MANUAL CLEANING AND DISINFECTING OF ROOM AND MACHINE SURFACES.

Disinfecting Potato Storage Area and Equipment: Remove all potatoes prior to disinfection of potato storage area and equipment. Pre-clean hard surfaces by removing heavy soils or gross filth. Follow general disinfecting directions as outlined in that section. All treated surfaces must be thoroughly rinsed with potable water prior to reuse.

For Control of the *Drosophila* spp. and Phoridae Family of Flies on Non-Food Contact Surfaces: To control flies on non-food contact surfaces such as floors, walls, countertops, metal surfaces, painted surfaces, glazed porcelain, glazed tile, glass, chrome, rubber, and plastic in restaurants, kitchens, dishwashing areas, and bar and fruit station areas. Remove food and food packaging prior to use. Cover exposed food-handling surfaces. After removing gross filth, apply a solution of 4 ounces of this product per gallon of water (or equivalent use dilution) (488 ppm active quat) to surfaces and locations where flies may breed. Spray surfaces thoroughly or apply by pouring, mopping or sponging onto the surface. Repeat application 1-2 times per week or as needed. Do not contaminate food and food packaging.

FOR CONTROL OF SMALL FLIES IN DRAINS: For control of small flies: *Drosophila* spp. and the Phoridae family. Spray or pour solution of 4 ounces per gallon of water (or equivalent use dilution) (488 ppm active quat) into drain during time of lowest level of drain use. Add 14 ounces of solution daily to each drain to maintain fly control. Apply around the edge of the drain and coat all sides of inside of drain.

**SANITIZER DIRECTIONS FOR NON-FOOD CONTACT SURFACES
IN FOOD PROCESSING FACILITIES**

SHOE (BOOT) BATH SANITIZER DIRECTIONS: To prevent cross contamination from area to area in animal areas, and the packaging and storage areas of food plants, shoe baths containing one inch of freshly made sanitizing solution must be placed at all entrances to buildings, hatcheries and at all the entrances to the production and packaging rooms. Scrape waterproof shoes and place in 6 ounce of this product per 1 gallon (or equivalent use dilution) (732 ppm active quat) of water solution for 60 seconds prior to entering area. Change the sanitizing solution in the bath at least daily or sooner if solution appears dirty.

SHOE FOAM DIRECTIONS: To prevent cross contamination from area to area in animal areas, and the packaging and storage areas of food plants, apply a foam layer approximately 0.5 to 2 inches thick made from a solution of 6 to 9 ounces per gallon of water (or equivalent use dilution) (732 to 1098 ppm active) at all entrances to buildings, hatcheries, production and packaging rooms by using a foam generating machine or aerator to apply foam layer. Follow the foaming directions as specified by the manufacture of the foam generator/aerator. Scrape waterproof shoes. Stand and/or walk through foamed area for 60 seconds prior to entering area. Foam area must be washed and replaced at least daily or when it appears dirty.

(For food processing or other facilities that have installed entryway sanitizing systems.)

ENTRYWAY SANITIZING SYSTEMS: To prevent cross contamination from area to area, set the system to deliver (6 oz. per gallon of water) (or equivalent use dilution) (732 ppm active) of sanitizing solution. The (spray) (foam) must cover the entire path of the doorway. Set the system so that a continuous wet blanket of sanitizer solution is delivered to the floor.

Do not mix other foam additives to the sanitizing solution.

FOOD PROCESSING PLANTS USING FOGGING DEVICES

For use in dairies, beverage and food processing plants. Prior to fogging, food products and packaging material must be removed from the room or carefully protected. After cleaning, fog desired areas using 1 quart per 1000 cubic feet of room area with a solution containing 10 ounces of product to 1 gallon of water (or equivalent use dilution) (1,220 ppm). Vacate the area of all personnel during fogging and for a minimum of 2 hours after fogging. All food contact surfaces must be thoroughly rinsed prior to reuse with potable water.

NOTE: The fog generated is irritating to the eyes, skin and mucous membranes. Under no circumstances must a room or building be entered by anyone within two hours of the actual fogging. Use for a minimum of 4 air exchanges (ACH) per hour in the facility. If the building must be entered, then the individuals entering the building must wear a self-contained respirator approved by NIOSH/MSHA, goggles, long sleeves and long pants.

FOGGING IS TO BE USED AS AN ADJUNCT TO ACCEPTABLE MANUAL CLEANING AND DISINFECTING OF ROOM AND MACHINE SURFACES.

MUSHROOM FARM INDUSTRY USE DIRECTIONS

Site Preparation: The first step in any on going sanitation program must be the removal of gross contamination and debris. This may be accomplished by using a shovel, broom, or vacuum, depending on the area to be disinfected.

Disinfection: Use 4 ounces of this product per gallon of water (or equivalent dilution). Wet all surfaces thoroughly. Treated surfaces must be allowed to remain wet for 10 minutes. Let air-dry. For heavily soiled areas, preclean first. Prepare a fresh solution for each use.

For Heavy Duty Cleaning: When greater cleaning is desired, use 8 ounces of this product per gallon of water (or equivalent dilution). Heavily soiled areas may require repeated cleaning before treatment.

DO NOT APPLY TO THE MUSHROOM CROP, COMPOST OR CASING. Rinse treated surfaces with potable water before they contact the crop, compost or casing.

**FOOD CONTACT PROCESSING AND TOBACCO PROCESSING EQUIPMENT
SANITIZING DIRECTIONS**

Food Contact Sanitization Performance: At 8 ounces per 5 gallons this product (200 ppm active) eliminates 99.999% of the following bacteria in 60 seconds in 250 ppm hard water (calculated as CaCO₃) according to the AOAC Germicidal and Detergent Sanitizing Action of Disinfectants test.

Escherichia coli

Staphylococcus aureus

Food Contact Sanitizing Dilution Guide

To prepare a 200, 300 or 400 ppm active quaternary solution use the following dilution table. Prepare the correct dilution rate based upon the appropriate use site.

Active quat solution	2.5 gallons	5 gallons	10 gallons	20 gallons
200 ppm	4 ounces	8 ounces	16 ounces	32 ounces
300 ppm	6 ounces	12 ounces	24 ounces	48 ounces
400 ppm	8 ounces	16 ounces	32 ounces	64 ounces

SANITIZATION: When used for sanitization of previously cleaned food equipment or food contact items limit active quaternaries – to 200-400 ppm. At this level **NO POTABLE WATER RINSE** is allowed.

It is an effective sanitizer when diluted in water up to 250 ppm hardness (CaCO₃).

To sanitize previously cleaned and rinsed non-porous food contact surfaces, prepare 200-400 ppm active quaternary solution by adding 8-16 oz. to 5 gallons of water.

To sanitize immobile items (such as tanks, chopping blocks, counter tops) flood the area with 200-400 ppm solution or apply with a cloth or sponge making sure to wet all surfaces completely for at least 60 seconds. Let air dry. Prepare a fresh solution for each use.

To sanitize mobile items (such as drinking glasses, eating utensils), immerse in 200-400 ppm solution for at least 60 seconds making sure to immerse completely. Remove and let air dry. Prepare a fresh solution at least daily or more frequently as soil is apparent.

Sanitizing of Food Processing Equipment and Other Hard Surfaces in Food Processing Locations, Dairies, Restaurants and Bars Directions: For sanitizing food processing equipment, dairy equipment, food utensils, dishes, silverware, eating utensils, glasses, sink tops, countertops, refrigerated storage and display equipment and other hard, non-porous surfaces. **NO POTABLE WATER RINSE IS ALLOWED.**

Prior to application, remove gross food particles and soil by a pre-flush or pre-scrape and when necessary, presoak. Then thoroughly wash or flush objects with a good detergent or compatible cleaner, followed by a potable water rinse before applications of the sanitizing solution.

Before use as a sanitizer in federally inspected meat and poultry plants and dairies, food products and packaging materials must be removed from the room or carefully protected. A potable water rinse is not allowed (Do not rinse) following the use of this product as a sanitizer on previously cleaned hard, non-porous surfaces provided that surfaces are adequately drained before contact with food so that little or no residue remains.

Apply a solution of 8 ounces of this product in 5 gallons of water, (or equivalent use dilution) (200 ppm active) OR mix an 8-ounce packet with 5 gallons of water to precleaned, hard non-porous surfaces, thoroughly wetting surfaces with a cloth, mop, sponge, sprayer or by immersion. For spray applications, use a coarse pump or trigger sprayer. Spray 6 to 8 inches from surface. Rub with brush, sponge, or cloth. Do not breathe spray. With spray applications cover or remove all food products. From a Closed Loop Dilution Center, apply 200 ppm active solution to the surface to be sanitized. Surfaces must remain wet for at least 1 minute followed by adequate draining (and air drying).

