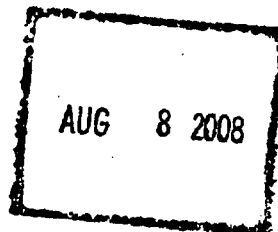


Ms. Elizabeth Tannehill
Mason Chemical Company
721 W. Algonquin Road
Arlington Heights, IL 60005



Subject: Maquat 20-M
EPA Registration No.: 10324-94
Amendment Date: March 19, 2008
EPA Receipt Date: March 28, 2008

Dear Ms. Tannehill,

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
-

Acceptable Data

Correct your data matrix to indicate the correct MRIDs: Porcine Rotavirus: 45171410 and Porcine Respiratory and Reproductive Syndrome: 45171409. The following efficacy data was submitting in support of 10324-63. The data may also be referenced to support 10324-94.

| Data Requirement | Means of Support | Status |
|---|---------------------------------|--|
| Community Associated Methicillin Resistant <i>Staphylococcus aureus</i> | Submitted study, MRID 473868-01 | Acceptable, 625 ppm active in 5% soil for 10 minutes |
| Avian Influenza A (H5N1) virus | Submitted study, MRID 473868-02 | Acceptable, 625 ppm active in 5% soil for 10 minutes |
| Human Immunodeficiency Virus type 1 | Submitted study, MRID 473868-03 | Acceptable, 625 ppm active in 5% soil for 2 minutes |

CONCURRENCES

| SYMBOL | | | | | | | |
|---------|--|--|--|--|--|--|--|
| SURNAME | | | | | | | |
| DATE | | | | | | | |

Conditions

Revise the label as follows:

1) Delete the following organism from the "Food Contact Sanitizing Performance" section on pages three and twelve: *Clostridium perfringens*-vegetative. The Agency is not longer accepting claims of effectiveness against the vegetative form of this organism. If you would like to add such a claim, you must provide data showing effectiveness against the spore form of *Clostridium perfringens*.

2) Delete *Aspergillus Niger* from pages three and twenty as you have not cited data to support a fungicidal claim against this organism.

3) Delete the reference to treatment of the following surfaces on page three, right column. Your label does not include appropriate directions for these uses and there are concerns as these are surfaces which could contact food. Delete: well houses, grain elevators, grain bins, silos, bins, tractors, combines, harvesting equipment, and wagons.

4) Delete the reference to treatment of artificial turf from page four as well as the directions associated with this use on page twenty two. The Agency is not accepting claims for disinfection of artificial turf at this time. It is believed that a more thorough evaluation of the post application exposure, environmental concerns, and efficacy considerations must be addressed prior to accepting this claim. Any Registrants with product labels currently in the market place with such a claim with be notified and asked to remove the claim pending a complete review associated with this use.

5) 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. The Agency interprets treatment by immersion tank as quite different from treatment by immersion, typically in a small sink.

6) Delete the claim for "Hospital Pharmacy Compounding" on page five, right column in the section beginning "This product is a disinfectant and non-food contact sanitizer for Hospital Pharmacy Compounding..." This section is not descriptive enough to prohibit the use of this product on surfaces that contact drugs. If you would like to revise this section in the future to include this claim, you must include language that assures that surfaces which contact drugs are not being treated with the disinfectant/non-food contact sanitizer. The Agency does not 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. In addition, please revise to read as follows: "...BioSafety Cabinet work surfaces including countertops, sinks, plumbing fixture surfaces and *exterior surfaces* of incubators, refrigerators and Centrifuge surfaces..."

7) Revise the tenth statement in the right column of page seven. This claim refers to the use of this product as a food contact sanitizer in which case a potable water rinse is not allowed. Delete the reference to a potable water rinse from this section.

8) Revise the "For Use as a Cleaner/Disinfectant in Food Processing Plants" on page ten to indicate the dilution rate of 1.5 ounces of this product per 5 gallons of water.

10) Revise the directions for "Wisconsin State Division of Health Directions for Eating Establishments (closed loop centers)" on page thirteen to be in agreement with closed loop dilution. Delete the phrase in #4: "(or equivalent use dilution)" as this is not appropriate for a closed loop system.

11) Revise the "Sanitizing of Food Processing Equipment (Ice Machines) and Other Hard Surfaces in Food Contact Locations" on page thirteen 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 #2 which indicates that a rinse is to take place prior to the application of the sanitizer.

12) Revise the Directions for "Food Processing Equipment and Dairies" page fourteen, by including the following statements to bring these sections in to agreement with other Mason labels and Agency labeling guidance: *"Apply solution 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 6-8 inches from surface. Rub with brush, sponge, or cloth. Do not breathe spray. With spray applications, cover or remove all food products. Prepare a fresh solution at least daily or when use solution becomes visibly dirty. For mechanical operation, use solution may not be reused for sanitizing applications. No potable water rinse is allowed after application of the sanitizing solution."*

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

A. Correct the directions "For Use as a Non-Acid Bowl Cleaner/Disinfectant in Toilet Bowls (and Urinals) from Use Dilution". Delete the phrase in item #2: "Allow the bowl to refill with water" and simply state: Apply Use Dilution to exposed surfaces..." If the bowl is allowed to fill with water, the product will be diluted twice and will be ineffective.

B. Correct the directions "Toilet Bowls/Urinals". Delete the phrase: "Allow the bowl to refill with water" and simply state: "Pour in 0.6 oz of the use dilution..." If the bowl is allowed to fill with water, the product will be diluted twice and will be ineffective.

14) Correct the use dilution in the "For Use to Clean and Disinfect Shower Rooms, Locker Rooms and other large, open areas with Floor Drains" section on page twenty by indicating the correct dilution rate. This section indicates a dilution rate of **1:160**, not 1:213.

15) Revise your directions for "RV Holding Tanks/Recreational Vehicles" to be in agreement with other Mason labels (10324-96). Correct the rate in this section to read: "with water and **0.15 to 0.62** ounces per 1 gallons of water..." and "If odors return before time to empty, add **0.15 to 0.31** ounces per 1 gallons..." and "For kitchen waste, add **0.15 to 0.31** ounces per 1 gallons..."

16) On page twenty two, you have included the use: "Dairy Cow Application Directions" for use on udders and flanks of cows. Approval of this use must be obtained from the Food and Drug Administration (FDA) since this use is considered an animal drug. Delete this use until such time as you are able to supply the Agency with an FDA approval.

17) Revise the "Sanitization of Exterior Household Surfaces" directions on page twenty two. Delete the reference to the treatment of **turf**, which is not an exterior household surface and indicate that the user must wear protective eyewear as well as respiratory protective equipment.

18) Immediately followings the heading "Water Treatment Directions for Use" delete the statement "It is a violation of Federal Law to use this product in a manner inconsistent with its labeling." This is repetitive information and must only appear after the Directions for Use heading on page eight.

19) Since the Industrial Water Treatment section includes the use of this product in quantities of 1-2 gallons, these directions for use must only appear on containers of 5 gallons or greater. Place the statement: "[for use only on containers of 5 gallons or more]" in this section.

20) Revise the Industrial and/or Commercial Recirculating Cooling Water Towers and Recirculating Cooling Water Systems directions on page twenty three by including mandatory language as per PR Notice 2000-5 by replacing the word should in five instances.

- A. Dosing Condition: "This product *must* be applied..."
- B. Intermitten or Slug Method: "The dose *must* be poured..."
- C. Subsequent Dose: "The dose *must* be poured..."
- D. Modified Intermitten Method: "The dose *must* be poured..."
- E. Subsequent Dose: "The dose *must* be poured..."

21) Correct the ppm rate in the "Bacterial, Fungal and Algae Control in Recirculating Auxiliary and Waste Water Systems and Pasteurizers" on page twenty three to read **20-40** ppm.

22) Make the following two corrections to the Swimming Pool section on page twenty three.

- A. Delete the following text from the Maintenance Application section as these test kits are not available to homeowners: "or as needed to maintain 0.5 ppm active. Quaternary Test Kits are available for this use."
- B. Since the smallest container in which the product would be marketed is 1 quart, revise the winterizing treatment as follows: "...add 12.8 ounces of this product to **10,000** gallons of water left in the pool..."

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.

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 Drusilla Copeland on (703) 308-6224 or Velma Noble on (703) 308-6233.

Sincerely,



for

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

Enclosure: Stamped Label



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. 10324-94

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

MAQUAT® 20-M

Net Contents:

Batch No:

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER. Keep Out of Reach of Children. Corrosive. Causes irreversible eye damage and skin burns. May be fatal if swallowed. Harmful if absorbed through the skin. Do not get into eyes, on skin or on clothing. Wear goggles or face shield and rubber gloves and protective clothing when handling. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove contaminated clothing and wash clothing before reuse.

(The following Worker Protection Standard (WPS) and Personal Protective Equipment (PPE) language is required for when this product label is designed for use in a commercial setting – these WPS and PPE language statements must be removed when the product is clearly sold and distributed for residential use)

PERSONAL PROTECTIVE EQUIPMENT: Applicators and other handlers must wear coveralls worn over long-sleeved shirt and long pants, waterproof gloves, chemical-resistant footwear and socks, protective eyewear, chemical-resistant headgear when using this product for algae control in overhead watering system and chemical-resistant apron when mixing, loading or cleaning equipment. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with the product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing. Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

(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, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product into sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

PHYSICAL OR CHEMICAL HAZARDS

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 by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

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 by other procedures approved by state and local authorities. In addition, plastic containers may be disposed of by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

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

STORAGE AND DISPOSAL

Store in original container in areas inaccessible to small children. Do not store on side. Avoid creasing or impacting of side walls. Do not reuse empty container. Wrap and discard in trash (or recycle). **PACKET DISPOSAL:** Do not reuse. Discard empty container and put in trash.

Disinfectant - Sanitizer - Deodorizer - Fungicide - Mildewstat - Virucide* - For Hospitals Nursing Home, Whirlpool, Home, Hotels & Motels, Waterbed Conditioner, 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. Greenhouse Disinfectant for Orchids & Ornamentals - For Use Against Fungal, Bacterial, Algal and Viral Plant Pathogens and Their Odors. Controls Algae and Algal Slime Growth in Industrial and/or Commercial Recirculating Cooling Water Towers and Once Through Fresh Water Cooling Systems.

Non-Acid Bathroom Cleaner

Athletic Surface Disinfectant.

Formulated for effective Poultry Sanitation.

Formulated for effective Swine Premise Sanitation.

Formulated for effective Mushroom Farm Sanitation.

Small Fly Ovicidal Treatment

Swimming Pool Algaecide

Disinfectant for use against fungal, bacterial, algal and viral plant pathogens and their odors.

Industrial Water Treatment.

ACCEPTED
with COMMENTS
in EPA Letter Dated:

AUG - 8 2008

Under the Federal Insecticide,
Fungicide, and Rodenticide Act as
amended, plant pathogens, and
registered under EPA Reg. No. 10324-94

ACTIVE INGREDIENTS:

| | |
|--|-------|
| Alkyl (C ₁₄ 60%, C ₁₆ 30%, C ₁₂ 5%, C ₁₈ 5%) | |
| dimethyl benzyl ammonium chloride | 10.0% |
| Alkyl (C ₁₂ 68%, C ₁₄ 32%) | |
| dimethyl ethylbenzyl ammonium chloride | 10.0% |

INERT INGREDIENTS: 80.0%

TOTAL: 100.0%

KEEP OUT OF REACH OF CHILDREN

DANGER PELIGRO

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

First Aid

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. **IF ON SKIN OR CLOTHING:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. **IF IN EYES:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice. **IF SWALLOWED:** Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person. **IF INHALED:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice. **NOTE TO PHYSICIAN:** Probable mucosal damage may contraindicate the use of gastric lavage.

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

Transportation Information

DOT Hazard Class: 8 Corrosive

DOT Proper Shipping Name: Disinfectant Liquid Corrosive (Quaternary Ammonium Compound), 8, UN1903, PGIII

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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 PERFORMANCE IN INSTITUTIONS (Hospitals, Dental Offices, Nursing Homes, and Other Health Care Institutions): 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:

Botrytis cinerea (ATCC 12481)
Burkholderia cepacia (ATCC 25416)
Campylobacter jejuni (ATCC 29428)
Corynebacterium ammoniagenes (ATCC 6871)
Escherichia coli 0157:H7 (ATCC 35150)
Enterococcus faecium (Vancomycin Resistant) (VRE)
Klebsiella pneumoniae (ATCC 13883)
Listeria monocytogenes (ATCC 984)
Proteus mirabilis
Pseudomonas aeruginosa (ATCC 15442)
Salmonella enterica (ATCC 10708)
Salmonella typhi (ATCC 6539)
Shigella sonnei (ATCC 9290)
Staphylococcus aureus (ATCC 6538)
Staphylococcus aureus (Methicillin resistant) (ATCC 33591)
Community Associated Methicillin Resistant Staphylococcus aureus (CA MRSA)
Yersinia enterocolitica (ATCC 23715)

GENERAL DISINFECTION PERFORMANCE IN NON-MEDICAL FACILITIES (Households, Schools, Restaurants, Food Services, Beverage and 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:

Campylobacter jejuni (ATCC 29428)
Escherichia coli 0157:H7 (ATCC 31250)
Listeria monocytogenes (ATCC 984)
Proteus mirabilis
Salmonella enterica (ATCC 10708)
Staphylococcus aureus (ATCC 6538)
Staphylococcus aureus (Methicillin resistant) (ATCC 33591)
Yersinia enterocolitica (ATCC 23715)

