

10324-66



12/24/2008

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

OFFICE OF  
PREVENTION, PESTICIDES  
AND TOXIC SUBSTANCES

December 24, 2008

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

Subject: Defend  
EPA Registration No. 10324-66  
Application Dated: December 18, 2008  
Receipt Date: December 22, 2008

Dear Ms. Tannehill:

The following amendment, submitted in connection with registration under section of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), is acceptable.

**Proposed Amendment:**

Updated labeling

**Other comments:**

A stamped copy of the accepted labeling is enclosed.

The Agency is moving away from review of paper submitted registration applications to electronic review of applications. Therefore, we need your help to make this an efficient and convenient process for both you and the Antimicrobials Division. Accordingly, we are asking you to submit future labeling amendments for this product via the electronic labeling process. Refer to the following website for guidance on electronic submissions, including label:

<http://www.epa.gov/pesticides/regulating/registering/submissions/index.htm>. If you have questions concerning electronic labeling, a list of contacts is available at the following site:

<http://www.epa.gov/oppfead1/eds/edsgoals.htm#contacts>.

~~Should you have any questions concerning this letter, please contact me by telephone at (703) 308-6422 or email address at: [heyward.adam@epa.gov](mailto:heyward.adam@epa.gov), or Renae Whitaker telephone at (703) 308-7003 or email address at: [whitaker.renae@epa.gov](mailto:whitaker.renae@epa.gov) during the hours of 8:00 am to 3:30 pm EST. When submitting information or data in response to this letter, a copy of this letter should accompany the submission to facilitate processing.~~

Sincerely,



Adam Heyward  
Product Manager (34)  
Regulatory Management Branch II  
Antimicrobials Division (7510P)

Enclosure: EPA stamped approved labeling



**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. 10324-66

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

# DEFEND

Net Contents

Batch No.

### PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**DANGER, Corrosive.** Causes irreversible eye damage and skin burns. Harmful if swallowed or 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, or using tobacco. Remove contaminated clothing and wash clothing before reuse.

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

### ENVIRONMENTAL HAZARD

This pesticide is toxic to fish. Do not discharge effluent containing this product into lakes, streams, 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 mix with oxidizers, anionic soaps and detergents  
Do not use or store near heat or open flame.

*(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).

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

### PINE OIL QUATERNARY DISINFECTANT

Cleaner, Disinfectant, Fungicide, Mildewstat, Deodorizer, Sanitizer with Organic Soil Tolerance For Medical and Non-Medical use Areas\*, for Non-Medical Use Areas\*\* Hospital, Institutional and School Use.

Athletic Surface Disinfectant  
Formulated for effective Poultry Sanitation.

#### ACTIVE INGREDIENTS:

Octyl Decyl Dimethyl Ammonium Chloride.....	0.5700"
Didecyl Dimethyl Ammonium Chloride.....	0.285
Dioctyl Dimethyl Ammonium Chloride.....	0.285%
Alkyl (C <sub>14</sub> , 50%; C <sub>12</sub> , 40%; C <sub>16</sub> , 10%) dimethyl benzyl ammonium chloride.....	0.760%
Pine Oil.....	2.500%

<b>INERT INGREDIENTS:</b> .....	95.600%
<b>TOTAL</b> .....	100.000%

**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. In case of emergency call toll free: 1-800-362-1855.

**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.

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

*(Note to Reviewer: This information has been verified per DOT regulations. It is NOT required to be on the label but is being requested by a customer.)*

#### Transportation Information

DOT Hazard Class: Not Corrosive

DOT Proper Shipping Name: Not Applicable

**ACCEPTED**

DEC 24 2003

Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 10324-66

3/7

(Note to reviewer: The Table of Contents will not be on any label. This is for our customer's reference only. The page numbers will change when the label changes.)