Prepare a fresh solution at least daily or when use solution becomes visibly dirty. For mechanical application use solution may not be reused for sanitizing applications. **NO POTABLE WATER RINSE IS ALLOWED (DO NOT RINSE) AFTER APPLICATION OF THE SANITIZING SOLUTION (after use as a sanitizer).**

Apply to sink tops, countertops, refrigerated storage and display equipment and other stationary hard surfaces by cloth or brush or mechanical spray device. **NO POTABLE WATER RINSE IS ALLOWED (after use as a sanitizer).**

Dishes, silverware, glasses, cooking utensils, eating utensils and other similar size food processing equipment can be sanitized by immersion in an 8-ounce per 5 gallon of water solution (or equivalent use dilution) for a contact time of at least 1 minute of this product (200 ppm active). **NO POTABLE WATER RINSE IS ALLOWED.**

PUBLIC EATING PLACES/DAIRY PROCESSING

For Public Eating Places, Dairy Processing Equipment and Food Processing Equipment and Utensils: Prior to application, remove gross food particles and soil by pre-flush, or pre-scrape, and when necessary, pre-soak. Then thoroughly wash or flush objects with a compatible detergent followed by a potable water rinse before application of sanitizing solutions. Apply a solution of 8 ounces of this product in 5 gallons of water (or equivalent use dilution) (200 ppm active) OR mix an 8 ounce packet with 5 gallons of water to precleaned, hard non-porous surfaces, thoroughly wetting surfaces with a cloth, mop, sponge, sprayer or by immersion. For spray applications, use a coarse pump or trigger sprayer. Spray 6 to 8 inches from surface. Rub with brush, sponge, or cloth. Do not breathe spray. With spray applications cover or remove all food products. From a Closed Loop Dilution Center, apply 200 ppm active solution to the surface to be sanitized. Surfaces must remain wet for at least 1 minute, followed by adequate draining (and air drying). (Alternate statement: Allow sanitized surfaces to adequately drain before contact with food.) Prepare a fresh solution at least daily or when use solution becomes visibly dirty. For mechanical application use solution may not be reused for sanitizing applications. **NO POTABLE WATER RINSE IS ALLOWED (after use as a sanitizer) (after application of the sanitizing solution).**

DIRECTIONS FOR SANITIZING FOOD CONTACT SURFACES IN PUBLIC EATING PLACES, DAIRY PROCESSING EQUIPMENT AND FOOD PROCESSING EQUIPMENT, AND UTENSILS REGULATED BY 40CFR sec 180.940(a):

1. Scrape, flush or presoak articles (whether mobile or stationary) to remove gross food particles and soil.
2. Thoroughly wash articles with an appropriate detergent or cleaner.
3. Rinse articles thoroughly with potable water.
4. Sanitize articles using a solution of 8 ounces of this product per 5 gallons of water (or equivalent use dilution) (200 ppm active). Articles that can be immersed in solution must remain in solution for 60 seconds. Articles too large for immersing must be thoroughly wetted by rinsing, spraying or swabbing.
5. Remove immersed items from solution to drain (and then air dry). Non-immersed item must be allowed to air dry also. (Alternate statement: Allow sanitized surfaces to adequately drain before contact with food.) No potable water rinse is allowed.

U.S. PUBLIC HEALTH SERVICE FOOD SERVICE SANITIZATION RECOMMENDATIONS CLEANING AND SANITIZING:

Equipment and utensils shall be thoroughly preflushed or prescraped, and when necessary, presoaked to remove gross food particles and soil.

1. Thoroughly wash equipment and utensils in a hot detergent solution. Rinse utensils and equipment thoroughly with potable water.
2. Sanitize equipment and utensils by immersion in 8 ounces of this product per 5 gallons of water solution for at least 60 seconds at a temperature of 75°F. This dilution is equivalent to a solution containing 50 ppm available chlorine.

3. For equipment and utensils too large to sanitize by immersion, apply 8 ounces of this product per 5 gallons of water (or equivalent use dilution) (200 ppm active) by rinsing, spraying or swabbing until thoroughly wetted.
4. Allow sanitized surfaces to drain (and air dry). (Alternate statement: Allow sanitized surfaces to adequately drain before contact with food). Do not rinse.

WISCONSIN STATE DIVISION OF HEALTH

DIRECTIONS FOR EATING ESTABLISHMENTS *(Not applicable in CA)*

1. Scrape and pre-wash utensils and glasses whenever possible.
2. Wash with a good detergent or compatible cleaner.
3. Rinse with potable water.
4. Sanitize in a solution of 8 ounces of this product per 5 gallons water (or equivalent use dilution) (200 ppm active quaternary). Immerse all utensils for at least two minutes or for contact time specified by governing sanitary code.
5. Place sanitized utensils on a rack or drain board to air-dry.
6. Prepare fresh sanitizing solution at least daily or more often when visibly soiled or diluted.

NOTE: A clean potable water rinse following sanitization is not permitted under Section 196.13 of the Wisconsin Administrative Code.

(Alternative language for clean in place, closed loop dilution centers.)

WISCONSIN STATE DIVISION OF HEALTH

DIRECTIONS FOR EATING ESTABLISHMENTS *(Not applicable in CA)*

1. Scrape and pre-wash utensils and glasses whenever possible.
2. Wash with a good detergent or compatible cleaner.
3. Rinse with potable water.
4. Sanitize in a solution from the Closed Loop Dilution Center (200 ppm active quaternary.) Immerse all utensils for at least two minutes or for contact time specified by governing sanitary code.
5. Place sanitized utensils on a rack or drain board to air-dry.
6. Prepare fresh sanitizing solution at least daily or more often when visibly soiled or diluted.

NOTE: A clean potable water rinse following sanitization is not permitted under Section HFS 196.13 of the Wisconsin Administrative Code.

DIRECTIONS FOR RESTAURANT AND BAR SANITIZER

Equipment and utensils must be thoroughly preflushed or prescraped and, when necessary, presoaked to remove gross food particles and soil. Then thoroughly wash or scrub objects with a good detergent or compatible cleaner followed by a potable water rinse before application of the sanitizing solution.

For precleaned dishes, glassware, silverware, eating utensils, (and) cooking utensils, immerse in a solution containing 8 ounces of this product per 5 gallons of water (or equivalent use dilution) (200 ppm active quaternary). Allow surface to remain wet for at least 60 seconds. Drain thoroughly before reuse. No potable water rinse is allowed.

(Alternative language for clean in place, closed loop dilution centers.)

For use as a sanitizer on dishes, glassware, silverware, eating utensils, cooking utensils: ~~Remove gross food particles by preflush, prescrape, and presoak when necessary. Wash thoroughly with detergent or compatible cleaner then rinse with potable water prior to application of this product. Then immerse in a sanitizing solution from Closed Loop Dilution Center (200 ppm active quaternary). Allow surface to remain wet for at least 60 seconds. Drain thoroughly and air dry before reuse. (Alternate statement: Allow sanitized surfaces to adequately drain before contact with food.)~~ No potable water rinse is allowed.

Sanitizing of Food Processing Equipment (Ice Machines) and Other Hard Surfaces in Food Contact Locations: For sanitizing food processing equipment, dairy equipment, refrigerated storage and display equipment and other hard, non-porous surfaces. Equipment and utensils must be thoroughly preflushed or prescraped and when necessary, presoaked to remove gross food particles. ~~No potable water rinse is allowed.~~

1. Turn off refrigeration.
2. Prior to application, remove gross food particles and soil by pre-flush, or pre-scrape, and when necessary, pre-soak.
3. Thoroughly wash or flush objects with a compatible detergent followed by a potable water rinse before application of sanitizing solutions.
4. Apply a solution of 8 ounces of this product in 5 gallons of water (or equivalent use dilution) (200 ppm active) by mechanical spray, direct pouring or by recirculating through the system. Surfaces must remain wet for at least one minute followed by complete draining (and drying). (Alternate statement: Allow sanitized surfaces to adequately drain before contact with food.) Prepare a fresh solution for each cleaning.
5. No potable water rinse is allowed when product is used as directed.
6. Return machine to service.

SANITIZATION OF INTERIOR HARD, NON-POROUS SURFACES OF WATER SOFTENERS AND REVERSE OSMOSIS (RO) UNITS

Water Softeners – Sanitization must occur after initial installation, after the system is serviced and periodically during its use.

1. Unit must be washed with a compatible detergent and rinsed with potable water before sanitizing.
2. Backwash the softener and add 8 ounces of sanitizer per 5 gallons of water (or equivalent use dilution) (200 ppm active) to the brine tank well. (The brine tank must have water in it to permit the solution to be carried into the softener.) (NOTE: Standard system capacity is 48 gallons.)
3. Proceed with the normal regeneration or interrupt the cycle after the brining step and let the softener soak with sanitizer solution for a minimum of 60 seconds.
4. Backwash the softener with potable water to make sure all sanitizing solution is thoroughly rinsed from the unit before returning the system to service.

Reverse Osmosis (RO) Units – Sanitization must occur after initial installation, after the system is serviced and periodically during its use.

1. Turn off RO system, drain storage tank and remove membrane element and pre-filters. Put membrane element in a plastic bag so it remains wet. Do not use this product to sanitize the membrane element. Membrane element must be sterilized separately.
2. Unit must be washed with a compatible detergent and rinsed with potable water before sanitizing
3. Fill empty pre-filter housing with 8 ounces of sanitizer per 5 gallons of water (or equivalent use dilution) (200 ppm active) and turn on raw water. (NOTE: Standard system capacity is 1 to 2 gallons).
4. After holding tank is full, let system stand idle for a minimum of 60 seconds. Turn off water. Drain holding tank.
5. Before the system is put back into service, flush system with potable water to assure sanitizing solution is rinsed thoroughly from system. Follow the manufacturer's directions for re-installation of new pre-filters, membrane element and post filter.

SANITIZATION OF INTERIOR HARD, NON-POROUS SURFACES OF ICE MACHINES, WATER COOLERS, WATER HOLDING TANKS AND PRESSURE TANKS

Ice Machines – Sanitization must occur after initial installation, after the machine is serviced and periodically during its use.

1. Shut off incoming water line to machine.
2. Unit must be washed with a compatible detergent and rinsed with potable water before sanitizing.
3. Prepare a solution of 8 ounces of sanitizer per 5 gallons of water (or equivalent use dilution) (200 ppm active).
4. Circulate solution through machine making sure to wet all surfaces and allow a minimum contact of 60 seconds.
5. Drain and completely flush machine twice with potable water.
6. Return machine to normal operation.

Water Coolers, Water Holding Tanks and Pressure Tanks – Sanitization must occur after initial installation, after the system is serviced and periodically during its use.

1. Shut off incoming water line.
2. Units/tanks must be washed with a compatible detergent and rinsed with potable water before sanitizing.
3. Prepare a solution of 8 ounces of sanitizer per 5 gallons of water (or equivalent use dilution) (200 ppm active).
4. Apply or circulate (if possible) to wet all surfaces and allow a minimum contact of 60 seconds.
5. Drain and completely flush system twice with potable water.
6. Return to service by opening incoming water lines.