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 (H9N2/Turkey/Wisconsin virus) (ATCC VR-798)
Avian Influenza A (H5N1) virus
Hepatitis B Virus
Hepatitis C Virus
Herpes Simplex Type 1 virus (ATCC VR-260)
Herpes Simplex Type 2 virus (ATCC VR-734)
HIV-1
Human Coronavirus (ATCC VR-740)
Infectious Bronchitis Virus
Influenza A2/Japan Virus (ATCC VR-100)
Vaccinia 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 (H9N2/Turkey/Wisconsin virus) (ATCC VR-798)
Avian influenza A (H5N1) virus
Avian Reovirus (ATCC VR-2449)
Bovine Viral Diarrhea Virus (ATCC VR-534)
Canine Coronavirus (ATCC VR-809)
Canine Distemper Virus
Equine Arteritis virus (ATCC VR-796)
Infectious Bovine Rhinotracheitis virus (IBR)
Infectious Laryngotracheitis Virus
Newcastle disease virus
Porcine Respiratory & Reproductive Virus (PRRSV)
Porcine Rotavirus (ATCC VR-893)
Pseudorabies virus (ATCC VR-135)
Transmissible Gastroenteritis (TGE) Virus

NON-FOOD CONTACT SANITIZING PERFORMANCE: This product is an effective one-step sanitizer against the following:

Enterobacter aerogenes (ATCC 13048)
Staphylococcus aureus (ATCC 6538)

FOOD CONTACT SANITIZING PERFORMANCE: This product is effective in 500 ppm hard water (calculated as CaCO₃) according to the AOAC Germicidal and Detergent Sanitizing Action of Disinfectants test against the following bacteria:

Aeromonas hydrophila ATCC 23213)
Campylobacter jejuni (ATCC 29428)
Clostridium perfringens-vegetative (ATCC 13124)
Enterobacter sakazakii (ATCC 29544)
Enterococcus faecalis Vancomycin resistant (ATCC 5129)
Escherichia coli (ATCC 11229)
Escherichia coli O157:H7 (ATCC 43888)
Listeria monocytogenes (ATCC 984)
Salmonella typhi (ATCC 6539)
Shigella dysenteriae (ATCC 9361)
Staphylococcus aureus (ATCC 6538)
Streptococcus pyogenes (ATCC 12344)
Yersinia enterocolitica (ATCC 23715)

FUNGICIDAL PERFORMANCE: This product is highly effective against the following:

Aspergillus niger
Trichophyton mentagrophytes

FUNGICIDAL ACTIVITY: This product is effective against *Trichophyton mentagrophytes* (athlete's foot fungus) (a cause of Ringworm) on inanimate surfaces in the presence of 5% blood serum in locker rooms, dressing rooms, shower and bath areas and exercise facilities.

MARKETING CLAIMS

Maquat 20-M for use in:

- Hospitals, nursing homes, medical and dental offices and clinics, healthcare facilities physician offices, operating rooms, radiology rooms, isolation wards, hospices, and medical research facilities.
- 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, kitchens, 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 parlors, liquor stores.

- Crime scenes and funeral homes, morgues, 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, shower and bath areas.
- Hotel, motels, dormitories.
- Kitchens, bathrooms, and other household areas.
- Homes (households), condos, apartments, vacation cottages, summer homes.
- Institutions, schools and colleges, commercial sites, churches, classroom community colleges, universities, athletic facilities and locker rooms, exercise room, exercise facilities, exercise equipment, gyms, gymnasiums, fieldhouses.
- Cosmetic manufacturing facilities, medical device manufacturing facilities, biotechnology firms, pharmaceutical manufacturing facilities, warehouses.
- Health clubs, spas, tanning salons, tanning spas/beds, tanning equipment, 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, playground equipment, recreational facilities, picnic facilities, sports arenas, sports complexes.
- Food processing plants, USDA inspected food-processing facilities, food storage areas, federally inspected meat and poultry plants, farms, 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, meat packing plants, hide and leather processing plants.
- Processing facilities for Fish, Milk, Citrus, Wine, Fruit, Vegetable, Ice Cream, and Potatoes, and beverage plants.
- Tobacco plant premise and equipment.
- Veterinary clinics, animal life science laboratories, animal laboratories, animal research centers, animal quarantine areas, animal holding areas, equine farms, 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, well houses, grain elevators, grain bins, silos, barns, cattle barns, swine barns, sheep barns, horse barns, brooder houses, bins tractors, combines, harvesting equipment, and wagons.

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- 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, transportation terminals.
- Commercial florist and flower shops.
- Basements, cellars, bedrooms, attics, living rooms, and 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 eggs, Tupperware®.
- Kitchen equipment such as food processors, blenders, cutlery, trash compactors and other utensils.
- Counters (countertops), Slurpee® machines, stoves (stovetops), sinks (bathroom, kitchen), tub surfaces, appliances, refrigerators, ice machines, microwave ovens and countertop laminates.
- 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.
- Wine processing equipment and holding tanks.
- Citrus processing equipment and holding tanks.
- Dishes, silverware, glasses, cooking utensils, eating utensils and other similar size food processing equipment can be sanitized by immersion. NO POTABLE WATER RINSE IS ALLOWED.
- 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, examination tables, X-ray tables, washing areas.
- 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, bathroom fixtures.
- Glass, laminated surfaces, metal, stainless steel, glazed porcelain, glazed ceramic, sealed granite, sealed 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 windowsills.
- 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 and exercise equipment.
- Hard, non-porous surfaces of picnic tables and outdoor furniture or Non-wooden Picnic tables and outdoor furniture except cushions and wood frames.
- 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, plastic rollers, washable nail files.
- Hard hats, headphones.
- Drinking fountains.
- 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
- 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 is an economical concentrate that can be used with a mop and bucket, trigger sprayers, sponge or by soaking.

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 multi-touch surfaces responsible for cross-contamination.

This product is for use as a disinfectant on hard, non-porous surfaces (at 469 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, non-porous surface sanitizers.

One-step cleaner.

Cleans and shines.

Antibacterial.

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

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 sanitizer in the presence of soils on non-food contact surfaces.

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.

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 (bacteria) (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 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).

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

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

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 Hepatitis C Virus. (Not for use in California)

(OR)

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 fixture surfaces, Incubators, Refrigerators and Centrifuge surfaces of metal, stainless steel, glass, plastic (such as polystyrene or polypropylene), Formica®, and vinyl.

This product is a one-step (hospital-use) germicidal (disinfectant) cleaner a deodorant (odor-counteractant) (odor neutralizer) designed for general cleaning, (ar. disinfecting, (deodorizing) (and controlling mold and mildew on) (of) hard, non-porous environmental surfaces. This product cleans quickly by removing dirt, grime, mold, mildew, food residue, body oils, dead skin, blood and other organic matter commonly found in hospitals (and) (in health care facilities) (on medical surfaces), nursing homes, schools and colleges, (day care centers), (medical) offices, funeral homes, veterinary clinics, pet shops, (equine farms), animal life science laboratories, hotels, motels, public areas and restrooms, foodservice establishments (restaurants) and federally inspected meat and poultry establishments (food [processing] plants). It (also) eliminates odors leaving (restroom) surfaces smelling clean and fresh. Use where odors are a problem.

This product cleans, disinfects and deodorizes (hard, non-porous environmental hospital (medical) surfaces) in one step (with no rinsing required). Its non-abrasive formula is designed for use on (Use daily on) (the following) hard, non-porous environmental surfaces: vinyl, painted surfaces, plastic (surfaces), glazed ceramic, glazed porcelain, chrome, stainless steel, brass, copper, laminated surfaces and baked enamel surfaces associated with floors, walls, ceilings, tables, chairs, countertops, telephones, fixtures, glazed tile, toilets, toilet bowls, urinals, sinks found in (health care facilities [hospitals]), patient rooms, operating rooms, ICU areas, shower rooms, and locker rooms. It can also be used to preclean and disinfect (hospital items: wheelchairs [hospital] [patient] bed rails and linings, wash basins, bed pans, medical equipment surfaces, food establishments, (restaurants), (commercial kitchens) & restrooms) any washable (food and non-food contact) surface (where disinfection is required). A potable water rinse is required when disinfecting food contact surfaces. Do not use on glasses, dishes, utensils, or interior surfaces of appliances.

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

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 (bacteria) 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. *(Not for use in California.)*

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

This product is a one-step cleaner and deodorant (odor counteractant) (odor-neutralizer) designed for general cleaning, (and) disinfecting, (deodorizing) (and) controlling mold and mildew) on hard, non-porous environmental surfaces.

This product cleans, disinfects and deodorizes surfaces by killing odor causing microorganisms and mold and mildew. Its non-abrasive formula is designed for use on (restroom surfaces): glazed ceramic (restroom) tile, glazed porcelain, chrome, stainless steel and plastic surfaces associated with floors, walls, fixtures, toilets, urinals, sinks, shower rooms, and locker rooms.

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 all hard, non-porous surfaces listed 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 an effective fungicide against Trichophyton mentagrophytes (the athlete's foot fungus) when used on surfaces in areas such as locker rooms, dressing rooms, shower and bath areas, exercise facilities.

This product is a (concentrated) non-acid (bowl and) bathroom cleaner, which cleans, disinfects and deodorizes in one easy step. It cleans, disinfects and deodorizes surfaces by killing many odor-causing microorganisms and mold and mildew. Its non-abrasive formula is designed for use (Use daily) on ([hard, non-porous environmental] restroom surfaces): glazed ceramic (restroom) tile, glazed porcelain, chrome, stainless steel and plastic surfaces associated with floors, walls, fixtures, toilets, urinals, sinks, shower rooms and locker rooms.

Malodor(s) (Activity) (Odor) (Counteractancy) – eliminates (destroys) odors and odor-causing bacteria in restroom areas, behind and under sinks and counters, and storage areas (and other places where bacterial growth can cause malodors).

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, mold, mildew, 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 for use in California.)*

This product cleans, disinfects and deodorizes (hard, non-porous environmental surfaces) in one step. Its non-abrasive formula is designed for use on (Use daily (Use daily to clean and disinfect) (hard, non-porous surfaces): plated or stainless steel, aluminum, chrome, glazed porcelain, glazed tile, laminated surfaces (associated with floors, walls, countertops, cages, kennels, animal equipment) found in (barns, pens and stalls) animal housing facilities.

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. Regular use will help to maintain 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, Egg Holding Area, Setter Room, Tray Dumping Area, Trays, Buggies, Racks, Egg Flats, Chick Holding Room, Hatchery Room, Chick Processing Area, Chick Loading Area, Poultry Buildings, Ceilings, Side walls and Floors, Drinkers, and all other hard, non-porous Poultry House related equipment, and surfaces in the Hatchery environment.

This product is for use in Swine Premise Sanitation, Waterers and Feeders, Hauling Equipment, Dressing Plants, Loading Equipment, Farrowing Barns and Areas, Nursery, Blocks, Creep Area, Chutes.

Kill avian influenza A on pre-cleaned environmental surfaces.

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, greenhouse packing areas and other commercial floriculture

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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, plastic rollers, trimmers, razors, blades, tweezers and manicure instruments, and footbath surfaces.

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

Use this product to clean, sanitize and disinfect hard, non-porous surfaces of personal protective safety equipment, protective headgear, athletic helmets, wrestling/boxing headgear, athletic shoe soles, hard hats, half mask respirators, full face breathing apparatus, gas masks, goggles, spectacles, headphones 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.)

Use to clean and disinfect non-medical (i.e. industrial and fire fighting) respirators in industrial, commercial and institutional premises.

Use (on) (to clean and disinfect) non-porous athletic mats, wrestling mats, gymnastic mats, exercise equipment and training tables.

Floor cleaner.

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.

For use in:

Federally inspected meat and poultry plants on all hard, non-porous surfaces in inedible product processing areas, non-processing areas and/or exterior areas. All surfaces must be thoroughly rinsed with potable water.

Federally inspected meat and poultry plants as a floor and wall cleaner for use in all departments. Food products and packaging material must be removed from the room or carefully protected. All surfaces must be thoroughly rinsed with potable water.

Federally inspected meat and poultry plants as a disinfectant agent for use in all departments. Food products and packaging material must be removed from the room or carefully protected. Use product in accordance with its label. All surfaces must be thoroughly rinsed with potable water.

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 625 ppm active). A potable water rinse is not allowed when used 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 625 ppm active). A potable water rinse is not allowed 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 ppm active) and as a disinfectant on hard, non-porous surfaces (at 625 ppm active). A potable water rinse is not allowed 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.

Cleans everyday kitchen messes.

Cleans kitchen surfaces and food preparation areas.

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 cross contamination on treated kitchen surfaces listed on this label. A potable water rinse is required after application on food contact surfaces.

This product has been cleared by the EPA in 40CFR180.940 for use on food processing equipment, utensils and other food contact articles at a concentration of 200 ppm active.

This product meets AOAC Germicidal and Detergent Test Standards for food contact surfaces.

Regular, effective cleaning and sanitizing of equipment, utensils and work or dining surfaces which could harbor food poisoning microorganisms minimizes the probability of contaminating food during preparation, storage or service. Effective cleaning will remove soil and prevent the accumulation of food residues, which may decompose or support the rapid development of food poisoning organisms or toxins. Application of effective sanitizing procedures reduces the number of those microorganisms which may be present on equipment and utensils after cleaning, and reduces the potential for the transfer, either directly through tableware such as glasses, cups and flatware, or indirectly through food.

To prevent cross contamination, kitchenware and food contact surfaces of equipment must be washed, rinsed with potable water and sanitized after each use and following any interruption of operation during which time contamination may have occurred.

Where equipment and utensils are used for preparation of foods on a continuous or production line basis, utensils and the food contact surfaces of equipment must be washed, rinsed and sanitized at intervals throughout the day on a schedule based on food temperature, type of food and amount of food particle accumulation.

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 cleans by removing dirt, grime and food soils in food preparation and processing areas. Its non-abrasive formula will not harm (scratch) surfaces. It cleans, disinfects and eliminates odors leaving surfaces smelling clean and fresh. Use where odors are a problem.