#### Table of Contents

Description	Page No.
Organism Guide	2
Marketing Claims	3
Disinfection	
General	6
Hospital/Healthcare	6
Deodorization/Mold & Mildew	7
Barber/Salon	8
Restroom/Bathroom	8
Food Processing	9
Animal Premises	9
Horticultural	11
Other	12

#### 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 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:

*Enterobacter aerogenes* (ATCC 13048)  
*Enterococcus faecalis* (ATCC 29212)  
*Escherichia coli* (ATCC 11229)  
*Salmonella enterica* (ATCC 10708)  
*Salmonella typhi* (ATCC 6539)  
*Serratia marcescens* (ATCC 14756)  
*Shigella dysenteriae* (ATCC 11835)  
*Streptococcus pyogenes* (ATCC 12344)  
*Staphylococcus aureus* (ATCC 6538)

**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:

*Enterobacter aerogenes* (ATCC 13048)  
*Enterococcus faecalis* (ATCC 29212)  
*Escherichia coli* (ATCC 11229)  
*Salmonella enterica* (ATCC 10708)  
*Salmonella typhi* (ATCC 6539)  
*Serratia marcescens* (ATCC 14756)  
*Shigella dysenteriae* (ATCC 11835)  
*Streptococcus pyogenes* (ATCC 12344)  
*Staphylococcus aureus* (ATCC 6538)  
*Pseudomonas aeruginosa* (ATCC 15442)

**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 H3N2 virus* (ATCC VR-2072)  
*HIV-1 (AIDS Virus)*

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

*Staphylococcus aureus* (ATCC 6538)  
*Klebsiella pneumoniae* (ATCC 4532)

**FUNGICIDAL PERFORMANCE:** This product is effective on inanimate surfaces in the presence of 5% blood serum against:

*Trichophyton mentagrophytes* (athlete's foot fungus) (a cause of Ringworm) (a cause of Ringworm of the foot) (ATCC 9533)  
*Aspergillus niger* (ATCC 6275)

#### MARKETING CLAIMS

Defend 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, hospices.
- Patient care rooms & facilities, recovery rooms, anesthesia, Emergency Rooms, 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 and industrial institutions, churches, classrooms, community colleges, universities, athletic facilities and locker rooms, exercise rooms, exercise facilities, exercise equipment, gyms, gymnasiums, fieldhouses.
- Cosmetic manufacturing facilities, medical device manufacturing facilities, biotechnology firms, pharmaceutical manufacturing facilities, warehouses.
- Heath 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.
- 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, Fruit, Vegetable, Ice Cream, and Potatoes and beverage plants.
- Tobacco plant premises and equipment.
- Veterinary clinics, animal life science laboratories, animal laboratories, animal research centers, animal quarantine areas, animal holding areas, equine farms, animal research centers, animal quarantine areas, animal breeding facilities, 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, barns, cattle barns, swine barns, sheep barns, horse barns, brooder houses.
- Household and automotive garages, boats, ships, barges, watercraft, campers, RV's, trailers, mobile homes, cars, automobiles, automobile interiors, trucks, delivery trucks, boxcars, tankers, tank trucks, buses, trains, taxis, helicopters 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.
- Crypton barrier fabric

This product can be used on washable hard non-porous surfaces such as:

- Food preparation and storage areas.

- Counters (countertops), stoves (stovetops), sinks (bathroom, kitchen), tub surfaces, non-food contact surfaces of Slurppy® machines, and exterior surfaces of appliances, refrigerators, and ice machines.
- 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. (Note: Only r statement will be used on label.)
- Telephones and Telephone booths.
- Hair clippers, cutting implements, plastic rollers, washable nail files and workstations.
- Hard hats, headphones.
- Kennels, kennel runs, kennel/cages floors, conductive flooring, x-ray tables.
- Hatchers, setters, trays, racks, egg flats, walls, floors, ceilings, chick boxes, egg cases, vans and trash containers, seed houses.
- Wrestling and gymnastic mats, athletic training tables, physical therapy tables.

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, by immersion or by soaking.

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

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

This product is for use as a disinfectant on hard, non-porous surfaces (at 859 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 (at 343 ppm active). A potable water rinse is required.

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

One-step cleaner.

Cleans and shines.

Antibacterial.

Cross contamination is of major housekeeping concern in schools, medical institutions, and industry. This product has been formulated to aid in the reduction of cross contamination on treated surfaces.