DIRECTIONS FOR FOOD PROCESSING EQUIPMENT AND DAIRIES

Equipment and utensils must be thoroughly preflushed or prescraped and, when necessary, presoaked to remove gross food particles. Wash thoroughly with detergent or compatible cleaner then rinse with potable water prior to application. Then apply sanitizing solution containing 8 ounces of this product per 5 gallons of water (or equivalent use dilution) (200 ppm active quaternary). Allow surfaces to remain wet for at least 60 seconds. No potable water rinse is allowed.

At 8 ounces per 5 gallons this sanitizer fulfills the criteria of Appendix F of the Grade A Pasteurized Milk, Ordinance 1978 Recommendations of the U.S. Public Health Services in waters up to 250 ppm of hardness calculated as CaCO_3 when evaluated by the AC Germicidal and Detergent Sanitizer Method against *Escherichia coli* and *Staphylococcus aureus*.

BEVERAGE DISPENSING EQUIPMENT SANITIZER DIRECTIONS

For sanitizing of bottling or pre-mix dispensing equipment, after cleaning thoroughly rinse equipment with cold or lukewarm potable water. Fill equipment with a solution of 8 ounces of this product per 5 gallons of water (or equivalent use dilution) (200 ppm active). Allow solution to remain in equipment for at least 60 seconds, or until operations resume at which time the sanitizing solution must be drained from the system. To insure the removal of flavors, it is suggested that during changeover between products the system must be cleaned, rinsed and flushed with the sanitizing solution for at least 1 minute. Drain thoroughly and allow to air dry before reuse. (Alternate statement: Allow sanitized surfaces to adequately drain before contact with food.) No potable water rinse is allowed.

FOOD PROCESSING EQUIPMENT AND UTENSILS

For Food Processing Equipment and Utensils in Food Processing Facilities: Prior to application, remove gross food particles and soil by pre-flush, or pre-scrape, and when necessary, pre-soak. Then thoroughly wash or flush objects with a compatible detergent followed by a potable water rinse before application of sanitizing solutions. Apply a solution of 8 to 16 ounces of this product in 5 gallons of water (or equivalent use dilution) (200-400 ppm active) to pre-cleaned, hard, non-porous surfaces thoroughly wetting surfaces with a cloth, mop, sponge, sprayer or by immersion. For spray applications, use a coarse pump or trigger sprayer. Spray 6 to 8 inches from surface. Rub with brush, sponge, or cloth. Do not breathe spray. With spray applications cover or remove all food products. From a Closed Loop Dilution Center, apply 200-400 ppm active solution to the surface to be sanitized. Surfaces must remain wet for at least 1 minute followed by adequate draining (and air drying). (Alternate statement: Allow sanitized surfaces to adequately drain before contact with food.) Prepare a fresh solution at least daily or when use solution becomes visibly dirty. For mechanical application use solution may not be reused for sanitizing applications. NO POTABLE WATER RINSE IS ALLOWED (DO NOT RINSE) AFTER APPLICATION OF THE SANITIZING SOLUTION (after use as a sanitizer) (after application of the sanitizing solution).

(Note: The following directions are for use in food processing areas only)

DIRECTIONS FOR FOOD PROCESSING EQUIPMENT AND UTENSILS (AS REGULATED BY) (40CFR sec 180.940(c))

Equipment and utensils must be thoroughly preflushed or prescraped and, when necessary, presoaked to remove gross food particles. Clean and rinse equipment thoroughly. Then apply sanitizing solution containing 8 to 16 ounces of this product per 5 gallons of water (or equivalent use dilution) (200-400 ppm active quaternary). Allow surfaces to remain wet for at least 60 seconds. (Alternate statement: Allow sanitized surfaces to adequately drain before contact with food.) No potable water rinse is allowed (Do not rinse). Prepare a fresh solution at least daily or when use solution becomes visibly dirty. For mechanical application use solution may not be reused for sanitizing applications.

(OR)

DIRECTIONS FOR SANITIZING FOOD CONTACT SURFACES IN FOOD PROCESSING EQUIPMENT AND UTENSILS, AS REGULATED BY 40CFR sec 180.940(c):

1. Scrape, flush or presoak articles (whether mobile or stationary) to remove gross food particles and soil.
2. Thoroughly wash articles with an appropriate detergent or cleaner.
3. Rinse articles thoroughly with potable water.
4. Sanitize articles using a solution of 4 to 8 ounces of this product per 2.5 gallons of water (or equivalent use dilution) (200 to 400 ppm active). Articles that can be immersed in solution must remain in solution for 60 seconds. Articles too large for immersing must be thoroughly wetted by rinsing, spraying or swabbing.
5. Remove immersed and non-immersed items from solution to (and) make certain all surfaces are adequately drained before contact with food. Allow non-immersed items to air dry also. (Alternate statement: Allow sanitized surfaces to adequately drain before contact with food.) No potable water rinse is allowed (Do not rinse). Thoroughly drain non-immersed items and air dry.

SANITARY FILLING EQUIPMENT SANITIZER DIRECTIONS

For use in sanitizing bottles or cans in the final rinse application. The product is to be proportioned into the final rinse water line of the container washer or rinser in the concentration of 200 - 400 ppm active quat. Prepare a solution of 8-16 ounces of this product per 5 gallons of water (or equivalent use dilution) (200-400 ppm active) for the exterior application for the filler and closing machine. Allow surfaces to remain wet for at least 60 seconds. Drain thoroughly and allow to air dry before reuse. (Alternate statement: Allow sanitized surfaces to adequately drain before contact with food.) No potable water rinse is allowed.

STORAGE TANK SANITIZER DIRECTIONS

For sanitizing beer fermentation and holding tanks, citrus and food processing storage and holding tanks. Remove gross filth and soil by preflush or prescrape and when necessary presoak. Then wash surfaces with a compatible detergent and rinse with potable water prior to sanitizing. Prepare a solution of 8-16 ounces of this product per 5 gallons of water (or equivalent use dilution) (200-400 ppm active) for mechanical or automated systems. Allow surfaces to remain wet for at least 60 seconds. Drain thoroughly before reuse. No potable water rinse is allowed.

mechanical operations or automated systems, the used sanitizing solution may not be used for sanitizing, but may be reused for other purposes such as cleaning.

SANITIZING EGG SHELLS INTENDED FOR FOOD DIRECTIONS

To sanitize previously cleaned food-grade eggs in shell egg and egg product processing plants, spray with a solution of 8-16 ounces of this product per 5 gallons of warm water (or equivalent use dilution) (200-400 ppm active). The solution must be warmer than the eggs, but not to exceed 130 F. Wet eggs thoroughly and allow to drain. Eggs sanitized with this product shall be subjected to a potable water rinse only if they are to be broken immediately for use in the manufacture of egg products. Eggs must be reasonably dry before casing or breaking. The solution must not be reused for sanitizing eggs.

NOTE: Only clean, whole eggs can be sanitized. Dirty, cracked or punctured eggs cannot be sanitized.

FOR CONTINUOUS TREATMENT OF MEAT AND POULTRY OR FRUIT AND VEGETABLE CONVEYORS: Remove gross food particles and excess soil by a preflush or pre-scrape, wash with a good detergent or compatible cleaner, rinse equipment thoroughly with potable water, then rinse equipment with a sanitizing solution. To sanitize the belt apply this product at a 200-400 ppm quat level (8-16 ounces per 5 gallons) (or equivalent use dilution) to conveyors with suitable feeding equipment. Allow surfaces to remain wet for at least 60 seconds. Controlled volumes of sanitizer are applied to return portion of conveyor through nozzles so located as to permit maximum drainage of sanitizer from equipment and to prevent puddles on top of belt. Do not allow this solution to be sprayed directly on food. During interruptions in operation, coarse spray equipment, peelers, collators, slicers and saws with this product at a dilution of 200-400 ppm active quat. Conveyor equipment must be free of product when applying this coarse spray.

FOR SANITIZING IN FISHERIES, MILK, CITRUS, POTATO & ICE CREAM PROCESSING PLANTS: For use as a sanitizer on conveyor belts, follow the "For Continuous Treatment of Meat and Poultry or Fruit and Vegetable Conveyors" directions. For directions to reduce or eliminate odors on the equipment in the processing area, follow the "Food Processing Equipment" directions. Also, for directions for reducing bacteria associated with condensation on equipment and pipes, follow directions for "Sanitary Filling Equipment Sanitizer Directions".

GLOVE DIP SANITIZER DIRECTIONS: To prevent cross contamination from area to area in animals areas and the packaging and storage areas of food plants, dip pre-washed (plastic, latex or other synthetic rubber) non-porous gloved hands into a suitable clean container that contains enough freshly made sanitizing solution to cover the gloved area. Make up the sanitizing solution by adding 8 ounces of this product per 5 gallons of water (or equivalent use dilution) (200 ppm active). Dip (Soak) in solution for 60 seconds. **NO POTABLE WATER RINSE IS ALLOWED.** Change the sanitizing solution in the bath at least daily or when solution appears dirty. **Do not let sanitizing solution come into contact with exposed skin.**

ANIMAL PREMISES

Animal Virucidal Performance: The product when used on environmental inanimate hard surfaces at 4 oz per gallon of water exhibits effective virucidal* activity against:

(OR)

At 4 ounces per gallon use level (or equivalent use dilution) (488 ppm active quat), this product was evaluated in the presence of 5% serum with a 10 minutes contact time and found to be effective against the following viruses on hard, non-porous environmental surfaces:

- Avian Influenza A (H5N1) virus
- Canine Coronavirus
- Vaccinia Virus (representative of the pox virus group)

At 6 ounces per gallon use level (or equivalent use dilution) (732 ppm active quat), this product is effective against the following:

- Avian Influenza A/Turkey/Wisconsin virus.
- Avian Reovirus (ATCC VR-534)
- Canine Distemper virus
- Equine Arteritis Virus
- Infectious Avian Laryngotracheitis virus
- Infectious Bovine Rhinotracheitis virus (IBR)
- Newcastle disease virus
- Porcine Respiratory & Reproductive virus (PRRSV)
- Porcine Rotavirus
- Pseudorabies virus
- Transmissible Gastroenteritis (TGE) virus

Veterinary Clinics/Animal Life Science Laboratory/Animal Care Facilities/Animal Research Centers/Animal Quarantine Areas/ Animal Breeding Facilities/Animal Husbandry/Zoos/Pet Shop/Kennels/Breeding and Grooming Establishments/Tack Shops Disinfection Directions: For cleaning and disinfecting the following hard, non-porous surfaces: Equipment, utensils, instruments, cages, kennels, stables, stalls and catteries. Remove all animals and feeds from premises, animal transportation vehicles, crates etc. Remove all litter, droppings and manure from floors, walls and surfaces of facilities occupied or traversed by animals. Thoroughly clean all surfaces with soap or detergent and rinse with water. Saturate surfaces with a use solution of the disinfecting and virucidal solution (~~4-oz per gallon of water~~ or 6 oz. per gallon of water- see Organism guide at beginning of this section for appropriate use dilution with appropriate virus) (or equivalent dilution) for a period of 10 minutes. Immerse all halters, ropes, and other types of equipment used in handling and restraining animals as well as forks, shovels, scrapers used in removing litter and manure. Ventilate buildings and other closed spaces. Do not house animals or employ equipment until treatment has been absorbed, set or dried. Thoroughly scrub all treated feed racks, automatic feeders, waterers and other equipment which dispenses food or water with soap or detergent, and rinse with potable water before reuse.