Use this product on finished floors, high speed burnished floors, conductive flooring, washable walls, tables, chairs, bathroom bowls, sinks, basins, shower stalls, tubs, glazed tiles, toilet, countertops, stove tops, exterior surfaces of appliances and refrigerators, cabinets, garbage cans, outdoor furniture (except cushions and wood frames), desks, telephones, door knobs and handles, and glass surfaces including windows and mirrors.

Disinfects, cleans, and deodorizes the following hard, non-porous inanimate surfaces: floors, walls, (non-medical) metal surfaces, (non-medical) stainless steel surfaces, glazed porcelain, plastic surfaces (such as polypropylene, polystyrene, etc.).

This product is designed for use on (Use daily on) (the following) (hard, non-porous environmental surfaces): vinyl, painted surfaces, plastic (surfaces), glazed ceramic, glazed porcelain, chrome, stainless steel, aluminum, laminated surfaces and baked enamel surfaces associated with floors, walls, ceilings, tables, chairs, countertops, telephones, fixtures, glazed tile, toilets, urinals, sinks, shower rooms and locker rooms (areas) – any washable (food and non-food contact) surface where disinfection is required. This product's non-dulling formula eliminates the time and labor normally required for rinsing. A potable water rinse is required for food contact surfaces.

This product is a complete, chemically balanced disinfectant/sanitizer that provides clear use solutions even in the presence of hard water.

Stable – Mixes Readily with Water

Does Not Separate – A Good Wetting Agent

Leaves No Residue Marks on Foliage

DIRECTIONS FOR USE

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

PREPARATION OF DISINFECTION/FUNGICIDAL/VIRUCIDAL USE SOLUTION:

Before using this product, food products and packaging materials must be removed from the room or carefully protected. Add 2 fluid ounces per 5 gallons of water (or equivalent use dilution) (625 ppm active quat) to disinfect hard non-porous surfaces. Apply this product with a cloth, mop or mechanical spray device. When applied with a mechanical spray device, surfaces must be sprayed until thoroughly wetted. Treated surfaces must remain wet for 10 minutes. 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. Rinse or allow to air dry. Rinsing of floors is not necessary unless they are to be waxed or polished. Rinse all surfaces that come in contact with food such as countertops, appliances, tables and stovetops with potable water before reuse. Do not use this product to clean or disinfect utensils, glassware, dishes or interior surfaces of appliances. Prepare a fresh solution at least daily or when use solution becomes visibly dirty.

Note: With spray applications, cover or remove all food products. For heavily soiled areas, a preliminary cleaning is required.

DISINFECTION PERFORMANCE IN INSTITUTIONS (Hospitals, Dental Offices, Nursing Homes, and Other Health Care Institutions): Add 2 ounces of this product to 5 gallons of water (or equivalent use dilution) (625 ppm active quat) OR mix a 2-

ounce packet with 5 gallons of water. Treated surfaces must remain wet for 10 minutes. At this use level, 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:

| | |
|---|---|
| <i>Botrytis cinerea</i> (ATCC 12481) | <i>Pseudomonas aeruginosa</i> (ATCC 15442) |
| <i>Burkholderia cepacia</i> (ATCC 25416) | <i>Salmonella enterica</i> (ATCC 10708) |
| <i>Campylobacter jejuni</i> (ATCC 29428) | <i>Salmonella typhi</i> (ATCC 6539) |
| <i>Corynebacterium ammoniagenes</i> (ATCC 6871) | <i>Shigella sonnei</i> (ATCC 9290) |
| <i>Escherichia coli</i> 0157:H7 (ATCC 35150) | <i>Staphylococcus aureus</i> (ATCC 6538) |
| <i>Enterococcus faecium</i> (Vancomycin Resistant) (VRE) | |
| <i>Klebsiella pneumoniae</i> (ATCC 13883) | <i>Staphylococcus aureus</i> (Methicillin resistant) (ATCC 33591) |
| <i>Listeria monocytogenes</i> (ATCC 984) | <i>Yersinia enterocolitica</i> (ATCC 23715) |
| <i>Proteus mirabilis</i> | |
| <i>Community Associated Methicillin Resistant Staphylococcus aureus</i> (CA MRSA) | |

GENERAL DISINFECTION PERFORMANCE IN NON-MEDICAL FACILITIES (Households, Schools, Restaurants, Food Services, Dairies, Farms, Beverage and Food Processing Plants and Other Non-Medical Facilities):

Add 1.5 ounces of product to 5 gallons of water (or equivalent use dilution) (469 ppm active quat). Treated surfaces must remain wet for 10 minutes. At this use level, 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:

| | |
|--|---|
| <i>Campylobacter jejuni</i> (ATCC 29428) | <i>Salmonella enterica</i> (ATCC 10708) |
| <i>Escherichia coli</i> 0157:H7 (ATCC 31250) | <i>Staphylococcus aureus</i> (ATCC 6538) |
| <i>Listeria monocytogenes</i> (ATCC 984) | <i>Staphylococcus aureus</i> (Methicillin resistant) (ATCC 33591) |
| <i>Proteus mirabilis</i> | |
| <i>Yersinia enterocolitica</i> (ATCC 23715) | |

***VIRUCIDAL PERFORMANCE:** At 2 ounces per 5 gallons use level (or equivalent use dilution) (625 ppm active quat), this product was evaluated in the presence of 5% serum with a 10-minute contact time and found to be effective against the following viruses on hard, non-porous environmental surfaces:

| | |
|---|--|
| Avian influenza A H9N2/Turkey/Wisconsin virus (ATCC VR-798) | |
| Avian Influenza A (H5N1) virus | HIV-1 (w/ 2 minute contact time) |
| Hepatitis B Virus | Human Coronavirus (ATCC VR-740) |
| Hepatitis C Virus | Infectious Bronchitis Virus |
| Herpes Simplex Type 1 (ATCC VR-260) | Influenza A2/Japan Virus (ATCC VR-100) |
| Herpes Simplex Type 2 (ATCC VR-734) | Vaccinia virus |

NON-FOOD CONTACT SANITIZING PERFORMANCE: Add ½ ounce of this product to 4 gallons of water (or equivalent use dilution) (200 ppm active) to sanitize hard, non-porous surfaces with a 3-minute contact time. At 200 ppm active, this product is an effective one-step sanitizer against the following:

| | |
|--|--|
| <i>Enterobacter aerogenes</i> (ATCC 13048) | <i>Staphylococcus aureus</i> (ATCC 6538) |
|--|--|

FUNGICIDAL ACTIVITY: At 2 ounces per 5 gallons use-level (or equivalent use dilution) (625 ppm active quat) this product is effective with a 10-minute contact time against *Trichophyton mentagrophytes* (athlete's foot fungus) (a cause of Ringworm) and *Aspergillus niger* on inanimate surfaces in the presence of 5% blood serum in locker rooms, dressing rooms, shower and bath areas and exercise facilities.

CLEANING AND DISINFECTION: For heavily soiled areas, a pre-cleaning step is required. For one step cleaning and disinfection, use 1.5 fluid ounces of this product per 5 gallons of water (or equivalent use dilution) (469 ppm active quat). Apply use solution using a cloth, mop or pressure sprayer so as to thoroughly wet surface to be cleaned/disinfected. For sprayer applications, use a coarse spray device. Allow

surfaces to remain wet for 10 minutes and then air dry. 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 (1.5 ounces per 5 gallons) (469 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 A (H5N1): For use in homes, hospitals, hotels, motels and schools, the directions for hospital disinfection must be followed using a rate of 2 oz per 5 gallons of water (625 ppm active quat) (or equivalent use dilution) (OR) For use in animal housing facilities, follow the animal premise directions.

PREPARATION OF NON-FOOD CONTACT SANITIZER USE SOLUTION: With spray applications, cover or remove all food products. Add ½ ounce of this product to 4 gallons of water (or equivalent use dilution) (200 ppm active). 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. Treated surfaces must remain wet for 3 minutes, then wipe with sponge, mop or cloth or allow to air dry.

GENERAL DISINFECTANT-NON-MEDICAL DILUTION CHART

| Ounces of Product | Amount of Water |
|-------------------|-----------------|
| 0.075 ounces | 1 quart |
| 0.15 ounces | ½ Gallon |
| 0.3 ounces | 1 gallon |
| 0.75 ounces | 2 ½ gallons |
| 1.5 ounces | 5 gallons |
| 3.0 ounces | 10 gallons |

HOSPITALS, DENTAL OFFICES, NURSING HOMES AND OTHER HEALTH CARE INSTITUTIONS DISINFECTION AND VIRUCIDAL DILUTION CHART

| Ounces of Product | Amount of Water |
|-------------------|-----------------|
| 0.1 ounces | 1 quart |
| 0.2 ounces | ½ Gallon |
| 0.4 ounces | 1 gallon |
| 1.0 ounces | 2 ½ gallons |
| 2.0 ounces | 5 gallons |
| 4.0 ounces | 10 gallons |

DILUTION CHART:

- For Hospital or Medical Environment claims 2oz/5 gal. water
- For General or Broad Spectrum claims 1.5oz/5 gal. water
- For Virucidal claims 2oz/5 gal. water
- For Animal Virucidal claims 2oz/5 gal. water
- For Non-Food Contact Sanitizing claims 0.5oz/4 gal. water
- For Food Contact Sanitizing claims at 200 ppm 0.5oz/4 gal. water
- For Fungicide claims 2 oz/5 gal. water

HOSPITAL/HEALTH CARE/INSTITUTIONAL

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 surfaces

INSTITUTIONAL DISINFECTANT DIRECTIONS (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, add 2 ounces of this product to 5 gallons of water (625 ppm active quat) (or equivalent use dilution) OR mix a 2-ounce packet with 5 gallons water to disinfect hard, non-porous surfaces. Apply use solution to hard, inanimate, non-porous surfaces, thoroughly wetting surfaces with a cloth, mop, sponge or sprayer. For sprayer applications, use a coarse spray device. Spray 6-8 inches from surface. Rub with brush, sponge or cloth. Do not breathe spray. Treated surfaces must remain wet for 10 minutes. Rinse or allow to air dry. Prepare a fresh solution at least daily or when use solution becomes diluted or soiled.

Note: With spray applications cover or remove all food products. For heavily soiled areas, a preliminary cleaning is required.

***VIRUCIDAL PERFORMANCE:** At 2 ounces per 5 gallons (or equivalent use dilution) (625 ppm active quat) in the presence of 200 ppm hard water (CaCO₃) and 5% serum this product was proven to be effective against (Duck) Hepatitis B Virus with a contact time of 10 minutes.

At 2 ounces per 5 gallons (or equivalent use dilution) (625 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

At 2 ounces per 5 gallons (or equivalent use dilution) in the presence of 5% serum for two-minute contact time this product was found to be effective against HIV-1 (AIDS Virus).

***KILLS HIV, HCV AND HBV ON PRECLEANED ENVIRONMENTAL SURFACES/OBJECTS PREVIOUSLY SOILED WITH BLOOD/BODY FLUIDS** in health care setting or other settings in which there is an expected likelihood of soiling of inanimate surfaces/objects with 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 C Virus (HCV) and Hepatitis B Virus (HBV).

“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, and eye

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coverings. (Alternate statement: Clean up must always be done wearing protective latex gloves, gowns, masks and eye protection.)

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, cleaning materials and clothing must be autoclaved and disposed of according to federal, state and local regulations for infectious waste disposal.

Contact Time: For HIV, leave surfaces wet for two minutes with a 2-ounce per 5 gallons of water (or equivalent use dilution) (625 ppm active quat) use solution. This contact time will not control other common types of viruses and bacteria. For HBV and HCV, leave surfaces wet for 10 minutes with a 2-ounce per 5 gallons of water (or equivalent use dilution) (625 ppm active quat) use solution.

SURGICAL INSTRUMENT PRESOAK: Add 2 ounces of this product to 5 gallons of water (or equivalent use dilution) (625 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.

ULTRASONIC BATH DISINFECTANT/FUNGICIDAL DIRECTIONS: Use this product to disinfect hard (inanimate) non-porous non-critical objects compatible with Ultrasonic cleaning units. Pour a fresh solution of 0.4 ounces per gallon of water (or equivalent use dilution) (625 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/FUNGICIDAL HARD, NON-POROUS BATH (FIBERGLASS) 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 2 ounces of this product for each 5 gallons of water (0.40 ounces per one gallon) (or equivalent use dilution) (625 ppm active quat) in the unit at this point. Briefly start the pump to circulate the solution. 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. Treated surfaces must remain wet for 10 minutes for proper disinfection. After the unit has been thoroughly disinfected, drain solutions from the unit and rinse any/all (disinfected) 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. Add 2 ounces of this product to 5 gallons of water (or equivalent use dilution) (625 ppm active quat). Gently mix for uniform solution. Apply 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 ¼ ounce per 2 gallons of water (or equivalent use dilution) (200 ppm active quat) directly into bath chamber. Pre-clean soiled objects. Place objects into unit and operate for a minimum of 3 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.

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.

DIRECTIONS FOR FOOD PROCESSING PLANTS: For use on non-food contact surfaces such as floors, walls, tables, garbage cans and disposal areas. Before use this product, food products and packaging materials must be removed from the room or carefully protected. Follow Disinfection directions.

DIRECTIONS FOR FOOD STORAGE AREAS: For use on non-food contact surfaces such as shelves, floors, walls and tables. Before using this product, food products and packaging materials must be removed from the room or carefully protected. Then follow Disinfection directions.

FOR USE AS A CLEANER/DISINFECTANT IN FOOD PROCESSING PLANTS:

1. Before using this product in food processing areas, food products and packaging materials must be removed from the room or carefully protected.
2. Apply use solution evenly over surface using a cloth, mop, sponge or coarse spray device. Be sure to wet all surfaces thoroughly. Do not breathe spray.
3. Allow product to remain on surface for ten (10) minutes.
4. Wipe with clean cloth, sponge or paper towel.
5. For heavily soiled areas, thoroughly clean surface prior to disinfecting.
6. When disinfecting food contact surfaces used for food preparation, rinse surfaces thoroughly with potable water. This product must not be used to clean the following surfaces: utensils, glassware, dishes or interior surfaces of processing equipment.