This product is an effective one-step sanitizer-cleaner for use on non-food contact surfaces.

Effective non-food contact sanitizer in the presence of 5% serum contamination. (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.

This product can 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.

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

Disinfects (and Sanitizes) non-food contact kitchen surfaces (bathroom surfaces and floors). Sanitizes non-food contact kitchen surfaces (bathroom surfaces and floors). Kills germs. Kills household bacteria. A potable water rinse is required after application on food contact surfaces.

Kills common kitchen (bathroom) 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 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.

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

Kill Avian influenza A on pre-cleaned environmental surfaces.

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

Hospital use Disinfectant. Institutional Disinfectant. Non-Food Contact Sanitizer.

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

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

This product is a proven "one-step" disinfectant - cleaner mildewstat - non-food contact sanitizer - fungicide - presence of organic soil.

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

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. A potable water rinse is required after use for disinfection of food contact surfaces. Do not use on glasses, dishes, utensils, or interior surfaces of appliances.

This product is a one-step (hospital-use) germicidal (disinfectant) cleaner and deodorant (odor-counteractant) (odor neutralizer) designed for general cleaning, (and) 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, food service establishments (restaurants) and federally inspected meat & 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 after use for disinfection of 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. 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 ambulance equipment and surfaces that would necessitate replacement.)

This product is a versatile cleaner, sanitizer and disinfectant 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 mal odors.

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 bacteria and odors caused by animal waste, septic tank or sewage backup, smoke and bathroom and kitchen odors.

This product inhibits bacterial growth on surfaces and deodorizes by killing microorganisms that cause offensive 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 is a one-step disinfectant cleaner that is effective against a broad spectrum of bacteria, is fungicidal, and will prevent the growth of mold and mildew and their odors when used as directed.

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 on shower curtains.

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

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.

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 small animal cages, substrate and cage furniture (plastic terrarium ornaments and water dishes).

This product cleans, disinfects and deodorizes surfaces (hard, non-porous environmental 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 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 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 can 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.

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

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

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, headphones, half mask respirators, full face breathing apparatus, gas masks, goggles, spectacles, face shields, hearing protectors and ear muffs. Rinse all equipment that comes in prolonged contact with skin before reuse with clean warm water (about 120°F), and allow to air dry. (Precaution: Cleaning at 120°F temperature will avoid overheating and distortion of the personal safety equipment that would necessitate replacement.)

Use to clean and disinfect non-medical (i.e. industrial, 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.

This product is for use as a disinfectant on hard, non-porous surfaces (at 859 ppm active). A potable water rinse is required after application on food contact surfaces.

Cleans everyday kitchen messes.

Cleans non-food contact kitchen surfaces.

*Escherichia coli* (*E. coli*), *Salmonella enterica* (*Salmonella*), and *Staphylococcus aureus* (*Staph*) are common germs found where food is prepared and stored. This product kills these bacteria and helps prevent the spread of food borne contamination on treated kitchen surfaces listed on this label. A potable water rinse is required after application on food contact surfaces. This product is not for use on dishes, glassware or eating utensils.

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 such as 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) such as 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 (non-food contact) surface where disinfection is required. A potable water rinse is required for food contact surfaces.

### DIRECTIONS FOR USE

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

### DISINFECTION/FUNGICIDAL DIRECTIONS

**PREPARATION OF USE SOLUTION:** Before using this product, food products and packaging materials must be removed from the room or carefully protected. Add 2.5 ounces of this product per gallon of water (859 ppm active quat) (or equivalent use dilution) to disinfect hard non-porous surfaces OR mix a 2.5-ounce packet with 1 gallon of water. Apply to walls, floors and other hard (inanimate) surfaces such as table chairs, countertops, sinks and bed frames with a cloth, mop or mechanical spray device so as to thoroughly wet surfaces. 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 10 minutes. Let air dry. 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):** At 5 ounces per gallon use level (or equivalent use dilution) with a 10-minute contact time, this product is effective against:

*Enterobacter aerogenes* (ATCC 13048)

*Enterococcus faecalis* (ATCC 29212)

*Escherichia coli* (ATCC 11229)