RENDERING PLANT/DRESSING PLANT DISINFECTANT/FUNGICIDE/VIRUCIDAL DIRECTIONS (DRESSING PLANT AND RENDERING PLANT DISINFECTANT – FUNGICIDE – VIRUCIDE DIRECTIONS): Preclean all surfaces before using this product. Disinfect walls and floors in poultry and animal dressing plants. Disinfect all rooms, exterior walls and loading platforms of dressing plants. Cover or remove all food and packaging materials before disinfection. Remove all gross soils. Saturate all surfaces with the disinfecting and virucidal solution (~~4 oz. per gallon of water~~ or 6 oz. per gallon of water – see Organism guide at beginning of this section for appropriate use dilution with appropriate virus) (or equivalent dilution). Scrub to loosen all soils. Allow treated surfaces to soak for 10 minutes (Surfaces must remain wet for 10 minutes) and thoroughly rinse all wetted and cleaned surfaces with potable water before operations are resumed.

Terrarium and Small Animal Cage and Cage Furniture Disinfection (*Use on rocks and driftwood not allowed in California.*): Animals frequently defecate on hot rocks and other cage furniture items inside your terrarium. This can result in high bacteria and ammonia levels that can lead to possible infection/disease in your animals. When used regularly this product can eliminate these high bacteria/ammonia levels in your cage and on your furniture items.

1. Remove all animals.
2. Thoroughly clean all surfaces and objects (hot rocks, caves, cage furniture, feeding and watering dishes, and appliances) including the substrate in the terrarium or cage with soap or detergent and rinse with water.
3. Saturate all surfaces (floors, walls, cages and other washable hard, non-porous environmental surfaces) with the disinfecting and virucidal solution (~~4 oz. per gallon of water~~ or 6 oz. per gallon of water – see Organism guide at beginning of this section for appropriate use dilution with appropriate virus) (or equivalent dilution) for a period of 10 minutes. For smaller surfaces, use a trigger spray bottle to spray all surfaces with solution until wet. Then wipe surfaces dry.
4. Saturate gravel as above and let stand for 10 minutes. Place in bucket of clean water and swirl for 15-30 seconds. Thoroughly air dry before returning to terrarium.
5. Do not return animals to the habitat until it is dry and ventilated.
6. Thoroughly scrub all treated surfaces with soap or detergent and rinse with potable water before reuse.
7. Clean terrarium at least once weekly or more as needed.

Note: Substrates for desert terrariums (i.e. gravel) must be completely dry before returning to terrarium to avoid high humidity levels. Always replace substrate if a foul odor persists.

Reptile Tank Cleaning and Disinfection Directions: Remove all reptiles from the enclosure (tank) prior to cleaning and disinfecting. Remove all litter or drippings from surfaces. Empty all equipment used for feeding or watering reptiles. Thoroughly clean all surfaces with soap or detergent and rinse with water. Apply the disinfecting and virucidal solution (~~4 oz. per gallon of water~~ or 6 oz. per gallon of water – see Organism guide at beginning of this section for appropriate use dilution with appropriate virus) (or equivalent dilution) to the surfaces of the enclosure (tank) until thoroughly wet. Allow surfaces to remain wet for 10 minutes. Wipe dry. Rinse all surfaces that come in contact with food with potable water before reuse. Allow the enclosure (tank) to ventilate for a minimum of 10-15 minutes before replacing the reptiles.

NOTE: Do not apply this product directly onto the reptile. If this product comes into contact with the reptile's skin, then immediately wash the material off of the animal with lukewarm water. If the reptile ingests this product, contact your veterinarian immediately.

FARM PREMISE DISINFECTION DIRECTIONS

FARM PREMISE DISINFECTION DIRECTIONS: Do not use in milking stalls, milking parlors or milk houses. Remove all animals and feed from premises, vehicles and enclosures. Remove all litter and manure from floors, walls and surfaces of barns, pens, stalls, stables, chutes and other facilities and fixtures occupied or traversed by animals. Empty all troughs, racks and other feeding and watering appliances. Thoroughly clean all surfaces with soap or detergent and rinse with water. Saturate all surfaces with a use solution of the disinfecting and virucidal solution (~~4 oz. per gallon of water~~ or 6 oz. per gallon of water – see Organism guide at beginning of this section for appropriate use dilution with appropriate virus) (or equivalent dilution) for a period of 10 minutes. Immerse all halters, ropes and other types of equipment used in handling and restraining animals as well as forks, shovels and scrapers used in removing litter and manure. Ventilate buildings, cars, trucks, boats and other closed spaces. Do not house 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 soap or detergent and rinse with potable water before reuse.

(OR)

For use in Equine, Dairy and Hog Farms

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

VEAL, CALVING, HOG, CATTLE AND HORSE OPERATIONS: Between depopulations of facilities, cleaning and disinfection of pens, hutches, aisles and other environmental surfaces may be required. Empty all troughs, racks, and other feeding and watering appliances. Flush soils from these areas. Thoroughly clean all surfaces with soap or detergent and rinse with water. Saturate all surfaces with the disinfecting and virucidal solution (~~4 oz. per gallon of water~~ or 6 oz. per gallon of water – see Organism guide at beginning of this section for appropriate use dilution with appropriate virus) (or equivalent dilution) and allow solution to remain wet for a period of 10 minutes. Immerse all halters, ropes and other types of equipment used in handling and restraining animals as well as forks, shovels and scrapers used in removing litter and manure. Ventilate buildings, cars, trucks, boats and other closed spaces. Do not house 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 soap or detergent and rinse with potable water before reuse.

For Use For Treatment of Animal Housing Facilities:

1. Remove all animals and feed from premises, vehicles and enclosures.
2. Remove all litter and manure from floors, walls and surfaces of barn, pens, stalls, stables, chutes and other facilities and fixtures occupied or traversed by animals.
3. Empty all troughs, racks and other feeding and watering appliances.
4. Thoroughly clean all surfaces with soap or detergent and rinse with water.
5. Saturate all surfaces (floors, walls, cages and other washable hard, non-porous environmental surfaces) with the disinfecting and virucidal solution (~~4 oz. per gallon of water~~ or 6 oz. per gallon of water – see Organism guide at beginning of this section for appropriate use dilution with appropriate virus) (or equivalent dilution) for a period of 10 minutes. For smaller surfaces, use a trigger spray bottle to spray all surfaces with solution until wet.
6. Immerse all halters, ropes and other types of equipment used in handling and restraining animals as well as forks, shovels, scrapers used in removing litter and manure.
7. Ventilate buildings, cars, trucks, boats and other closed spaces. Do not house livestock or employ equipment until treatment has been absorbed, set and dried.
8. Thoroughly scrub all treated feed racks, mangers, troughs, automatic feeders, fountains and waterers with soap or detergent and rinse with potable water before reuse.

POULTRY (AND SWINE) PREMISE SANITATION SITE PREPARATION

Site Preparation: The first step in any on-going sanitation program must be the removal of gross contamination and debris. This may be accomplished using a shovel, broom, or vacuum depending on the area to be disinfected. The efficacy of even the most efficient germicidal cleaner is reduced in the presence of heavy organic matter. Once the heavy debris is eliminated thoroughly clean all surfaces with soap or detergent and rinse with water.

Disinfection/Fungicide/Virucide of Poultry/Turkey Equipment, Swine Quarters, Livestock Farms, Equine Quarters, Animal Quarters and Kennels Directions: Prior to use, remove all poultry, other animals and their feeds from premises, vehicles (trucks and cars) and enclosures (coops, crates, kennels, stables). Remove all litter, droppings and manure from floors, walls and surfaces of barns, pens, stalls, chutes and other surfaces of facilities and fixtures occupied or traversed by poultry or other animals. Empty all troughs, racks and other feeding and watering appliances. Thoroughly clean all surfaces with soap or detergent and rinse with water. Use disinfecting and virucidal solution (~~4 oz. per gallon of water~~ or 6 oz. per gallon of water – see Organism guide at beginning of this section for appropriate use dilution with appropriate virus) (or equivalent dilution). Saturate surfaces with the disinfecting solution for a period of 10 minutes. Immerse all halters, ropes and other types of equipment used in handling and restraining animals, as well as forks, shovels, and scrapers used for removing litter and manure. After application, ventilate buildings, coops and other closed spaces. Do not house poultry, or other animals or employ equipment until treatment has been absorbed, set or dried. All treated equipment that will contact feed or drinking water (racks, troughs, automatic feeders, fountains and waterers and other equipment which may contact food or water) must be thoroughly scrubbed with soap or detergent then rinsed with potable water before reuse.