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 use on floors, walls and storage areas, mix 1½ ounces of this product to 5 gallons of water (or equivalent use dilution) (469 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, add 1½ ounces of this product to 5 gallons of water (or equivalent use dilution) (469 ppm active quat). Before using this product, food products and packaging materials must be removed from area or carefully protected. 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. (Alternate statement: 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 1½ ounces of this product per 5 gallons of water (or equivalent use dilution) (469 ppm active quat). Follow the general disinfectant directions above.

DIRECTIONS FOR FOGGING 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 ¾ ounce product to 1 gallon of water (or equivalent use dilution) (1,200 ppm). Wear a dust mist respirator when mixing the use solution and pouring it into the fogging apparatus. 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 (½ ounce per 4 gallons of this product) (or equivalent use dilution) 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 and 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 SMALL FLIES ON NON-FOOD CONTACT SURFACES: For control of small flies: *Drosophila* spp. and the *Phoridae* family. 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 wait station areas. Remove food and food packaging prior to use. Cover exposed food-handling surfaces. After removing gross filth, apply a solution of 2 ounces of this product per 5 gallons of water (or equivalent use dilution) (625 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 2 ounces per 5 gallons of water (or equivalent use dilution) (625 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 a ¼ ounce of this product per 2 gallons of water (or equivalent use dilution) (200 ppm active) solution for 3 minutes prior to entering area. Change the sanitizing solution in the bath at least daily or when 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 ½ to ¾ ounce per gallon of water (or equivalent use dilution) (781 to 1172 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 3 minutes 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 (0.255 – 0.51 oz. per gallon of water) (0.75 – 1.5 oz. ; 2 7/8 oz per gallon of water) (or equivalent use dilution) (400 – 800 ppm active) or 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 ¾ ounces of product to 1 gallon of water (1,200 ppm) (or equivalent use dilution). Wear a dust mist respirator when mixing the use solution and pouring it into the fogging apparatus. 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 and 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 1.5 ounces of this product per 5 gallons of water (0.30 ounces 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 3 ounces of this product per 5 gallons of water. (0.6 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 AND TOBACCO PROCESSING EQUIPMENT
SANITIZING DIRECTIONS**

FOOD CONTACT SANITIZING PERFORMANCE: At ½ ounce per 4 gallons this product (or equivalent use dilution) (200 ppm active) eliminates 99.999% of the of the following bacteria in 60 seconds in 500 ppm hard water (calculated as CaCO₃) according to the AOAC Germicidal and Detergent Sanitizing Action of Disinfectants test:

- | | |
|---|---|
| <i>Aeromonas hydrophila</i> ATCC 23213) | <i>Listeria monocytogenes</i> (ATCC 984) |
| <i>Campylobacter jejuni</i> (ATCC 29428) | <i>Salmonella typhi</i> (ATCC 6539) |
| <i>Clostridium perfringens-vegetative</i> (ATCC 13124) | <i>Shigella dysenteriae</i> (ATCC 9361) |
| <i>Enterobacter sakazakii</i> (ATCC 29544) | <i>Staphylococcus aureus</i> (ATCC 6538) |
| <i>Enterococcus faecalis</i> Vancomycin resistant (ATCC 5129) | <i>Streptococcus pyogenes</i> (ATCC 12344) |
| <i>Escherichia coli</i> (ATCC 11229) | <i>Yersinia enterocolitica</i> (ATCC 23715) |
| <i>Escherichia coli</i> O157:H7 (ATCC 43888) | |

SANITIZING DILUTION CHART

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

PUBLIC EATING PLACES, DAIRY PROCESSING EQUIPMENT AND FOOD PROCESSING EQUIPMENT AND UTENSILS SANITIZING DILUTION CHART

| Active quat solution | 1 gallon | 4 gallons | 10 gallons | 20 gallons |
|----------------------|-----------|-----------|--------------|------------|
| 200 ppm | 1/8 ounce | 1/2 ounce | 1 1/4 ounces | 2.5 ounces |

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 the surfaces are adequately drained before contact with food so that little or no residue remains.

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 a ½ ounce per 4 gallons solution of this product (or equivalent use dilution) (200 ppm active) with a 1-minute contact time. **NO POTABLE WATER RINSE IS ALLOWED.**

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.

TO SANITIZE IMMOBILE ITEMS (such as tanks, chopping blocks, countertops, refrigerated storage and display equipment and food processing equipment): Flood the area with appropriate ppm active quaternary solution for at least 1 minute, making sure to wet all surfaces completely. Remove excess, drain the use-solution from the surface and air dry. No potable water rinse is allowed.

TO SANITIZE MOBILE ITEMS (such as drinking glasses and eating utensils): Immerse in appropriate ppm active quaternary solution for at least 1 minute, making sure to immerse completely. Remove items, drain the use-solution from the surface and air dry. Prepare a fresh solution at least daily or more frequently as soil is apparent. No potable water rinse is allowed.

PUBLIC EATING PLACES/DAIRY PROCESSING

FOR PUBLIC EATING PLACES, DAIRY PROCESSING EQUIPMENT AND FOOD PROCESSING EQUIPMENT AND UTENSILS: Apply a solution of ½ ounce of this product in 4 gallons of water (or equivalent use dilution) (200 ppm active) OR mix (one) ½ ounce packet with 4 gallons of water to pre-cleaned, hard surfaces, thoroughly wet surfaces with a cloth, mop, sponge, sprayer or by immersion. For spray application, 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. A fresh solution must be prepared 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, UTENSILS, AND FOOD CONTACT ARTICLES 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 1/8 ounce of this product per gallon 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. Thoroughly drain and then air dry. Non-immersed items should be allowed to air dry also.

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

Equipment and utensils shall be thoroughly preflushed or prescaped, 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 a ½ ounce of this product per 4 gallons of water (solution) (or equivalent use dilution) 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 use solution of ¼ ounce of this product per 2 gallons of water (200 ppm active) (or equivalent use dilution) by rinsing, spraying or swabbing until thoroughly wetted.

4. Allow sanitized surfaces to drain and air dry. 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 ½ ounce of this product per 4 gallons of water (200 ppm active quaternary) (or equivalent use dilution). 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 HSS 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) (or equivalent use dilution). 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 HSS 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 flush 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 ½ ounce of this product per 4 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. 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.

1. Turn off refrigeration.
2. Unit must be washed with a compatible detergent and rinsed with potable water before sanitizing.
3. Wash and rinse all surfaces thoroughly.
4. Apply a solution of ½ ounce this product in 4 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. Fresh solution must be prepared for each cleaning. *No potable water rinse is allowed when product is used as directed.*
5. 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. Tank must be washed with a compatible detergent and rinsed with potable water before sanitizing. Backwash the softener and add 1 ounce of sanitizer per 8 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).
2. Unit must be washed with a compatible detergent and rinsed with potable water before sanitizing.
3. Proceed with the normal regeneration or interrupt the cycle after the brining step and let the softener soak 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. Return system to service. **NO POTABLE WATER RINSE IS ALLOWED.**

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 1 ounce of sanitizer per 8 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. Return unit(s) to normal operation. 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 1 ounce of sanitizer per 8 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 1 ounce of sanitizer per 8 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.

FOOD PROCESSING EQUIPMENT AND UTENSILS

At ½ ounce per 4 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 500 ppm of hardness calculated as CaCO₃ when evaluated by the AOAC Germicidal and Detergent Sanitizer Method against Escherichia coli and Staphylococcus aureus.

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 ½ ounce of this product in 4 gallons of water (or equivalent use dilution) (200 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 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).

(OR)

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 ½ ounce of this product per 4 gallons of water (or equivalent use dilution) (200 ppm active quaternary). Allow surfaces to remain wet for at least 60 seconds. Prepare a fresh solution at least daily or when use solution becomes visibly dirty. For mechanical operation, use solution may not be reused for sanitizing applications. No potable water rinse is allowed (Do not rinse).

(Alternate statement: Allow sanitized surfaces to adequately drain before contact with food).

(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 1/8 ounce of this product per gallon 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 and non-immersed items from solution to (and) make certain all surfaces are adequately drained before contact with food. No potable water rinse allowed. (Do not rinse) (Alternate statement: Allow sanitized surfaces to adequately drain before contact with food).

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. Clean and rinse equipment thoroughly. Then apply sanitizing solution containing ½ ounce of this product per 4 gallons of water (or equivalent use dilution) (200 ppm active quaternary). Allow surfaces to remain wet for at least 60 seconds. Drain thoroughly and allow surface to air dry before reuse. No potable water rinse is allowed.

BEVERAGE DISPENSING EQUIPMENT SANITIZER DIRECTIONS

For sanitizing of bottling or pre-mix dispensing equipment, after cleaning thoroughly rinse equipment with a potable water rinse. Fill equipment with a solution of ½ ounce of this product per 4 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 surface to air dry before reuse. No (potable water) rinse is allowed. (Alternate statement: Allow sanitized surfaces to adequately drain before contact with food).

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 ppm active quat. Prepare a solution of ½ ounce of this product per 4 gallons of water (or equivalent use dilution) (200 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 surface to air dry before reuse. No (potable water) rinse is allowed. (Alternate statement: Allow sanitized surfaces to adequately drain before contact with food).

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 pre-flush or pre-scrape and when necessary presoak. Then wash surfaces with a compatible detergent and rinse with potable water prior to sanitizing. Prepare a solution of ½ ounce of this product per 4 gallons of water (or equivalent use dilution) (200 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.

For 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 ½ ounce of this product per 4 gallons of warm water (or equivalent use dilution) (200 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 must 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 re-used 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 pre-flush 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 ppm quat level (½ ounce per 4 gallons) (or equivalent use dilution) to conveyors with suitable feeding equipment. 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. During interruptions in operation, coarse spray equipment, peelers, collators, slicers and saws with this product at a dilution of 200 ppm active quat. Conveyor equipment must be free of product when applying this coarse spray. Do not allow this solution to be sprayed directly on food.

FOR SANITIZING IN FISHERIES, MILK, CITRUS, WINE, POTATO & ICE CREAM and BEVERAGE PROCESSING PLANTS: For use as a sanitizer on conveyors as directed under "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 "Sanitizing 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. Do not let sanitizing solution come into contact with the exposed skin. Make up the sanitizing solution by adding a 1/8 ounce of this product per gallon of water (or equivalent use dilution) (200 ppm active). Dip (Soak) in solution for 1 minute. **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 PREMISE VIRUCIDAL PERFORMANCE: At 2 ounces per 5 gallons use level (or equivalent use dilution) (625 ppm active quat), this product was evaluated in the presence of 5% serum with a 10-minute contact time and found to be effective against the following viruses on hard, non-porous environmental surfaces:

Avian influenza A H9N2/Turkey/Wisconsin virus (ATCC VR-798)

Avian Influenza A (H5N1) virus
Avian Reovirus (ATCC VR-2449)
Bovine Viral Diarrhea Virus (ATCC VR-534)
Canine Coronavirus (ATCC VR-809)
Canine Distemper Virus
Equine Arteritis virus (ATCC VR-796)
Infectious Bovine Rhinotracheitis virus (IBR)

Infectious Laryngotracheitis Virus
Newcastle disease virus
Porcine Respiratory & Reproductive Virus (PRRSV)
Porcine Rotavirus (ATCC VR-893)
Pseudorabies virus (ATCC VR-135)
Transmissible Gastroenteritis (TGE) Virus

VETERINARY CLINICS/ANIMAL LIFE SCIENCE LABORATORY/ANIMAL CARE FACILITIES/ANIMAL RESEARCH CENTERS/ANIMAL LABORATORY/ANIMAL QUARANTINE AREAS/ANIMAL BREEDING FACILITIES/ZOOS/PET SHOP/ANIMAL HUSBANDRY/ 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 2 ounces per 5 gallons of water (or equivalent dilution) (625 ppm active quat) 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, scrappers 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.

DRESSING PLANT AND RENDERING PLANT DISINFECTANT – FUNGICIDE – VIRUCIDE DIRECTIONS (RENDERING PLANT/DRESSING PLANT DISINFECTANT /FUNGICIDE/VIRUCIDE DIRECTIONS): Cover or remove all food packaging material before disinfection. Remove gross soils. Apply to walls and floors in poultry and animal dressing plants with a solution of 2 ounces of this product per 5 gallons of water (or equivalent use dilution) (625 ppm active quat). Surfaces must remain wet for 10 minutes then thoroughly rinsed with potable water before operations are resumed. Disinfect all rooms, exterior walls and loading platforms of dressing plants. Rinse all surfaces which contact food with potable water before reuse.

TERRARIUM AND SMALL ANIMAL CAGE AND CAGE FURNITURE DISINFECTION: Animals frequently defecate on hot rocks and other hard non-porous 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 cage furniture items. (Use on rocks and driftwood not allowed for use in California.)

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 (2 ounces per 5 gallons of water) (or equivalent use dilution) (625 ppm active quat) 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: Do not apply this product directly onto the small animal. If this product comes into contact with the small animal's skin, then immediately wash the material off of the animal with lukewarm water. If the small animal ingests this product, contact your veterinarian immediately. 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 (2 oz. per 5 gallons of water) (or equivalent dilution) (625 ppm active quat) 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 (Use) (Apply) 2 oz per 5 gallons of water (or equivalent use dilution) (625 ppm active quat) and allow surface 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.

(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 2 ounces of this product per 5 gallons of water (625 ppm active quat) (or equivalent use dilution) use solution for a period of 10 minutes.
6. Immerse all halters, ropes and other types of equipment used in handling and restraining animals as well as forks, shovels, 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.