HATCHERIES: Use (~~4 oz. per gallon of water~~ or 6 oz. per gallon of water – see Organism guide at beginning of this section for appropriate use dilution with appropriate virus) (or equivalent dilution) to treat the following hard, non-porous surfaces: hatcher, setters, trays, racks, egg flats, walls, floors, ceilings, chickboxes, egg cases, trash containers, carts, sexing tables, delivery trucks, vans and other hard surfaces. Leave all treated surfaces exposed to disinfectant solution wet for 10 minutes or more. Rinse with potable water before reuse. Then allow to air dry.

VEHICLES: Clean all vehicles including mats, crates, cabs, and wheels with high-pressure water and this product. For sprayer applications, use a coarse spray. Use (~~4 oz. per gallon of water~~ or 6 oz. per gallon of water – see Organism guide at beginning of this section for appropriate use dilution with appropriate virus) (or equivalent use dilution) to treat all vehicles. Leave all treated surfaces exposed to disinfectant solution wet for 10 minutes or more and allow to air dry.

DISINFECTANT DIRECTIONS FOR CHICK VANS, EGG TRUCKS HATCHERY and FARM VEHICLES SERVICEMAN VEHICLES (VEHICLES): Clean all vehicles including mats, crates, cabs, and wheels with high-pressure water and this product. Use (~~4 oz. per gallon of water~~ or 6 oz. per gallon of water – see Organism guide at beginning of this section for appropriate use dilution with appropriate virus) (or equivalent dilution) to treat all vehicles. Leave all treated surfaces exposed to disinfectant solution wet for 10 minutes or more. For sprayer applications, use a coarse spray device.

DISINFECTANT/VIRUCIDAL* DIRECTIONS TO TREAT HARD NON-POROUS, NON-FOOD CONTACT SURFACES OF AUTOMATED TRAY, RACK AND BUGGY WASHERS: Mix a solution containing (~~4 oz. per gallon of water~~ or 6 oz. per gallon of water – see Organism guide at beginning of this section for appropriate use dilution with appropriate virus) (or equivalent dilution). Remove all litter and manure from surfaces to be treated. Treat hard non-porous, non-food contact surfaces of automated trays, racks and buggy washers into solution for 10 minutes. Thoroughly clean all surfaces with soap or detergent and rinse with water before reuse. Change the disinfecting solution at least daily or when solution appears dirty.

DISINFECTANT/VIRUCIDAL* DIRECTIONS TO TREAT HARD NON-POROUS, NON-FOOD CONTACT SURFACES IN EGG RECEIVING AND EGG HOLDING AREAS: Mix a solution containing (~~4 oz. per gallon of water~~ or 6 oz. per gallon of water – see Organism guide at beginning of this section for appropriate use dilution with appropriate virus) (or equivalent dilution). Remove all litter and manure from surfaces to be treated. Saturate hard non-porous, non-food surfaces with the solution for a period of 10 minutes. Apply by mop, brush or sprayer. Thoroughly clean all surfaces with soap or detergent and rinse with water before reuse. Change the disinfecting solution at least daily or when solution appears dirty.

Special Instructions for Inactivating Avian Influenza: Remove all poultry and feeds from premises, 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 soap or detergent and rinse with water. Saturate surfaces with the disinfecting solution (6 oz per gallon of water) (732 ppm active quat) (equivalent use dilution) for a period of 10 minutes. Ventilate buildings, coops, and other closed spaces. Do not house poultry or employ equipment until treatment has been absorbed, set, or dried. Thoroughly scrub

treated feed racks, troughs, automatic feeders, fountains, and waterers with soap or detergent, and rinse with potable water before reuse.

SANITIZER DIRECTIONS FOR NON-FOOD CONTACT SURFACES IN ANIMAL PREMISES

TO SANITIZE HOOF TRIMMING EQUIPMENT: Prior to application, pre-clean hoof trimming equipment before and after use on each animal with detergent and warm water or compatible cleaner to remove soil using a pre-scrape, pre-flush, or when necessary, pre-soak followed by a potable water rinse. To sanitize, prepare a 6 oz of this product per 1 gallon of water solution (732 ppm active quat) (or equivalent use dilution). Apply to pre-cleaned hard surfaces using a cloth, mop, sponge or sprayer or by immersion to thoroughly wet surfaces. Allow surfaces to remain wet for at least 5 minutes followed by adequate draining or air drying. Prepare fresh solution at least daily or when solution becomes visibly dirty.

SANITIZING HATCHERY ROOMS USING FOGGING DEVICES

Remove all animals and feed from premises, vehicles and enclosures. Remove all litter and manure from floors, walls and surfaces of the room to be treated. Empty all troughs, bins and other feeding and watering appliances. Thoroughly clean all surfaces with soap or detergent and rinse with water. Close room off so fog is confined to room to be treated. Mix 356 ounces of this product to 1 gallon water (or equivalent use dilution). Insert the nozzle of the fogger through a suitable opening into the room. With the setting in maximum output, fog for one minute for each 4000 cubic feet of space in the room. When fogging is completed ventilate buildings and other closed spaces. Do not allow people to contact or breathe this fog and do not enter until 2 hours after fogging is complete. Do not house livestock or employ equipment until treatment has been absorbed or dried. Thoroughly clean all surfaces with soap or detergent and rinse with water.

SANITIZING INCUBATORS AND HATCHERS USING FOGGING DEVICES

Mix 64 ounces of this product to 128 ounces of water. Fog 3-8 ounces of this into setters and hatchers immediately after transfer. Repeat daily in setters and every 12 hours in hatchers. Discontinue hatcher treatments at least 24 hours prior to pulling the hatch. Do not allow people to contact or breathe this fog. It is acceptable to fog setters and hatchers with a 6 ounce per gallon solution of this product (or equivalent use dilution) on an hourly or every other hour basis. If this is done, fog for 30-90 seconds once per hour or once every two hours. When fogging is complete, ventilate buildings and other closed spaces. Do not house livestock or employ equipment until treatment has been absorbed or dried. Do not allow people to contact or breathe this fog and do not enter until 2 hours after fogging is complete. Thoroughly scrub all treated feed racks, mangers, troughs, automatic feeders, fountains and waterers with soap or detergent, and rinse with potable water before reuse. Only for treatment of setters and hatchers after poultry/chicks/eggs have been removed. Not for treatment of hatchers which contain chicks/eggs.

NOTE: The fog generated is irritating to the eyes, skin and mucous membranes. Under no circumstances must a room or building be entered by anyone within two hours of the actual fogging. Use for a minimum of 4 air exchanges (ACH) per hour in the facility. If the building must be entered, then the individuals entering the building must wear a self-contained respirator approved by NIOSH/MSHA, goggles, long sleeves and long pants.

FOGGING IS TO BE USED AS AN ADJUNCT TO ACCEPTABLE MANUAL CLEANING AND DISINFECTING OF ROOM AND MACHINE SURFACES.

BARBER/SALON

Disinfection/Fungicide/Virucide for Barber/Salon Tools Directions: Immerse pre-cleaned barber/salon tools, such as combs, brushes, razors, clipper and trimmer blades, tweezers, manicure/pedicure tools and scissors, in a 4 ounces per gallon solution of the product (or equivalent use dilution) (488 ppm active quat). Completely immerse instruments and tools for at least 10 minutes. Rinse thoroughly and dry before use. Prepare a fresh solution at least daily or more often if solution becomes cloudy or soiled.

NOTE: Plastics may remain immersed until ready to use. Stainless steel shears and instruments must be removed after 10 minutes, rinsed, dried, and kept in a clean non-contaminated receptacle. Prolonged soaking may cause damage to metal instruments.

(OR)

Disinfecting/Virucide Grooming Clippers: Turn the clipper off occasionally during use and spray between the teeth of blades a solution of 4 ounces per gallon of water (or equivalent use dilution) (488 ppm active quat). Allow surface to remain wet for at least 10 minutes. Spray away hair, dandruff and dust particles while disinfecting the blades.

(OR)

Cleaning Hair Clippers and Electric Shears: While clipper/shear is running, hold in the downward position and spray a 4 ounces per gallon of water solution (or equivalent use dilution) (488 ppm active quat) of this product directly onto the blades two or three times to thoroughly wet the blades. Do not spray on the clipper case or drip into clipper housing. Turn off clipper/shear. Allow surface to remain wet for at least 10 minutes. Then wipe dry with a clean soft cloth. Lubricate as per clipper/shear manufacturer's instructions.

(OR)

Cleaning Barber/Salon Shears and Other Implements: Spray shear/implement until thoroughly wet. Wipe away visible debris using a soft bristle brush or cloth. Immerse pre-cleaned shear/implement into a container of 4 ounces per gallon of water solution (or equivalent use dilution) (488 ppm active quat) of this product for at least 10 minutes. Remove shear/implement and wipe dry. No rinsing is necessary. Use fresh solution at least daily or when immersion tank (bowl) (sink) solution becomes diluted or visibly soiled.

Disinfection/Fungicide of Hard, Non-Porous Surfaces in Footbaths: To remove body oils, dead tissue, soil and all other buildups or organic matter on inanimate surfaces after using the footbath, drain the water and thoroughly clean all hard, non-porous surfaces with soap or detergent, then rinse with water. Saturate surfaces with a use solution of 4 ounces per gallon of water (or equivalent use dilution) (488 ppm active quat) to exposed surfaces with a cloth, mop, sponge or sprayer. Brush or swab thoroughly and allow solution to stand for 10 minutes. For spray applications, use a coarse spray device. After the unit has been thoroughly disinfected, rinse all cleaned surfaces with fresh water. Do not breathe spray. Do not use equipment until treatment has been absorbed, set or dried.

Disinfection/Virucide/Fungicide of Hard, Non-Porous Surfaces in Footbaths: To remove body oils, dead tissue, soil and all other buildups or organic matter on inanimate surfaces after using the footbath, drain the water and thoroughly clean all hard, non-porous surfaces with soap or detergent, then rinse with water. Saturate surfaces with a use solution of 6 ounces per gallon of water (or equivalent use dilution) (732 ppm active quat) to exposed surfaces with a cloth, mop, sponge or sprayer. Brush or swab thoroughly and allow solution to stand for 10 minutes. For spray applications, use a

coarse spray device. Do not breathe spray. After the unit has been thoroughly disinfected, rinse all cleaned surfaces with fresh water. Do not use equipment until treatment has been absorbed, set or dried.

SANITIZER DIRECTIONS FOR NON-FOOD CONTACT SURFACES IN BARBER/SALON FACILITIES

SALON/BARBER INSTRUMENTS AND TOOLS SANITIZER DIRECTIONS: Pre-clean soiled instruments and tools. Completely immerse water safe non-porous instruments and tools in a solution of 6 ounces per gallon (or equivalent use dilution) (732 ppm active quat) of water for at least 60 seconds. Rinse thoroughly and dry before use. Prepare a fresh solution at least daily or more often if solution becomes cloudy or soiled.

NOTE: Plastics may remain immersed until ready to use. Stainless steel shears and instruments must be removed after 10 minutes, rinsed, dried, and kept in a clean non-contaminated receptacle. Prolonged soaking may cause damage to metal instruments.

RESTROOM/BATHROOM

NON-ACID TOILET BOWL (AND URINAL) DISINFECTION/CLEANER DIRECTIONS
Remove gross filth prior to disinfection.

From Concentrate: Add 4 ounces to the toilet bowl and mix. Brush thoroughly over exposed surfaces and under the rim, with a cloth, mop or sponge. Repeat and allow solution to stand for 10 minutes and flush.

From Use Solution: Empty toilet bowl or urinal and apply 4 ounces per gallon of water use solution to exposed surfaces including under the rim with a cloth, mop, sponge or sprayer. Brush or swab thoroughly and allow solution to stand for 10 minutes and flush. For sprayer applications use a coarse spray device.

(OR)

To disinfect toilet bowls, flush toilet, add 4 oz. detergent/disinfectant directly to the bowl water. Swab the bowl completely using a scrub brush or toilet mop making sure to get under the rim. Let stand for 10 minutes and flush.

For Heavy Duty Cleaning: Empty toilet bowl or urinal and apply 8 ounces per gallon of water use solution to exposed surfaces including under the rim with a cloth, mop, sponge or sprayer. Brush or swab thoroughly and allow solution to stand for 10 minutes and flush.

(OR)

To disinfect toilet bowls, flush toilet, add 4 oz. detergent/disinfectant directly to the bowl water. Swab the bowl completely using a scrub brush or toilet mop making sure to get under the rim. Let stand for 10 minutes and flush.

(Or)

General Cleaning Toilet Bowl: Apply (Open cap) (Squeeze gently, directing) 4 ounces of bowl cleaner under the rim and on sides of bowl (inside only). Brush, clean and flush toilet. (Close cap). Rinse brush with clean water. Do not use on any other surfaces including toilet seat, toilet lid, countertops, tubs and sinks. To clean other acid resistant toilet bowls or urinals, dilute product with 3 parts water. Do not allow solution to remain on surfaces without immediately rinsing thoroughly with water.

(Or)

To Clean and Disinfect: ~~Flush toilet and use toilet mop to push water from the bowl over the trap.~~ Fill toilet bowl with clean water. Saturate mop with 4 ounces of this product while holding bottle and mop applicator over bowl. Swab bowl completely

making sure to get under the rim. Let stand for 10 minutes then flush. Rinse applicator completely.

(Or)

To Disinfect Toilet Bowls: ~~Remove water from bowl.~~ Fill toilet bowl with clean water. Apply (Squeeze) 4 ounces of bowl cleaner onto bowl brush. Clean the entire unit especially under the rim at water outlets. Allow surface to remain wet 10 minutes. Flush and rinse out bowl brush with clean water. A preliminary cleaning step is required for the removal of heavy soil prior to disinfection.

(Or)

To Disinfectant Toilet Bowls: Flush to remove heavy soil. To clean, simply squirt 4 ounces of this product under the rim and around sides. Allow it to stand several minutes then scrub entire surface (especially under the rim) with a bowl (toilet) mop. Flush and rinse. To disinfect, ~~use toilet (bowl) mop to push water from the bowl over the trap.~~ Fill toilet bowl with clean water. Squirt at least 4 ounces of this product under the rim and around the sides. Allow solution to remain in the bowl for 10 minutes after scrubbing. Flush and rinse.

(Or)

To Disinfectant Toilet Bowls:

1. Remove gross filth and heavy soil deposits.
2. ~~With swab applicator, remove water from bowl by forcing water over the trap.~~
3. Fill toilet bowl with clean water.
4. Apply 4 ounces of this product to swab applicator, cloth, mop, sponge, or directly to surface.
5. Swab entire surface area, especially under the rim.
6. Allow entire surface to remain wet for ten (10) minutes.
7. Flush toilet and rinse swab applicator thoroughly.

(Or)

TOILET BOWL (AND URINAL) DISINFECTION/CLEANER DIRECTIONS: Remove gross filth prior to disinfection. Empty toilet bowl or urinal and apply solution of 4 ounces of this product to exposed surfaces including under the rim. Allow toilet bowl to fill with water. Brush or swab thoroughly with a cloth, mop, sponge or sprayer and allow solution to stand for 10 minutes and flush.

(Or)

To Clean and Disinfect Urinals: Flush to remove heavy soil. Remove screens and strainers. Then squirt 4 ounces of this product per gallon of water around edges and top. Allow solution to flow down over surfaces. Allow it to stand several minutes before scrubbing, then flush and rinse. To disinfect, allow solution to remain in urinal at least 10 minutes after scrubbing.

(Or)

To Disinfect Urinal:

1. Remove gross filth and heavy soil deposits.
2. Apply 4 ounces of this product per gallon of water directly to urinal surfaces including water outlets area for general cleaning.
3. Then pour an additional 4 ounces of product on applicator.
4. Clean entire unit, especially under rim at water outlets, with applicator.
5. Remove screen trap to deodorize drain and apply 4 ounces directly on edge and into drain.
6. Wait 10 minutes, flush and rinse applicator.

To Disinfect Tubs, Shower Stalls, Sinks, Faucets: Swab area and remove gross filth and heavy soil. Apply 4 ounces of (product name) per gallon of water (488 ppm active quat) (or equivalent use dilution) onto surface to be cleaned or apply with cloth or sponge to wet all surfaces thoroughly and allow surface to remain wet for at least 10

minutes. Wipe around with damp cloth or sponge. Do not allow solution to dry on surface. Rinse thoroughly with water.

For Use To Clean and Disinfect Shower Rooms, Locker Rooms and Other Large Open Areas with Floor Drains:

1. Pre-clean heavily soiled areas.
2. Apply Use Solution of 4 ounces per gallon of water (488 ppm quat active) (or equivalent use dilution) to floors, walls and ceilings making sure not to over spray. To disinfect, all surfaces must remain wet for 10 minutes.
Special instructions for foam guns: Pour concentrate into foam gun bottle and attach to spray nozzle and ensure gun is attached to hose. **Note:** See foam gun instructions for more information. Make sure setting is set for 1:32 dilution. Once in place, squeeze the handle to dispense foam solution. To disinfect, all surfaces must remain wet for ten (10) minutes. *(Foam gun directions not for use in California.)*
3. Scrub using deck brush or other coarse material as necessary.
4. Rinse surfaces thoroughly and let air dry.

RV Holding Tanks/Recreational Vehicles: For toilet waste and holding tanks, cover bottom of holding tank with water and 2 – 8 ounces per gallon of water to deodorize. If doors return before time to empty, add 2 – 4 ounces per gallon of water to the tank. For kitchen waste, add 2 to 4 ounces to gray water tank as needed to control malodors created by dirty dishwasher.

FUNGICIDAL/DEODORIZATION / MOLD & MILDEW

Fungicidal Performance:

Aspergillus niger (ATCC 6275)

Trichophyton mentagrophytes (ATCC 9533)

Fungicidal Performance: At 4 ounces per gallon use-level, (or equivalent use dilution) (488 ppm active quat) this product is effective against *Trichophyton mentagrophytes* (athlete's foot fungus) (a cause of Ringworm) (a cause of Ringworm of the foot) and *Aspergillus niger* on inanimate surfaces in locker rooms, dressing rooms, shower and bath areas and exercise facilities. Pre-clean all surfaces prior to using this product. Saturate surfaces with use solution for a period of 10 minutes. Allow solution to dry on surface and repeat treatment every seven days or when new growth appears.

(OR)

At this level the product is also fungicidal against the pathogenic fungi, *Trichophyton mentagrophytes* in areas such as locker rooms, dressing rooms, shower and bath areas and exercise facilities.

DEWSTAT: Controls the growth of mold and mildew on pre-cleaned hard, non-porous surfaces (such as floors, walls, table tops) add 4 oz. of this product per gallon of water (488 ppm active quat) (or equivalent use dilution). Apply solution with a cloth, mop or sponge making sure to wet all surfaces completely. Let surface air dry. Prepare a fresh solution for each use. (Prepare a fresh solution at least daily or when use solution becomes visibly dirty.) Repeat application at weekly intervals or when mildew growth reappears.

(OR)

Mold and Mildew Control: At 4 ounces per gallon (or equivalent use dilution) (488 ppm active quat), this product will effectively inhibit and control the growth of mold and mildew and the odors caused by them when applied to hard, non-porous surfaces (as indicated in general instructions above). Saturate surfaces with use solution for a period of 10 minutes. Allow solution to dry on surface and repeat treatment every seven days or when new growth appears.

Cleaning/Deodorizing Directions: Add 4 to 8 ounces per gallon of water (or equivalent use dilution) to clean and deodorize windows, mirrors and glass surfaces. Use a coarse spray device. Spray 6-8 inches from surface. Rub with sponge or cloth. Do not breathe spray. Wipe excess solution or allow to air dry. Prepare a fresh solution at least daily or when use solution becomes visibly dirty.

(OR)

To clean and deodorize: Add 4 oz. per gallon of water (or equivalent use dilution). Swab with cloth or mop so as to thoroughly wet surfaces. Wipe excess solution or allow to air dry. Prepare a fresh solution at least daily or when use solution becomes visibly dirty.