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 (2 oz. per 5 gallons of water) (or equivalent dilution) (625 ppm active quat) and allow 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 IN THE 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 (2 ounces per 5 gallons of water) (or equivalent use dilution) (625 ppm active quat) 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 feed 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 2 ounces of this product per 5 gallons of water (or

equivalent use dilution) (625 ppm active quat). 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) must be thoroughly scrubbed with soap or detergent, then rinsed with potable water before reuse.

HATCHERIES: For disinfection/fungicide/virucide, use 2 ounces of this product per 5 gallons of water (or equivalent use dilution) (625 ppm active quat). Apply to hatchers, 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 solution) (wet) for 10 minutes or more. Rinse surfaces with potable water before reuse. Then allow surface 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 1½ ounces of this product per 5 gallons of water (or equivalent use dilution) for general disinfection. Use 2 ounces of this product per 5 gallons of water (or equivalent use dilution) for disinfection/fungicide/virucide. Leave all treated surfaces exposed to solution for 10 minutes or more and allow to air dry.

FOR USE IN LIVESTOCK, POULTRY AND TURKEY HOUSES:

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 (Use) (Apply) 2 oz per 5 gallons of water (or equivalent use dilution) (625 ppm active quat) 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 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.

DISINFECTANT DIRECTIONS FOR CHICK VANS, EGG TRUCKS HATCHERY AND FARM VEHICLES: Clean all vehicles including mats, crates, cabs, and wheels with high-pressure water and this product. Use 2 oz. per 5 gallons of water (or equivalent dilution) (625 ppm active quat) 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 2 oz. per 5 gallons of water (or equivalent dilution) (625 ppm active quat). 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 2 oz. per 5 gallons of water (or equivalent dilution) (625 ppm active). 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.

MEAT PACKING PLANTS: Use this product to disinfect hard, non-porous surfaces associated with the following sites: livestock vehicles and holding pens, perceiving areas and delivery chutes, slaughter areas and conveyors, hand, rub and guide rails, post knock cabinets, stands and flooring surfaces, chains and moving process lines, surfaces of equipment for hide operations consisting of brine curing, hide transfer bin surfaces, chutes, conveyors, tallow and animal feed production hard, non-porc surfaces, processed products and offal equipment surfaces, fabrication and processing areas covering cold storage areas, all stainless steel cut out and prep tables, counter tops, conveyors, chains, tables, floors, walls and all stainless surfaces. For application, saturate all surfaces with solution and scrub to loosen all soils. Use 1.5 ounces per 5 gallons of water solution (469 ppm active quat) (or equivalent use dilution). Surfaces must remain wet for 10 minutes, then thoroughly rinsed with potable water before operations are resumed. In order to use as a disinfectant, fungicide or virucide, apply 2 ounces per 5 gallons of water solution (625 ppm active quat) (or equivalent use dilution). Follow the same procedure as above.

All treated equipment that will contact animal feed or food surfaces must be thoroughly scrubbed with soap or detergent then rinsed with potable water before reuse.

HIDE/LEATHER PROCESSING PLANTS: To use as a disinfectant/fungicide on hard, non-porous surfaces, add 2 ounces to 5 gallons of water (625 ppm active quat) (or equivalent use dilution). The product can be used on hide storage bins, holding tanks, chill tanks, serpentine tanks and chains, machine and tannery equipment surfaces, conveyors and trolleys, hide press, grading and storage areas and scales, etc. Pre-clean all surfaces prior to use to remove gross soils. Thoroughly wet all hard, non-porous surfaces by evenly applying the use solution. Apply use solution with a cloth mop, sponge, sprayer or by immersion, thoroughly wetting surfaces. For sprayer applications, use a coarse spray device at 6-8" from surfaces. Do not breathe spray. Treated surfaces must remain wet for 10 minutes. Wipe dry or allow to air dry.

SPECIAL INSTRUCTIONS FOR INACTIVATING AVIAN INFLUENZA A (H5N1): 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 (2 oz per 5 gallons of water) (625 ppm active quat) (equivalent use 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, 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 ½ oz of this product per 4 gallons of water solution (200 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, racks 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 48 ounces of this product to 320 ounces of water (or equivalent use dilution). Wear a dust mist respirator when mixing the use solution and pouring it into the fogging apparatus. 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 10 ounces of this product to 125 ounces of water (or equivalent use dilution). Wear a dust mist respirator when mixing the use solution and pouring it into the fogging apparatus. 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 1 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. 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 and 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 OF BARBER/SALON TOOLS DIRECTIONS: Pre-cleaned barber/salon tools, such as combs, brushes, plastic rollers, razors, clipper and trimmer blades, tweezers, manicure/pedicure tools and scissors; can be disinfected by immersing in 0.3 ounces per gallon solution of this product (or equivalent use dilution) (469 ppm active quat). Completely immerse instruments and tools for at least 10 minutes. Rinse thoroughly and dry before use. Fresh solution must be prepared at least daily or more often if solution becomes cloudy or soiled.

DISINFECTION/FUNGICIDE/VIRUCIDE FOR BARBER/SALON TOOLS DIRECTIONS: Immerse pre-cleaned barber/salon tools, such as combs, brushes, plastic rollers, razors, clipper and trimmer blades, tweezers, manicure/pedicure tools and scissors, in a 0.4 ounce per gallon solution of the product (or equivalent use dilution) (625 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.

(OR)

FOR USE TO CLEAN AND DISINFECT BARBER AND BEAUTY/MANICURE INSTRUMENTS AND TOOLS:

1. Pre-clean heavily soiled items.
2. Completely immerse pre-cleaned combs, scissors, plastic rollers, clipper blades, razors, manicure implements and other non-porous instruments in the use solution (2 ounces per 5 gallons) (or equivalent use dilution) (625 ppm active quat) so that surfaces remain wet for ten (10) minutes.
3. Rinse surfaces thoroughly and let air dry before reuse.
4. Change solution at least daily or sooner if visibly dirty.

(OR)

DISINFECTING/VIRUCIDE GROOMING CLIPPERS: Remove hair, dandruff and dust particles prior to disinfecting the blades. Turn the clipper off occasionally during use and spray between the teeth of blades a solution of 2 ounces per 5 gallons of water (or equivalent use dilution) (625 ppm active quat). Allow surface to remain wet for at least 10 minutes. Rinse surfaces thoroughly. Then wipe dry with a clean soft cloth.

(OR)

CLEANING HAIR CLIPPERS AND ELECTRIC SHEARS: While clipper/shear is running, hold in the downward position and spray a 1.5-ounce per 5 gallons of water solution (or equivalent use dilution) (469 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. Rinse surfaces thoroughly. 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. Turn off clipper/shear. Immerse pre-cleaned shear/implement into a container of 1.5 ounces per 5 gallons of water solution (or equivalent use dilution) (469 ppm active quat) of this product for at least 10 minutes. Rinse surfaces thoroughly. Remove shear/implement and wipe dry. Use fresh solution at least daily or when immersion tank (bowl) (sink) solution becomes diluted or visibly soiled.

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

DISINFECTION 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 0.3 ounce per gallon of water (or equivalent use dilution) (469 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.

DISINFECTION/FUNGICIDE/VIRUCIDE 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 2 ounces per 5 gallons of water (or equivalent use dilution) (625 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 ¼ ounce per 2 gallons (or equivalent use dilution) (200 ppm active) of water for at least 3 minutes. Rinse thoroughly and dry before use. Fresh solution must be prepared at least daily or more often if solution becomes cloudy or soiled.

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

RESTROOM/BATHROOM

NON-ACID TOILET BOWL (& URINAL) (& BATHROOM) DISINFECTANT/CLEANER DIRECTIONS

Remove gross filth prior to disinfection.

FROM CONCENTRATE: Add ½ oz. 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.

(Or use alternate Concentrate Use directions)

FOR USE AS A NON-ACID BOWL CLEANER/DISINFECTANT IN TOILET BOWLS FROM CONCENTRATE:

1. Pre-clean heavily soiled areas.
2. Add ½ fluid ounces into toilet bowl.
3. Swab entire surface area especially under the rim.
4. Repeat and allow entire surface to remain wet for ten (10) minutes.
5. Flush toilet and rinse swab applicator thoroughly.

FROM USE-SOLUTION: Preclean surface. Empty toilet bowl or urinal and apply a 0.3 oz per gallon 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 spray application, use a coarse spray device.

(Or use alternate Use-Dilution directions)

FOR USE AS A NON-ACID BOWL CLEANER/DISINFECTANT IN TOILET BOWLS (AND URINALS) FROM USE-DILUTION:

1. Pre-clean heavily soiled areas.
2. Empty toilet bowls by forcing water through the trap. Allow toilet bowl to refill with water and apply Use Solution to exposed surfaces in toilet bowls and urinals.
3. Swab entire surface area especially under the rim.
4. Allow entire surface to remain wet for ten (10) minutes.
5. Flush toilet and rinse swab applicator thoroughly.

(Or use alternate Use-Dilution directions)

TOILET BOWLS/URINALS: Swab bowl with brush to remove heavy soil prior to cleaning or disinfecting. Clean by applying use-solution around the bowl and up under the rim. Stubborn stains may require brushing. To disinfect, first preclean to remove heavy soil, then remove or expel over the inner trap the residual bowl water. Allow to bowl to refill with water and pour in 0.3 oz. of the use dilution. Swab the bowl completely using a scrub brush or mop, making sure to get under rim. Let stand for 10 minutes or overnight, then flush.

FOR HEAVY DUTY CLEANING: Preclean surface. Empty toilet bowl or urinal and apply 9 ounces per 5 gallons (or equivalent dilution) use solution to exposed surfaces including under the rim with a cloth, mop, sponge or sprayer. Brush or swab thoroughly and allow to stand for 10 minutes and flush. For sprayer application, use a coarse spray device and swab all areas after spraying.

(Or)

GENERAL CLEANING TOILET BOWL: Apply (Open cap) (Squeeze gently, directing) 0.3 ounce 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: A preliminary cleaning is required for the removal of heavy soil prior to disinfection. Fill toilet bowl with clean water. Saturate mop with 0.5 ounce 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: Fill toilet bowl with clean water. Apply (Squeeze) 0.5 ounce 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 DISINFECT TOILET BOWLS: Flush to remove heavy soil. To clean, simply squirt 0.3 ounce 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, squirt 0.6 ounce of this product under the rim and around the sides. Scrub bowl with mop. Allow solution to remain in the bowl for 10 minutes after scrubbing. Flush and rinse.

(Or)

TO DISINFECT TOILET BOWLS:

1. Remove gross filth and heavy soil deposits.

2. Fill toilet bowl with clean water.
3. Apply 0.5 ounce of this product to swab applicator, cloth, mop, sponge, or directly to surface.
4. Swab entire surface area, especially under the rim.
5. Allow entire surface to remain wet for ten (10) minutes.
6. 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 0.5 ounce of this product per 128 ounces of water to exposed surfaces including under the rim with a cloth, mop, sponge or sprayer. Allow toilet bowl to fill with water. Brush or swab thoroughly 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 0.5 ounce of this product per 128 ounces 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 solution of 0.5 ounce of this product per 128 ounces of water directly to urinal surfaces including water outlets area for general cleaning.
3. Then pour additional solution on applicator.
4. Clean entire unit, especially under rim at water outlets, with applicator.
5. Remove screen trap to deodorize drain and apply 0.6 ounce 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 0.5 ounce of (product name) per gallon of water (625 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 0.5 ounces of this product per gallon of water (625 ppm quat active) to floors, walls and ceilings making sure not to over spray. To disinfect, all surfaces must remain wet for ten (10) minutes.

Special instructions for foam guns: Pour concentrate into foam gun bottle and attach bottle to spray nozzle and ensure gun is attached to hose. (Note: See foam gun instructions for more information. Make sure setting is set for a 1:426 dilution.) Once in place, squeeze the handle to disperse foam solution. To disinfect, all surfaces must remain wet for ten (10) minutes. (Foam guns not for use in California.)

3. Scrub using a deck brush or other coarse material as necessary.
4. Rinse surfaces thoroughly and let air dry.

Note: Rinsing is not necessary unless floors are to be coated with finish or restorer. 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.

RV HOLDING TANKS/RECREATIONAL VEHICLES: For toilet waste and holding tanks, cover bottom of holding tank with water and 0.275 – 1.07 ounce per gallon of water (or equivalent use dilution) to deodorize. If odors return before time to empty, add 0.275 – 0.55 ounce per gallon of water (or equivalent use dilution) to the tank. For kitchen waste, add 0.275 – 0.55 ounce per gallon of water (or equivalent use dilution) to gray water tank as needed to control malodors created by dirty dishwater.

FUNGICIDAL/DEODORIZATION / MOLD & MILDEW

FUNGICIDAL PERFORMANCE:

Aspergillus niger (ATCC 16404)
Trichophyton mentagrophytes (ATCC 9533)

FUNGICIDAL ACTIVITY: At 2 ounces per 5 gallons use-level (or equivalent use dilution) (625 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 the presence of 5% blood serum in locker rooms, dressing rooms, shower and bath areas and exercise facilities. Saturate surfaces with use solution. Treated surfaces must remain wet for 10 minutes. Allow solution to dry on surface and repeat treatment every seven days or when new growth appears.

MOLD AND MILDEW CONTROL: At 2 ounces per 5 gallons, (or equivalent use dilution) (625 ppm active quat) this product will effectively inhibit 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). Allow solution to dry on surface and repeat treatment every seven days or when new growth appears. Allow surface to remain wet for ten (10) minutes.

CLEANING/DEODORIZING DIRECTIONS: Add 1 1/8 to 4.5 ounces per gallon (or equivalent dilution) of water 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.

GENERAL DEODORIZATION: To deodorize, add 1 1/2 ounces of this product to 5 gallons of water (or equivalent use dilution) (469 ppm active quat). Excess 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 preclean for the product to perform properly. Then, apply a wetting concentration of 1.625 ounces of this product per gallon of water (or equivalent use dilution) (2,500 ppm quat active). Treated surfaces must remain wet for 10 minutes.