General Deodorization: To deodorize, add 4 ounces of this product to one gallon of water (or equivalent use dilution) (488 ppm active quat). Excess liquid material must be wiped up or allowed to air dry.

For Deodorizing Garbage Cans, Garbage Trucks, Industrial Waste Receptacles and Garbage Handling Equipment: It is especially important to pre-clean for the product to perform properly. Then, apply a wetting concentration of 20 ounces of this product per gallon of water (or equivalent use dilution) (2,440 ppm quat active).

For Deodorizing Septic Storage Tanks: When tanks are empty, pour 4 oz. per gallon of water (488 ppm active quat) (or equivalent use dilution) into septic storage tank on recreational vehicles, campers and boats to control the bacteria that can cause odors. As tank fills with sewage and the vehicle is moving, this solution will mix and provide an adequate deodorizing solution for this use. This product is to be used on gray and black water tanks only. Check with local, state, or federal authorities before disposing of sewage in accordance to federal, state and local regulations for waste disposal.

Air Freshener/Automotive Uses: Effective on smoking and cooking odors (garlic, fish, onions, etc.). Automobile odors from tobacco, musty carpet smell, and beverage smells will be eliminated. A solution of 4 ounces of this product per gallon of water (or equivalent use dilution) (488 ppm active quat) will effectively neutralize damp musty odors caused by mildew in storage areas, basements, closets, bathrooms and A/C filters. Spray or apply onto seats, carpets, headliner and ashtray or into trunk and all vents to eliminate odors from tobacco, beverage spills and musty carpet. For sprayer applications, use a coarse spray device. Allow surfaces to air dry.

For Odors Caused by Dogs, Cats and Other Domestic Animals: Use on rugs, floors, walls, tile, cages, crates, litter boxes, mats, floor coverings, or any surface soiled by a pet. Test a small inconspicuous area first. Blot problem area. Then follow directions for "General Deodorization".

To Control the Growth of Mold and Mildew on Large Inflatable Non-Porous Plastic and Rubber Structures (animals, promotional items, moonwalks, slides, obstacle course play and exercise equipment): Thoroughly clean all surfaces with soap or detergent (or this product) and rinse with water. Saturate surfaces with a use solution of 4 ounces per gallon (488 ppm active quat) of water (or equivalent dilution) for a period of 10 minutes. Ventilate buildings and other closed spaces. Do not use equipment until treatment has been absorbed, set or dried.

For Disinfection and To Control the Growth of Mold and Mildew on Non-Porous Athletic Equipment (wrestling and gymnastic mats, athletic training tables, physical therapy tables, athletic helmets, wrestling/boxing headgear, athletic shoe soles): Thoroughly clean all surfaces with soap or detergent and rinse with water. Saturate surfaces with a use solution of 4 ounces per gallon (488 ppm active quat) of water (or

equivalent dilution) for a period of 10 minutes. Ventilate buildings and other closed spaces. Do not use equipment until treatment has been absorbed, set or dried.

Humidifier Directions: Thoroughly clean water tank and filters. Add 6 ounces of this product per gallon of refill water (or equivalent use dilution). Not for use in heat or atomizing type humidifiers.

(OR)

Humidifier Bacteria/Algae Treatment: Formulated for use in portable humidifiers. Thoroughly clean water tank and filters before each heating season, or sooner if necessary. For every 4 gallons of water in the humidifier tank add 2.64 ounces of this product (or equivalent use dilution). When you refill the tank, add 2.64 ounces of this product for every 4 gallons of water in the tank (or equivalent use dilution).

Not for use in heat vaporizing or atomizing type humidifiers.

WATER AND SMOKE DAMAGE RESTORATION (Not applicable in CA)

Effective against odor causing bacteria and fungi for home, institutional, industrial and hospital use. This product is particularly suitable for use in water damage restoration situations against odor causing bacteria on the following porous and semi-porous materials: carpets, carpet cushion, sub floors, drywall, trim and frame lumber, tackless strip and paneling. Using solutions recommended, saturate affected materials with enough product to remain wet for at least 10 minutes. Use proper ventilation.

Sewer backup & river flooding (Not applicable in CA): During mitigation procedures, dilute 6 to 12 ounces of this product per gallon of water (or equivalent use dilution) allowing for the diluting effect of absorbed water within saturated materials. Remove gross filth or heavy soil along with non-salvageable materials. Saturate all affected areas with a sprayer using a coarse spray tip, before and after cleaning and extraction.

Carpets, carpet cushions and other porous materials such as sub floors, drywall, trim and frame lumber, tackless strip and paneling (Not applicable in CA): For water damage from a clean water source, extract excess water. Test hidden area for colorfastness. Dilute 6 to 12 ounces of the product per gallon of water (or equivalent use dilution), allowing for the diluting effect of absorbed water within saturated materials. Remove gross filth or heavy soil. Apply directly with a sprayer using a coarse spray tip, to fully saturate affected materials. Roll, brush or agitate into materials and allow the materials to remain damp for 10 minutes. Follow with a thorough extraction. Dry rapidly and thoroughly.

Special Instructions for Cleaning Carpet Against Odor Causing Bacteria (Not applicable in CA): This product may be used in industrial, institutional, commercial and residential areas such as homes, motels & hotel chains, nursing homes, schools and hospital(s). For use on wet, cleanable synthetic fibers. Do not use on wool. Vacuum carpet thoroughly prior to cleaning. Test fabric for color fastness.

For Portable Extraction Units: Mix 3 ounces of this product per gallon of water.

For Truck Mounted Extraction Machines: Mix 104 ounces of the product per 1½ gallons of water (or equivalent use dilution) and meter at 4 gallons per hour.

For Rotary Floor Machines: Mix 6 ounces of this product per gallon of water (or equivalent use dilution) and apply at the rate of 300-500 sq. ft. per gallon.

Do not mix this product with other cleaning products. Follow the cleaning procedures specified by the manufacturer of the cleaning equipment. After using this product, set the carpet pile and protect the carpet from furniture legs and bases while drying. Do not over wet. If applied to stain resistant nylon carpet, apply a fabric protector according to the carpet manufacturer's directions.

CARPET DEODORIZATION AGAINST ODOR-CAUSING BACTERIA, FOR HOME, INSTITUTIONAL, INDUSTRIAL AND HOSPITAL USE

(Use as Sanitizer is not for use in California)

This product cleans and deodorizes the carpet by controlling/reducing the growth of odor-causing bacteria. It can be used in industrial, institutional, commercial and residential areas such as homes, motels, hotels chains, nursing homes and hospitals.

Vacuum carpet thoroughly prior to application. Mix 3 ounces of product per gallon of water (or equivalent use dilution). Follow the injection and/or extraction procedures as specified for any conventional steam cleaning equipment you are using. For rotary floor machines, mix 1 ounce per gallon of water and spray on carpet at a rate of 300-500 sq. ft. per gallon.

For use (Use this product) on washable synthetic fibers. Do not use on wool. Test color fastness of carpet before use. Apply diluted product to a small, concealed spot, then rub with a clean white cloth. If color changes or transfers to (the) cloth, a water-based product should not be used.

After using the product, set carpet pile in one direction with a stiff brush. Place aluminum foil under the legs of furniture while carpet is drying. Over-wetting can cause carpet to shrink. Manufacturer assumes no responsibility for over-wetting misuse.

Note: This product must not be mixed with other cleaning products.

Smoke Damage Restoration (Not applicable in CA): Effective against odor causing bacteria and fungi for home, institutional, industrial and hospital use. This product is particularly suitable for use in smoke damage restoration situations against odor causing bacteria on the following porous and semi-porous materials: carpets, carpet cushion, sub floors, drywall, trim and frame lumber, tackless strip and paneling. Follow directions as outlined in the Water Damage Restoration section. Using solutions recommended, saturate affected materials with enough product to remain wet for at least 10 minutes. Use proper ventilation.

HORTICULTURAL AND ORNAMENTAL PLANTS

It is a violation of Federal Law to use this product in a manner inconsistent with its label. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

COMMERCIAL FLORIST USE DIRECTIONS: To clean, disinfect and deodorize hard, non-porous surfaces in one step, prepare use solution by adding (mixing) 4 ounces per gallon of water (1:32) (or equivalent use dilution). For heavy-duty cleaning, add (mix) 16 ounces per gallon of water (1:8) (or equivalent use dilution).

Remove all leaves, petals, garbage and refuse. Pre-clean surfaces using pressurized water where possible. Apply use solution to hard (inanimate) non-porous surfaces thoroughly wetting surfaces as recommended and required, with a cloth, mop, brush, sponge or sprayer.

For heavily soiled areas, a preliminary cleaning is required.

For sprayer applications, use a coarse pump or trigger sprayer. Spray 6-8 inches from surface. Rub with brush, sponge or cloth. Do not breathe spray.

Treated surfaces must remain wet for 10 minutes. Allow surface to air dry.

Prepare a fresh solution at least daily or sooner if use solution becomes visibly dirty.

This product is a general disinfectant. It will help in the control of fungal, bacterial and viral plant pathogens, bacterial and fungal leaf rots, slime forming fungi, and odor causing bacteria and algae. It is designed specifically for use where disease and cross contamination may occur between plants. Pre-clean all surfaces prior to application of the disinfectant solution. All inanimate surfaces must be thoroughly wetted and remain wet for 10 minutes for disinfection. Then wipe up excess or allow to air dry. Fresh solution must be prepared at least daily or when use solution becomes visibly dirty. To apply solution for sprayer applications, use as a coarse spray only.

Agriculture Use Requirements:

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40CFR170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE). The requirements in this section (box) only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water is: coveralls worn over long sleeved shirt and long pants, waterproof gloves, chemical-resistant shoes plus socks, and protective eyewear.

Non-Agricultural Use Requirements:

The requirements in this section (box) apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40CFR170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Keep unprotected persons, children, pets and others out of treated areas until sprays have dried.

CHEMIGATION: Do not apply this product through any type of irrigation system except when used to control algae in nozzles as directed on this label.

GENERAL INFORMATION: This product is a general disinfectant. It will help in the control of fungal, bacterial and viral plant pathogens, bacterial and fungal leaf rots, slime forming fungi, and odor causing bacteria and algae. It is designed specifically for greenhouse use where cross contamination may occur between plants. Pre-clean all surfaces prior to application of the disinfectant solution. All inanimate surfaces must be thoroughly wetted and remain wet for 10 minutes for disinfection. Then wipe up excess or allow to air dry. Fresh solution must be prepared at least daily or when use solution becomes visibly dirty. To apply solutions for sprayer applications, use as a coarse spray only.

DISINFECTING

Work Areas and Benches: Spray or swab working surface with a solution of 4 oz. of this product per gallon of water (or equivalent use dilution) for 10 minutes before each work period and again after each plant is completed to help control transfer of diseases such as *Botrytis*, crown rot, downy mildew, *Erwinia*, *Phalaenopsis* and root rot. To apply solutions for sprayer applications, use as a coarse spray only.

Pots, Flats and Flower Buckets: Brush or wash used pots and flats, then soak in a solution of 4 oz. of this product per gallon of water (or equivalent use dilution) for 10

minutes to help control transfer of diseases such as anthracnose, blight, *Botrytis*, crown rot, *Erwinia*, mildew, *Phalaenopsis*, root rot, and rust.

Cutting Tools: Soak cutting edge of tool for 10 minutes in a solution of 4 oz. of this product per gallon of water (or equivalent use dilution) before use to help control transfer of diseases such as *Botrytis*, *Erwinia*, *Phalaenopsis*, root and stem rots, and Tobacco Mosaic Virus (TMV). Dry and oil tools at the end of each workday.

ALGAE CONTROL

When used as directed, this product is effective against algae. With a little experience, you will quickly recognize algae contamination as it starts. Algae should be killed immediately! Remember – algae can double or quadruple in growth every day. Algae are generally dead when it does not feel slick to the touch and the color has changed. However, algae do not always change color when killed.

Greenhouse Glass: Spray or swab surface with a solution of 4 oz of this product per gallon of water (or equivalent use dilution). Allow to air dry. Wash off dead algae with water. Spray clean surface again with the solution. Do not rinse. To apply solution for sprayer application, use as a coarse spray only.

House Plants: To control algae and cross contamination in terrariums, bubbles, etc., wipe inside of glass with a solution of 1 oz. of this product per quart of water (or equivalent use dilution). Lightly spray plants with same solution.

Walkways: For heavy infestations, spray or swab surface with a solution of 4 oz. of this product per gallon of water (or equivalent use dilution). Let stand for an hour or more then brush and wash away dead algae. Soak area again with the solution. Do not rinse. This product will inhibit the growth of algae on walkways. Allow solution to dry on the surface and repeat application when algae growth returns. To apply solutions for sprayer applications, use as a coarse spray only.

OTHER USES

Overhead Watering Systems: During the last 2-3 minutes of watering use 8 oz. of this product per 20 gallons of water as a control program. Due to variations of growing conditions, use every second to fourth watering. Will control algae in nozzles.

Evaporative Cooler: Controls algae, slime forming fungi on cooler pads and certain fungal plant pathogens that may carry over in the cooler as well as bacterial odors. Use 4 ounces of this product per 15 gallons of water every other week.

NOTE: Unintentional consequences such as crop injury or ineffectiveness may result because of certain environmental or growing conditions, manner of use or applications, and insect resistance. Therefore, before treating a large number of plants, spray a few plants and observe for plant damage and for performance prior to full-scale application. All risks shall be assumed by the user.

OTHER USES

Disinfection of Hard, Non-Porous Surfaces in Whirlpool (Foot Spa) Units: After using the whirlpool unit, drain and refill with fresh water to just cover the intake valve. Add 4 ounces of this product for each gallon of (or equivalent use dilution) (488 ppm active quat) water at this point. Briefly start the pump to circulate the solution. Turn off the pump. Wash down the unit sides, seat of the chair, lift and any/all related equipment with a clean swab, brush or sponge. Treated surfaces must remain wet for 10 minutes. After the unit has been thoroughly disinfected, drain the solution from the unit and rinse any/all cleaned surfaces with fresh water. Repeat for heavy soiled units.

Waterbed Conditioner: When used as a waterbed conditioner, controls the growth of odor-causing and slime-forming bacteria. Prevents bubbles, preserves plasticizers, conditions vinyl interior, sequesters minerals.

If bed has not been treated properly, drain bed completely. Add 15 gallons of water, mix vigorously, drain bed again. Fill bed with water and follow dosage directions.

Dosage: To control growth of odor-causing and slime-forming bacteria, add 26.4 fluid ounces in a free flow waterbed of 90 to 180 gallon capacity. Add 88 fluid ounces in a waveless/fiber waterbed mattress of 90 to 180 gallon capacity. Repeat application every 4 to 6 months.

Cleansing of Body Surfaces and Body Orifices of Human Remains: To cleanse away skin secretions and accompanying malodor, to insure the removal of all soil and bloodstains, apply 4 ounces of this product to 1 gallon of water (or equivalent use dilution) (488 ppm active) to the surfaces and body openings, natural or artificial. Allow a 10-minute contact time for optimal results. Bathe the entire body using sponge or washcloth. A soft brush may be employed on surfaces other than the face. Prepare a fresh solution for application of each remains.

Use on Finished Floors: To limit gloss reduction, use 4 ounces of this product per gallon of water (or equivalent use dilution). Apply with a damp mop or auto scrubber. Allow surface to air dry.

Artificial Turf Surfaces: This product may be used on indoor and outdoor artificial turf surfaces such as athletic game fields and practice fields (i.e. football, soccer, baseball, lacrosse, golf). Prepare a 4 oz of this product per 1 gallon of water solution (488 ppm active quat) (or equivalent use dilution). Apply to turf surfaces with a portable tank sprayer or handheld pressure sprayer. Saturate turf surface with enough product to remain wet for at least 10 minutes. Do not use field for a minimum of 30 minutes or when surface has completely dried. One (1) gallon of diluted product will treat 400-600 sq ft of turf surface.

DIRECTIONS FOR HOUSEHOLD USE

Kitchen/Bathroom/Household Cleaning: Apply 4 oz per gallon of water (488 ppm active) (or equivalent use dilution) solution with a cloth, sponge, mop or directly on surface with a mechanical spray. If a mechanical spray is used spray must be coarse. Hold container 6 inches to 8 inches from surface and spray until thoroughly wet. Do not use on paint or acrylic plastics. Wipe the soiled area clean. This product is not to be used on dishware, glasses or eating utensils.

Infect/Deodorize: To disinfect hard, non-porous surfaces such as floors, walls, counters, sinks, tubs, toilets, glazed tile, exterior surfaces of appliances, refrigerators or freezers, microwave exteriors, stove tops and hoods, tables, garbage pails, faucets, apply 4 oz per gallon of water (488 ppm active) (or equivalent use dilution) with cloth, sponge, mop or mechanical spray. If a mechanical spray is used, spray must be coarse. Hold container 6 inches to 8 inches from surface and spray until thoroughly wet. Treated surface must remain wet for 10 minutes before wiping. For heavily soiled areas a pre-cleaning step is required. The pre-clean step must be done according to the instructions under Restroom/Bathroom. Rinse with potable water after use on surfaces that come in contact with food.

SANITIZER DIRECTIONS FOR NON-FOOD CONTACT SURFACES

Sanitization of Hard, Non-Porous Surfaces in Whirlpool Units: After using the whirlpool unit, drain and refill with fresh water to just cover the intake valve. Add 6 ounces of this product for each gallon of (or equivalent use dilution) (732 ppm active quat) water at this point: Briefly start the pump to circulate the solution. Turn off the pump. Wash down the unit sides, seat of the chair, lift and any/all related equipment with a clean swab, brush or sponge. Treated surfaces must remain wet for 60 seconds. After the unit has been thoroughly sanitized, drain the solution from the unit and rinse any/all cleaned surfaces with fresh water. Repeat for heavy soiled units.

SANITIZATION OF EXTERIOR HOUSEHOLD SURFACES DIRECTIONS

Preparation of Use Solution: Add 6 ounces per gallon of water (732 ppm active) (or equivalent use dilution) to sanitize hard, non-porous exterior surfaces such as vinyl, plastic, sealed concrete, painted or sealed woodwork, and sealed stucco.

Application: Apply solution with a mop, cloth, sponge, hand pump trigger sprayer, or with a low pressure (less than 60 psi) airless sprayer so as to wet all surfaces thoroughly. Treated surfaces must remain wet for 5 minutes. Wearing suitable respiratory protective equipment, avoid exposure to spray (mist), pressure wash solution, or clean air treated areas using a high pressure spray.

DIRECTIONS FOR ALTERNATE CONTAINERS

BAG-IN BOX CONTAINERS

How to use this package: This package is designed to be used with dilution control systems only. Open package and connect to dispense according to directions on the box.

Trigger sprayers: Fill bottle from dispenser. Apply to surfaces according to directions above.

Mop Buckets: Fill bucket from dispenser. Set up "Wet Floor" signs. Mop floor surfaces as specified in directions above.

PACKETS (For pre-measured tear open packets)

(Note: For Food Contact Sanitizer packet only) (Simply) (Tear) open and pour contents into 5 gallons of water. Keep packets in box until ready to use.

(Note: For Disinfection packet only) Pour contents of packet into 1 gallon of water. Keep packets in box until ready to use.

REFILLS

To Refill Concentrate From Large Containers Into Smaller Containers: This product may be used to fill and refill clean, properly labeled containers for dilution elsewhere within your facility. Make sure the small container has been cleaned, dried and properly labeled according to state and local regulations. Also make sure other items (funnels or hand pumps) are properly cleaned and dried. To refill, simply pour (or pump product) from the larger container directly into the smaller one being careful not to spill any product. Keep both containers sealed when not in use.