FOR DEODORIZING SEPTIC STORAGE TANKS: When tanks are empty, pour 1.5 oz. per 5 gallons of water (469 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: A solution of 1.5 ounces of this product per 5 gallons of water (or equivalent use dilution) (469 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

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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 and rinse with water. Saturate surfaces with a use solution of 1.5 ounces per 5 gallons (469 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 2 ounces per 5 gallons (625 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.

GLASS CLEANING/DEODORIZING DIRECTIONS: Add ¼ to 0.875 fluid ounce per gallon (1-4 milliliters per liter) 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.

HUMIDIFIER DIRECTIONS: Thoroughly clean water tank and filters. Add 0.05 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 gallon of water in the humidifier tank add 0.05 ounces of this product (or equivalent use dilution). When you refill the tank, add 0.05 ounce of this product for every gallon of water added in the tank (or equivalent use dilution).

Not for use in heat vaporizing or atomizing type humidifiers.

WATER/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, frame lumber, tackless strip and paneling. Saturate affected materials with enough product to remain wet for at least 10 minutes. Use proper ventilation.

SEWER BACKUP & RIVER FLOODING (Not for use in California.): During mitigation procedures, dilute ½ to 1 ounce 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: For water damage from a clean water source, extract excess water. Test hidden area for colorfastness. Dilute ½ to 1 ounce of the product per gallon of water (or equivalent use dilution) (781-1562 ppm active quat), 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: This product may be used in industrial, institutional, commercial and residential areas such as homes, motel & hotel chains, nursing homes, schools and hospitals. 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 ½ ounce of this product per 2 gallons of water (or equivalent use dilution).

For Truck Mounted Extraction Machines: Mix 6 ounces of this product per gallon water (or equivalent use dilution) and meter at 4 gallons per hour.

For Rotary Floor Machines: Mix ½ ounce 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

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, hotel chains, nursing homes and hospitals.

Vacuum carpet thoroughly prior to application. Mix ½ ounce of this product per 2 gallons 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 ½ 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 must 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. Saturate affected materials with enough product to remain wet for at least 10 minutes. Use proper ventilation.

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OTHER USES

DISINFECTION/FUNGICIDE 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 2 ounces of this product for each 5 gallons of (0.40 ounces to one gallon) (or equivalent use dilution) (625 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 and 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 4 1/8 fluid ounces (or equivalent use dilution) in a free flow waterbed of 90 to 180 gallon capacity. Add 8 1/4 fluid ounces (or equivalent use dilution) 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 1.5 ounces of this product to 5 gallons of water (or equivalent use dilution) (469 ppm active) to the entire body. Bathe the entire body using sponge or washcloth. A soft brush may be employed on surfaces other than the face. Allow a 10 minute contact time for optimal results. Prepare a fresh solution for application of each remains.

FOR USE ON FINISHED FLOORS: To limit gloss reduction, use 4 ounces of this product per 5 gallons of water (or equivalent use dilution). Apply with a damp mop or auto scrubber. Allow surface to air dry.

DAIRY COW APPLICATION DIRECTIONS: The teats of dairy cows can be washed with a solution of 1/2 ounce of this product in 4 gallons of warm water. Use a fresh towel for each cow. Avoid contamination of wash solution by dirt and soil. Do not dip used towel back into wash solution. When solution becomes visibly dirty, discard and provide fresh solution.

ARTIFICIAL TURF SURFACES: This product may be used as a disinfectant on indoor and outdoor artificial turf surfaces such as athletic game fields and practice fields (i.e. football, soccer, baseball, lacrosse, golf). Prepare a 2 oz of this product per 5 gallons of water solution (625 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 2 oz per 5 gallons of water (625 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. Wipe the soiled area clean. This product is not to be used on dishware, glasses or eating utensils.

DISINFECT/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 and faucets apply 2 oz per 5 gallons of water (625 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-cleaning step must be done according to the Kitchen/Bathroom/Household Cleaning directions. 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 1/4 ounce of this product for each 2 gallons of (or equivalent use dilution) (200 ppm active quat) water at this point. Briefly start the pump to circulate the solution. Turn 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 3 minutes. 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.

LAUNDRY DEODORIZER (AGAINST ODOR CAUSING BACTERIA): Use 1.75 ounces per 100 pounds of dry weight fabric. Dilute the appropriate amount of this product in one to two gallons of water, then add to the wash wheel in the final rinse. Re-treat fabric after each washing. For activity against odor causing bacteria, conditions of high relative humidity or wet contamination are required. Laundered fabric may also be treated by soaking.

SANITIZATION OF EXTERIOR HOUSEHOLD SURFACES DIRECTIONS

Preparation of Use Solution: Add 1/8 ounce per gallon of water (200 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. Surfaces to be treated include house siding, decks, patios, walkways and driveways.

Application: Preclean surfaces. 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 to control exposure to spray, pressure wash surfaces to thoroughly clean all treated areas using a high-pressure spray. Do not breathe spray. One-half gallon of diluted product will treat 200-300 sq ft of turf surface.

WATER TREATMENT DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Please read entire label and use strictly in accordance with precautionary statements and directions.

INDUSTRIAL WATER TREATMENT

Do not use water containing residues from use of this product to irrigate crops for food or feed.

Use of the product in either public/municipal or single or multiple family private/residential potable/drinking water systems is strictly prohibited. Use of the product in any cooling water system that discharges effluent within 1/4 mile of either a public/municipal or single or multiple family private/residential potable/drinking water intake is strictly prohibited.

To control algae and bacterial slimes use Maquat® 20-M as directed. For best results, slug feed. The frequency of addition of microbiocide needed depends on many factors. To optimize your use of Maquat® 20-M, follow this procedure.

INDUSTRIAL AND/OR COMMERCIAL RECIRCULATING COOLING WATER TOWERS AND RECIRCULATING COOLING WATER SYSTEMS

- 1. DOSING LOCATION:** This product is to be applied at a point in the system where it will be uniformly mixed, such as at the sump.
- 2. DOSING CONDITION:** This product should be applied when the system is in jeopardy of being affected or after cleaning systems where efficiency is already impaired.
- 3. METHOD OF APPLICATION:**

a. INTERMITTEN OR SLUG METHOD

Initial Dose: The dose should be poured into the sump of a system which is clean or in which growth is first noticed. Add ½-1 gallon of this product to each 5000 gallons of water contained in the system (20-40 ppm on an active quaternary basis). When heavy algae growth is present, system will have to be cleaned manually. Repeat until control is evident.

Subsequent Dose: Add ½-1.5 quarts of this product to each 5000 gallons of water contained in the system (5-15 ppm on an active quaternary basis). The dose should be poured into the sump. The above directions are to be followed once weekly or as needed. If algae growth is noticeable, apply the initial dose.

b. MODIFIED INTERMITTEN METHOD

Initial Dose: The dose should be poured into the sump of a system which is clean or in which growth is first noticed. Add ½-1 gallon of this product to each 5000 gallons of water contained in the system (20-40 ppm on an active quaternary basis). When heavy algae growth is present, system will have to be cleaned manually. Repeat until control is evident.

Subsequent Dose: Add ½-1.5 quarts of this product to each 5000 gallons of water contained in the system (5-15 ppm on an active quaternary basis). The dose should be poured into the sump. The above directions are to be followed once weekly or as needed. If algae growth is noticeable, apply the initial dose.

c. CONTINUOUS METHOD

Initial Dose: When the system is noticeably fouled, apply ½ gallon (20 ppm on an active quaternary basis) per 5000 gallons of water in the system.

Subsequent Dose: Maintain this treatment by starting a continuous feed of ½ quart (5 ppm on an active quaternary basis) per 5000 gallons of water lost by blowdown. Badly fouled systems must be cleaned before treatment is begun.

BACTERIAL, FUNGAL AND ALGAE CONTROL IN RECIRCULATING AUXILIARY AND WASTE WATER SYSTEMS, AND PASTEURIZERS

Initial dose: Add this product at an initial dosage of ½-1 gallon per 5,000 gallons of system water (200-400ppm). Repeat until the desired level of control is achieved. Heavily contaminated systems must be pre-cleaned.

Subsequent dose: Once control is achieved, add maintenance dosages of ½-2 quarts per 5,000 gallons of system water (50-200 ppm) weekly or as needed to maintain

control. Apply this product to a point in the system where it will be uniformly mixed and distributed, such as the tower sump.

SWIMMING POOLS

This product requires no special equipment for treating swimming pool water. The correct use dilution may be added directly to the pool in any spot or added to the water-circulation equipment. This product works best when added by itself directly to the pool water.

Ensure all pool equipment is working properly. Backwash the filter system following manufacturer's directions. Adjust pH between 7.2-7.6. Adjust chlorine residual to 1-3 ppm. In a chlorine treated pool, add stabilizer to establish a minimum level of 40-50 ppm to reduce the degradative effects of sunlight upon the chlorine residual. Check for metals and if present add stain and scale inhibitor to prevent staining of pool surface due to metals. Check chlorine residual and adjust to 1-3 ppm.

Add this product directly into pool by pouring around entire outside perimeter of pool. Allow the filter to run for at least six (6) hours after adding algicide. During this period swimmers should not be allowed into the water.

INITIAL APPLICATION FOR SWIMMING POOLS:

1. Backwash the filter thoroughly.
2. Vacuum algae debris to waste and thoroughly brush pool.
3. Add ½ gallon of this product to 50,000 gallons of water (13 ounces per 10,000 gallons) or ratio thereof.
4. Vacuum pool after 24 hours to remove dead algae.
5. If algae is still visible repeat dose (steps 3 & 4) as necessary until pool is free of visible algae.
6. Once algae is under control, clean filter and return to normal operation.

Maintenance application: Add ½ quart of this product of 50,000 gallons of water every 3-5 days or as needed to maintain 0.5 ppm active. Quaternary Test Kits are available for this use.

If high temperatures prevail or pool has unusually heavy use, add maintenance dose more frequently.

Booster application: Add ½ quart of this product in 50,000 gallons of water after a heavy or prolonged rainfall or when there is a heavy bathing load.

The above directions should be followed even when the pool is not in use.

If algae growth is noticeable, apply initial dose.

Vacation treatment: When you are going to be away for one week or more, add 12 ounces of this product per 10,000 gallons of water for every week unattended. Pour product around the edges of the shallow end of the pool, if shock is also being applied in the deep end of pool.

Winterizing treatment: When swimming pool season is over, add ½ gallon of this product to 50,000 gallons of water left in pool. This dose helps provide a measure of control of algae growth during the winter months.

For persistent algae or slime producing organisms add ½ quart of this product in to the skimmer with the filter pump running. After one minute shut off pump and allow the system to remain off overnight. The following day, restart the filter pump and add ½ quart of this product to the pool. Run filter continuously for 24-48 hours brushing the sides and bottom of the pool frequently.

(Usage chart for one-gallon containers)

| Swimming Pool Capacity Gallon of Water | Initial Treatment | Maintenance Dose Booster Dose |
|--|-------------------|-------------------------------|
| 5,000 | 6.4 ounces | 1.6 ounces |
| 10,000 | 12.8 ounces | 3.2 ounces |
| 20,000 | 25.6 ounces | 6.4 ounces |
| 25,000 | 32.0 ounces | 8.0 ounces |
| 30,000 | 38.4 ounces | 9.6 ounces |
| 40,000 | 51.2 ounces | 12.8 ounces |
| 50,000 | 64.0 ounces | 16.0 ounces |

(OR)

(Usage chart for one-quart containers)

| Swimming Pool Capacity Gallon of Water | Initial Treatment | Maintenance Dose Booster Dose |
|--|-------------------|-------------------------------|
| 5,000 | 6.4 ounces | 1.6 ounces |
| 10,000 | 12.8 ounces | 3.2 ounces |

TO DETERMINE POOL CAPACITY

Rectangular Pools: Length (*times*) width (*times*) average depth (in feet) (*times*) 7.5 (*equals*) gallons.

Round and Oval Pools: Long diameter (*times*) short diameter (*times*) average depth (in feet) (*times*) 5.9 (*equals*) gallons

When this product is used as directed it will prevent development of *Chlorella pyrenoidosa* (green algae), *Phormidium inundatum* (black algae), *Phormidium retzi* (blue-green algae), *Lyngba versicolor* (blue-green algae), and other swimming pool algae.

This product is compatible with many swimming pool chemicals and when used as directed it is not harmful to the metal paint, plastic or tile surfaces of the swimming pool.

This product when used as directed will help improve the appearance and cleanliness of the swimming pool water.

This product helps inhibit the growth of unsightly algae.

One gallon treats 50,000 gallons.

OUTSIDE SPAS/WHIRLPOOLS/HOT TUB BATHS

Initial Dose: Add 2.55 fluid ounces of this product per 2000 gallons of pool water. Initial dose is used upon filling of spa/whirlpool/hot tub bath.

Maintenance Dose: Add 0.65 fluid ounces of this product per 2000 gallons of water. Maintenance dose should be added at 3-5 day intervals. If high temperatures prevail or spa/whirlpool/hot tub bath has unusually heavy use, add maintenance dose more frequently. Drain and clean spa/whirlpool/hot tub bath at least once a month or as needed depending on bather load.

HORTICULTURAL AND ORNAMENTAL PLANT

FOR COMMERCIAL USE

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.

Treatment is restricted to indoor uses or uses in which controlled conditions to prevent runoff and exposure to the environment. In the case of diseased trees, the spot treatment of trees must be at least 100 feet from any pond, lake, stream, or river to prevent possible runoff of the product into the waterway. **Do Not Apply by Aerial Spray.**

COMMERCIAL FLORIST USE DIRECTIONS: To clean, disinfect and deodorize hard, non-porous surfaces in one step, prepare use solution by adding (mixing) 1½ ounces per 5 gallons of water (469 ppm active) (or equivalent use dilution). For heavy-duty use, add (mix) 6 ounces per 5 gallons of water (1,875 ppm active) (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.

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

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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. The wipe up excess or allow to air dry. Fresh solution must be prepared daily and 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 1.5 oz. of this product per 5 gallons of water 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 1.5 oz. of this product per 5 gallons of water 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 1.5 oz. of this product per 5 gallons 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 solutions of 0.13 oz. (1 tsp.) of this product per gallon of water. Allow to air dry. Wash off dead algae with water. Spray clean surface again with the solution. Do not rinse. To apply solutions for sprayer applications, 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 0.03 oz. (¼ tsp.) of this product per quart of water. Lightly spray plants with same solution.

WALKWAYS: For heavy infestations, spray or swab surface with a solution of 0.5 oz. (1 tbsp. of this product per gallon of water. 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 to dry on the surface and repeat application when algae growth returns. To apply solutions for sprayer applications, use as a coarse spray only.

BIRD BATHS: DO NOT use when fish are present. Clean to remove algae growth prior to filling birdbath and spray the exposed surface with a solution of 0.5 oz. (1 tbsp.) of this product per gallon of water. Allow to air dry and brush off dead algae.

FOUNTAINS, WATER DISPLAYS, DECORATIVE AND SWIMMING POOLS/PONDS AND STANDING WATER (in such places as puddles at golf courses, recreational parks, amusement parks, universities and cemeteries): DO NOT use when fish are present. Remove floating type algae by raking, dragging with cable or chain, skimming, or any other suitable method. It is more economical to remove floating type algae before the water is treated. Treat water by “dribbling” this product (1 part of this product to 4 parts water) around the edges where visible algae growth is evident. Apply 12 ounces of use solution per 1000 gallons of water. The use solution is often dribbled liberally along

the windward side to float across the water and along the leeward side where contamination gathers. Where a spray rig is available, it may be used to apply the use solution instead of the hand “dribbling” method.

Note: Algae does not usually grow in water that is 5 feet or more in depth. However, floating type algae may grow on pond weeds that grow on the surface of the water.

DECORATIVE POOL APPLICATIONS

Initial Dosage: 0.13 oz. (1 tsp.) per 52 gallons of water (5ppm*)
1 oz. per 312 gallons of water (5ppm)
1 pint per 5,000 gallons of water (5ppm)
1 quart per 10,000 gallons of water (5ppm)

Weekly Maintenance: Add not more than one-half the initial dosage. When pool is to remain empty for several weeks or longer, spray exposed surfaces with a solution of 0.5 oz. (1 tbsp.) of this product per gallon of water.

OPERATING FOUNTAINS APPLICATIONS

Initial Dosage: Add a 0.06 oz. (0.5 tsp) of this product per 52 gallons of water a time. Repeat until slight patches of foam appear. Then discontinue. Overdose reduces lighting efficiency.

Weekly Maintenance: Add not more than ½ the initial dosage until slight foam reappears.

Monthly Maintenance: Drain and clean bowl. Refill with fresh water and repeat initial treatment. Draining also removes airborne dirt, dust, contamination and alkali buildup.

SWIMMING POOL APPLICATIONS

Initial Dose when algae is present: Apply 2 quarts of product per 50,000 gallons water (or 13 ounces per 10,000 gallons of water) followed by cleaning out settled algae next day and retreatment at the same dosage. This is repeated until the pool is clear of visible algae. Then 1 pint of product per 50,000 gallons of water (or 3 1/5 ounces per 10,000 gallons of water) is used every 5 –7 days to maintain control.

Initial Dose when no signs of algae: Apply 1 pint of product per 50,000 gallons of water (or 3 1/5 ounces per 10,000 gallons of water) every 5 – 7 days.

Apply product along edges of pool. Keep the filter running to facilitate one change over of water in the pool after treatment. Back flush the filter if it becomes clogged or if the pressure drops. After adding the product wait 30 minutes before using the pool to allow the product to be distributed evenly throughout the pool. At the beginning of the swimming season or after a storm, remove branches, leaves and other foreign material before treating pool with product.

TREATMENT OF LAWNS, GOLF COURSES (Greens and Tees only) AND COMMERCIAL TURF

To control fungal diseases [including dollar spot (*Scierotinia*), fusarium blight (*Fusarium*), leaf spot (*Helminthosporium*), brown patch (*Rhizoctonia*), fading out (*Curvularia*), Southern blight (*Scierotium rolfsii*), pythium blight, rust, toad stools and fairy rings] and algal build-up in turf grasses, including lawns of GRASS or DISHONDRA, spray a solution of one tablespoon (1/2 oz) of this product per gallon of water. Treat at the rate of one gallon of solution to 40 square feet (4 ft. x 10 ft.) of lawn. Treat entire lawn to prevent spread of infection or at least one foot beyond the edges of isolated diseased areas. Saturate the entire treatment area, wetting all plant and soil surfaces. Repeat spray applications every 10 to 14 days, as needed to control new or established disease conditions. Treatment is required during the warm growing season and must be made when the lawn is dry or damp, but not during wet rainy weather.

For golf courses: greens and tees only, and commercial turf applications, follow the use directions above. If commercial power sprays are used, reduce spray concentration to one teaspoon per gallon of water (or one pint to 50 to 100 gallons of spray mixture to treat 10,000 square feet or ¼ acre) (1.6 oz. per 1,000 square feet or ½ gallon per acre).

Do not graze treated areas or feed clippings to livestock. Do not exceed 25 gallons per 1000 sq. ft. Do not exceed treatment of 10 acres (2000 gallons) with retreatment at 10 day intervals not to exceed 6 treatments per year.

MOSQUITO CONTROL

This product is not intended to be used for broadcast mosquitocide application but rather is limited to small residential ponds, decorative ponds, and similar areas. This product is not to be used in open waterways connected to larger watersheds or in waters that serve as natural habitats for aquatic and amphibious organisms. This product control mosquitoes where they breed (fountains, water displays, decorative pools, decorative ponds, sewage treatment systems, spas, hot tubs, swimming pools and standing water in old tires, empty tin cans, barrels, puddles, and water drains around buildings). Do not exceed 10 applications at a minimum of 10-day intervals per year. Note: Only out-of-season, not-in-service, or inactive spas, hot tubs, swimming pools require treatment for mosquito control. Do not treat during the swimming season. Spray from fountains treated with this product will not harm poolside plantings. DO NOT use when fish or other wildlife (for example, amphibians) are present.

When used as directed, this product is effective as an ovicidal, larvacidal, pupacidal control of aedes aegypti (Yellow fever carrier) and Culex nigripalpus (carrier of various diseases of man and animal, such as heartworm and Hepatitis) mosquitos. This product will also reduce larval populations of Anopheles quadrimaculatus (Malaria carrier) mosquitoes.

This product controls mosquitoes where they breed (fountains, water displays, decorative pools, decorative ponds, sewage treatment systems, spas, hot tubs, swimming pools and standing water in such places as old tires, empty tin cans, barrels, puddles, and water drains around buildings). NOTE: Only **out-of-season, not-in-service, or inactive** spas, hot tubs, swimming pools require treatment for mosquito control. Do not treat during the swimming season.

Spray from fountains treated with this product will not harm poolside plantings. DO NOT use when fish are present.

| INITIAL DOSAGE | | | | |
|----------------|----------|-----|------------------------|------------|
| This product | | Per | Unit water for 200 ppm | |
| Metric | US | | Metric | US |
| 3.8 cc | 0.13 oz. | | 3.78 L | 1 gal. |
| 38.0 cc | 1.28 oz. | | 37.85 L | 10 gal. |
| 380 cc | 12.8 oz. | | 378.5 L | 100 gal. |
| 3785.0 cc | 1.0 gal. | | 3.75 KL | 1,000 gal. |

Treat Water by "dribbling" this product solution around the edges of the site to be treated. Where a spray rig is available – it may be used to apply the use solution – instead of the hand dribbling method.

*ppm – parts per million active ingredient

| WEEKLY MAINTENANCE | | | | |
|--------------------|-----------|-----|------------------------|------------|
| This product | | Per | Unit water for 100 ppm | |
| Metric | US | | Metric | US |
| 1.9 cc | 0.065 oz. | | 3.78 L | 1 gal. |
| 19.0 cc | 0.64 oz. | | 37.85 L | 10 gal. |
| 190 cc | 6.4 oz. | | 378.5 L | 100 gal. |
| 1892.5 cc | 64 oz. | | 3.75 KL | 1,000 gal. |

Each week repeat maintenance dosage or add this product using a test kit to maintain the proper concentration.

*ppm – parts per million active ingredient

OTHER USES

OVERHEAD WATERING SYSTEMS: During the last 2-3 minutes of watering use 1 (2 tablespoons) of this product per 20 gallons of water as a control program. Due 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 1 teaspoon of this product per 15 gallons of water every other week.

Note: Not all varieties or strains of plants listed have been tested. 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.

FOR RESIDENTIAL USE

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.

Treatment is restricted to indoor uses or uses in which controlled conditions to prevent runoff and exposure to the environment. In the case of diseased trees, the spot treatment of trees must be at least 100 feet from any ponds, lake, stream, or river to prevent possible runoff of the product into the waterway. **Do Not Apply by Aerial Spray.**

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 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 daily and when use solution becomes visibly dirty. To apply solution for sprayer applications, use as a coarse spray only.

WORK AREAS AND BENCHES: Spray or swab working surface with a solution of 0.5 oz. (1 tbsp.) 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.

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POTS, FLATS AND FLOWER BUCKETS: Brush or wash used pots and flats, then soak in a solution of 0.5 oz. (1 tbsp.) 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 0.5 oz. (1 tbsp.) 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 0.13 oz. (1 tsp.) of this product per gallon of water. 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 applications, 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 0.03 oz. (¼ tsp.) of this product per quart of water. Lightly spray plants with same solution.

WALKWAYS: For heavy infestations, spray or swab surface with a solution of 0.5 oz. (1 tbsp.) of this product per gallon of water. 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 to dry on the surface and repeat application when algae growth returns. To apply solutions for sprayer applications, use as a coarse spray only.

BIRD BATHS: DO NOT use when fish are present. Clean to remove algae growth prior to filling birdbath and spray the exposed surface with a solution of 0.5 oz. (1 tbsp.) of this product per gallon of water. Allow to air dry and brush off dead algae.

FOUNTAINS, WATER DISPLAYS, DECORATIVE AND PONDS AND STANDING WATER: DO NOT use when fish are present. Remove floating type algae by raking, dragging with cable or chain, skimming, or any other suitable method. It is more economical to remove floating type algae before the water is treated. Treat water by “dribbling” this product (1 part of this product to 4 parts water) around the edges where visible algae growth is evident. Apply 12 ounces of use solution per 1000 gallons of water. The use solution is often dribbled liberally along the windward side to float across the water and along the leeward side where contamination gathers.

Note: Algae does not usually grow in water that is 5 feet or more in depth. However, floating type algae may grow on pond weeds that grow on the surface of the water.

DECORATIVE POOL APPLICATIONS

Initial Dosage: 0.13 oz. (1 tsp.) per 52 gallons of water (5ppm*)
1 oz. per 312 gallons of water (5ppm)
1 pint per 5,000 gallons of water (5ppm)

Weekly Maintenance: Add not more than one-half the initial dosage. When pool is to remain empty for several weeks or longer, spray exposed surfaces with a solution of 0.5 oz. (1 tbsp.) of this product per gallon of water.

OPERATING FOUNTAINS APPLICATIONS

Initial Dosage: Add a 0.06 oz. (0.5 tsp) of this product per 52 gallons of water at a time. Repeat until slight patches of foam appear. Then discontinue. Overdose reduces lighting efficiency.

Weekly Maintenance: Add not more than ½ the initial dosage until slight foam reappears.

Monthly Maintenance: Drain and clean bowl. Refill with fresh water and repeat initial treatment. Draining also removes airborne dirt, dust, contamination and alkali buildup.

TREATMENT OF LAWNS

To control fungal diseases [including dollar spot (*Scierotinia*), fusarium blight (*Fusarium*), leaf spot (*Helminthosporium*), brown patch (*Rhizoctonia*), fading-out (*Curvularia*), Southern blight (*Scierotium rolfsii*), pythium blight, rust, toad stools and fairy rings] and algal build-up in turf grasses, including lawns of GRASS or DISHONDRA, spray a solution of 0.4 ounces per gallon to treat 40 square feet (4 ft. x 10 ft.) of lawn. Treat at the rate of 0.4 ounces per gallon to treat 40 square feet (4 ft. x 10 ft.) of lawn. Treat entire lawn to prevent spread of infection or at least one ft. beyond the edges of isolated diseased areas. Saturate the entire treatment area, wetting all plant and soil surfaces. Repeat spray applications every 10 to 14 days, as needed to control new or established disease conditions. Treatment is required during the warm growing season and must be made when the lawn is dry or damp, but not during wet rainy weather.

Limited to spot treatment of diseased areas. Do not exceed 25 gallons per 1000 sq. ft. with retreatment at 10 day intervals not to exceed 6 treatments per year.

MOSQUITO CONTROL

This product is not intended to be used for broadcast mosquitocide application but rather is limited to small residential ponds, decorative ponds, and similar areas. This product is not to be used in open waterways connected to larger watersheds or in waters that serve as natural habitats for aquatic and amphibious organisms. This product control mosquitoes where they breed (fountains, water displays, decorative pools, decorative ponds, sewage treatment systems, spas, hot tubs, swimming pools and standing water in old tires, empty tin cans, barrels, puddles, and water drains around buildings). Do not exceed 10 applications at a minimum of 10-day intervals per year. Note: Only out-of-season, not-in-service, or inactive spas, hot tubs, swimming pools require treatment for mosquito control. Do not treat during the swimming season. Spray from fountains treated with this product will not harm poolside plantings. DO NOT use when fish or other wildlife (for example, amphibians) are present.

When used as directed, this product is effective as an ovicidal, larvacidal, pupacidal control of *Aedes aegypti* (Yellow fever carrier) and *Culex nigripalpus* (carrier of various diseases of man and animal, such as heartworm and Hepatitis) mosquitoes. This product will also reduce larval populations of *Anopheles quadrimaculatus* (Malaria carrier) mosquitoes.

This product controls mosquitoes where they breed (fountains, water displays, decorative pools, decorative ponds, spas, hot tubs, swimming pools and standing water in such places as old tires, empty tin cans, barrels, puddles, and water drains around buildings). NOTE: Only **out-of-season**, **not-in-service**, or **inactive** spas, hot tubs, swimming pools require treatment for mosquito control. Do not treat during the swimming season.

Spray from fountains treated with this product will not harm poolside plantings. DO NOT use when fish are present.

| INITIAL DOSAGE | | | | |
|----------------|----------|-----|------------------------|----------|
| This product | | Per | Unit water for 200 ppm | |
| Metric | US | | Metric | US |
| 3.8 cc | 0.13 oz. | | 3.78 L | 1 gal. |
| 38.0 cc | 1.28 oz. | | 37.85 L | 10 gal. |
| 380 cc | 12.8 oz. | | 378.5 L | 100 gal. |

Treat Water by "dribbling" this product solution around the edges of the site to be treated.

*ppm – parts per million active ingredient

| WEEKLY MAINTENANCE | | | | |
|--------------------|-----------|-----|------------------------|----------|
| This product | | Per | Unit water for 100 ppm | |
| Metric | US | | Metric | US |
| 1.9 cc | 0.065 oz. | | 3.78 L | 1 gal. |
| 19.0 cc | 0.64 oz. | | 37.85 L | 10 gal. |
| 190 cc | 6.4 oz. | | 378.5 L | 100 gal. |

Each week repeat maintenance dosage or add this product using a test kit to maintain the proper concentration.

*ppm – parts per million active ingredient

OTHER USES

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 1 teaspoon of this product per 15 gallons of water every other week.

Note: Not all varieties or strains of plants listed have been tested. 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.

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)

(For Disinfection packet only) Pour contents of packet into 5 gallons of water. Keep packets in box until ready to use.

(For Food Contact Sanitization packet only) Pour contents of packet into 4 gallons 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.

ORCHIDS

| Species | Diseases Controlled | Rate/Gal of water | Additional Information |
|-----------------|--|---------------------|---|
| Seedlings | Damping-off (caused by Pythium, Fusarium, or Rhizopus) | 0.2 oz. (1.5 tsp.) | From flask, soak seedling in solution for 2-5 minutes before potting to remove agar. Spray seedlings once a month as preventative maintenance. Spray any time disease is evident with solution. |
| Dividing plants | | 0.5 oz. (1 tbsp.) | Remove compost then soak plant for 2-5 minutes in solution. Operate with wet hands and cutting tools (see Disinfecting). After division and root trim, soak divisions in solution for 2 to 5 minutes. Pot in compost drenched with solution. |
| Adult Plants | | 0.25 oz. (2 tsp.) | Spray any time disease, other than rot (see Adult Orchid Rots), is evident with solution. Spray once per month as preventative maintenance. Drench compost when fungus is evident. |
| | Botrytis petal blight | 0.04 oz. (1/3 tsp.) | During cool weather, spray plants, flowers and under benches at first sign of spotting on flowers. Normally, weekly sprayings will greatly reduce or eliminate the botrytis spotting. |
| | Rots (such as <i>Erwiniam</i> , et al) | 0.5 oz. (1 tbsp.) | Remove compost from plant, then soak entire plant 10 minutes or more in solution. Cut away all rot with treated tool (see Disinfecting). Soak plant wounds again for 10 minutes in solution, Report in drenched compost. |
| | Crown rot | 0.25 oz. (2 tsp.) | Spray plants weekly with solution, assuring coverage around and in base of leaves. |

HORTICULTURAL USAGES

| Species | Diseases Controlled | Rate/Gal of water | Additional Information |
|---|---|-------------------|--|
| Bulbs such as Daffodils, Easter lilies, Gladioli, Hyacinth, Iris, Narcissus, Tulips | Fusarium basal rot | 0.5 oz. (1 tbsp.) | Prestorage: Treat the corms and bulbs immediately after they are "cleaned" by soaking them for 10 minutes in the solution. Preplant: Treat again immediately before planting. |
| Cut Flowers in containers, tubes and decorative vases | Bacterial stem plugging (restricts water uptake) Fungi (can create ethylene gas, a case of petal drop) | 0.13 oz. (1 tsp.) | Flower spikes should be hardened in solution during harvesting, storage and shipping to help control the transfer of diseases. |
| Plant Cuttings such as Begonias, Carnations, Chrysanthemums, Fuschias, Geraniums | Carnation rust, Crown gall, Gray mold leaf spots and Powdery mildew | 0.25 oz. (2 tsp.) | Soak cuttings 2-5 minutes in the solution. Plant in compost drenched with the solution. |
| Seedlings | Damping off | 0.25 oz. (2 tsp.) | Treat seeds and cuttings before planting by spraying with solution to completely wet all surfaces. Use inert material for planting seeds and cuttings, such as sphagnum moss, vermiculite, perlite, pumice, sterilized commercial mix rather than garden soil. If garden soil must be used, thoroughly saturate with the solution. After planting, water with solution (unless using soil saturated as above) and again after seedlings emerge. Spray weekly as needed. |
| | Downy mildew | 0.25 oz. (2 tsp.) | Spray with solution at 5 day intervals as needed. |

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ORNAMENTAL USAGES

| Species | Diseases Controlled | Rate/Gal of water | Additional Information |
|--|---|-------------------|--|
| Aucuba, Dahlia, Fuschia, Geranium, Gladiolus, Peony, Piersis | Botrytis | 0.25 oz. (2 tsp.) | Spray buds and blooms lightly at first sign of disease, and repeat 2-3 times per week as needed. Before shipping, dip spikes in solution. |
| | Downy mildew, Gray mold | 0.25 oz. (2 tsp.) | Spray at first sign of disease repeating at 7-14 day intervals. Before shipping, dip spikes in solution. |
| | Rust | 0.25 oz. (2 tsp.) | Spray at 7-14 day intervals during the wet periods starting in early Summer. Before shipping, dip spikes in solution. |
| Begonias, Ferns, Gesneria | Bud rot, Leaf spots, Gray mold, Shoot rot | 0.13 oz. (1 tsp.) | Spray solution before buds open, when blossoms show pink, at ¾ blossom fall, and 2 weeks after petal fall. |
| Cactus | Bacterial leaf spot, Root rot, Top rot | 0.25 oz. (2 tsp.) | Sterilize seeds and disease free cuttings by dipping cuttings in the solution for 5 minutes before planting. Then spray at 10-14 day intervals. |
| | Slimy collar rot | 0.25 oz. (2 tsp.) | Just before planting, dip entire plant in the solution. |
| Calendulas, China Asters, Chrysanthemum, Dahlias, Lilac, etc. | Powdery mildew | 0.25 oz. (2 tsp.) | Spray upper and lower surface of leaves and branches with solution until thoroughly wet. Spray when buds burst in Spring and repeat in 2 weeks. Spray every 2 weeks during the mildew season. |
| Carnations | Canker rot, Carnation rust, Crown rot, Leaf spot, Root rots, Stem rot | 0.25 oz. (2 tsp.) | Spray at first sign of disease and repeat at 7-10 day intervals. |
| | Gray mold rot | 0.25 oz. (2 tsp.) | Spray 1-2 times just before bloom and again as flowers are opening. |
| Crassula, Kalanchoe, Sedum | Crown gall, Crown rot, Root rot | 0.25 oz. (2 tsp.) | Destroy infected plant parts and drench the remainder. Spray plants weekly as needed. |
| Dogwood | Anthracnose, Leaf blight, Leaf spots | 0.25 oz. (2 tsp.) | Spray 4 times: when flower buds begin to open, as soon as flower bracts have fallen, 4 weeks later, and in late summer after flower buds are well formed. If possible, spray just before rainy period. |
| Fuschia, Gardenia, Geranium, Heliotrope | Bud rot, Gray mold, Stem rot | 0.25 oz. (2 tsp.) | Spray at first sign of disease and repeat weekly as needed. |
| Hawthorn | Rust | 0.25 oz. (2 tsp.) | Begin protective spraying with new leaf formation after winter dormancy but before onset of rainy season. Thoroughly spray undersides of infected leaves. |
| Hawthorn (Crataegus) | Leaf blights | 0.25 oz. (2 tsp.) | Make 3 applications: begin when leaves emerge from buds, when leaves are half grown, and again when fully grown. |
| Hollyhock | Rust | 0.25 oz. (2 tsp.) | Apply at weekly intervals as soon as growth begins. Repeat applications in late Summer. |
| Iris | Botrytis, Crown rot, Gray mold rot | 0.25 oz. (2 tsp.) | Treat all new rhizomes before planting. Submerge rhizomes and 3-4" of leaves in the solution for 30 minutes. Plant at once while still wet with solution. |
| | Leaf spots | 0.25 oz. (2 tsp.) | Spray weekly with solution while leaves are growing. |
| Ornamental trees (such as Sycamore, Ash, Crape Myrtle, Live Oak, etc.) | Anthracnose | 0.25 oz. (2 tsp.) | Spray upper and under sides of leaves and twigs until thoroughly wet. A large tree requires 50-60 gallons of spray per treatment for adequate coverage. Make 3 applications: when buds start to swell in the spring, as leaves start to expand, and when leaves are about ¾ grown. |
| | Powdery Mildew | 0.25 oz. (2 tsp.) | Spray upper and lower surface of leaves and branches with solution until thoroughly wet at bud break and again in April. Apply 50-60 gallons of spray per tree for adequate coverage. |

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| | | | |
|--------------------------------|---|-------------------|--|
| Palms | Heart rot, Penicillium, leaf base rot | 0.25 oz. (2 tsp.) | At first sign of rot, completely fill cup or "heart" formed by the palm branches at top center of the plant. Repeat every 7 days as needed. |
| Roses | Black spots, Powdery mildew, Rusts, Stem gall | 0.25 oz. (2 tsp.) | When symptoms appear, spray upper and lower surface of leaves and branches with solution until thoroughly wet. Apply at 7-10 day intervals as needed. |
| | Brown canker | 0.25 oz. (2 tsp.) | Begin spray applications in early spring when new growth starts and repeat weekly until plant is dormant. |
| Rubber Plant | Anthracoese, Crown gall | 0.13 oz. (1 tsp.) | Spray plant at first sign of disease and repeat weekly as needed. |
| Saintpaulias (African Violets) | Bud rot, Crown rot, Downy mildew, Gray mold rot (Botrytis), Powdery mildew, Root rot | 0.09 oz. (¼ tsp.) | Dip entire plant and pot in the solution for 5 minutes. Thereafter, spray every 10 days as needed. |
| Snapdragons | Anthracoese, Downy mildew, <i>Phyllosticta</i> blight, Powdery mildew, Stem rot, Wilt | 0.25 oz. (2 tsp.) | When symptoms appear, spray upper and lower sides of leaves until thoroughly wet. Repeat every 7-10 days as needed. Collect and burn tops in the fall. |
| | Rust | 0.25 oz. (2 tsp.) | Apply at 7-10 day intervals as soon as plants are set out. Collect and burn tops in the Fall. |

**TWO OUNCE PACKET LABEL TO BE USED WITH MASTER
CONTAINER LABEL FOR DISINFECTION**

FOR DISINFECTION

MIX EACH PACKET WITH 5 GALLONS OF WATER

MAQUAT 20-M

E.P.A. Reg. No. 10324-94 E.P.A. Est. No. 10324-IL-1

NET CONTENTS: 2.0 FLUID OZ.

ACTIVE INGREDIENTS:

Alkyl (C₁₄ 60%, C₁₆ 30%, C₁₂ 5%, C₁₈ 5%)
dimethyl benzyl ammonium chloride 10.0%
Alkyl (C₁₂ 68%, C₁₄ 32%)
dimethyl ethylbenzyl ammonium chloride 10.0%

INERT INGREDIENTS: 80.0%

TOTAL: 100.0%

KEEP OUT OF REACH OF CHILDREN

DANGER

SEE OUTER CONTAINER FOR PRECAUTIONARY STATEMENTS AND USE
DIRECTIONS.

DISPOSAL: Do not reuse container. Wrap and put in trash collection.

MASON CHEMICAL COMPANY

"THE QUATERNARY SPECIALISTS"

721 W. Algonquin Road
Arlington Heights, IL 60005

847-290-1621

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1-800-362-1855



**ONE-HALF (1/2) OUNCE PACKET LABEL TO BE USED
WITH MASTER CONTAINER LABEL FOR FOOD
CONTACT SANITIZER**

FOR FOOD CONTACT SANITIZER

MIX EACH PACKET WITH 4 GALLONS OF WATER

MAQUAT 20-M

E.P.A. Reg. No. 10324-94 E.P.A. Est. No. 10324-IL-1

NET CONTENTS: 0.5 FLUID OZ.

ACTIVE INGREDIENTS:

Alkyl (C₁₄ 60%, C₁₆ 30%, C₁₂ 5%, C₁₈ 5%)
dimethyl benzyl ammonium chloride 10.0%
Alkyl (C₁₂ 68%, C₁₄ 32%)
dimethyl ethylbenzyl ammonium chloride 10.0%

INERT INGREDIENTS: 80.0%

TOTAL: 100.0%

KEEP OUT OF REACH OF CHILDREN

DANGER

SEE OUTER CONTAINER FOR PRECAUTIONARY STATEMENTS AND USE
DIRECTIONS.

DISPOSAL: Do not reuse container. Wrap and put in trash collection.

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