*Salmonella enterica* (ATCC 10708)

*Pseudomonas aeruginosa* (ATCC 15442)

*Salmonella typhi* (ATCC 6539)

*Serratia marcescens* (ATCC 14756)

*Shigella dysenteriae* (ATCC 11835)

*Streptococcus pyogenes* (ATCC 12344)

*Staphylococcus aureus* (ATCC 6538)

**DISINFECTION PERFORMANCE IN NON-MEDICAL FACILITIES (Households, Schools, Restaurants, Food Services, Beverage and Food Processing Plants & Other Non-Medical Facilities):** At 2.5 ounces per gallon use level (or equivalent use dilution) with a 10-minute contact time, the activity of this product has been evaluated by the AOAC use dilution test and found to be effective against a broad spectrum of gram negative and gram positive organisms as represented by:

*Enterobacter aerogenes* (ATCC 13048)

*Enterococcus faecalis* (ATCC 29212)

*Escherichia coli* (ATCC 11229)

*Salmonella enterica* (ATCC 10708)

*Salmonella typhi* (ATCC 6539)

*Serratia marcescens* (ATCC 14756)

*Shigella dysenteriae* (ATCC 11835)

*Streptococcus pyogenes* (ATCC 12344)

*Staphylococcus aureus* (ATCC 6538)

At 5 ounces per gallon use level (or equivalent use dilution) with a 10-minute contact time, this product has been evaluated by the AOAC use dilution test and found to be effective in the presence of both 5% blood serum and 400 ppm hard water against:

*Salmonella enterica* (ATCC 10708)

*Staphylococcus aureus* (ATCC 6538)

**VIRUCIDAL\* PERFORMANCE:** At 2.5 ounces per gallon use level (or equivalent use dilution), this product was evaluated with a 10-minute contact time and found to be



effective in the presence of 5% blood serum against the following viruses on hard, non-porous surfaces:

Avian Influenza A H3N2 virus (ATCC VR-2072) HIV-1 (AIDS Virus)

**NON-FOOD CONTACT SANITIZING PERFORMANCE:** At 1 ounce per gallon use-level (or equivalent use dilution) and with a 1-minute contact time, this product is an effective one-step sanitizer against the following on hard non-porous environmental surfaces:

*Klebsiella pneumonia* (ATCC 4532) *Staphylococcus aureus* (ATCC 6538)

Acceptable for use in federally inspected meat and poultry establishments. The use of all cleaning compounds in federally inspected meat and poultry establishments must be followed by a potable water rinse. Do not use undiluted. Avoid contact with eyes and mucous membranes.

**FUNGICIDAL AGAINST:**

*Trichophyton mentagrophytes* (athlete's foot fungus) (a cause of Ringworm) (a cause of Ringworm of the foot) (ATCC 9533)  
*Aspergillus niger* (ATCC 6275)

**FUNGICIDAL CONTROL:** At 2.5 ounces per gallon use level, fungicidal activity has been demonstrated in the presence of 5% blood serum and with a 10-minute contact time, when used on surfaces such as locker rooms, dressing rooms, shower and bath areas, exercise facilities against *Trichophyton mentagrophytes* (the athlete's foot fungus) and *Aspergillus niger*.

**CLEANING AND DISINFECTION:** For heavily soiled areas, a pre-cleaning step is required. For one step cleaning and disinfection, use 2.5 fluid ounces of this product per 1 gallon of water (859 ppm active quat) (or equivalent use dilution). 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 (2.5 ounces per gallon) (859 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 (H3N2):** For use in homes, hospitals, hotels, motels and schools, the directions for hospital disinfection must be followed using a rate of 5 oz per gallon of water. (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 1 ounce per gallon (343 ppm active quat) (or equivalent use dilution) of water to sanitize hard, non-porous environmental surfaces. Apply sanitizer use solution 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 1 minute then wipe with sponge, mop or cloth or allow

surface to air dry. This product is not for use to disinfect, sanitize, or clean eating utensils, glassware and dishes.

**HOSPITAL/DISINFECTION/VIRUCIDAL\*/FUNGICIDAL DILUTION CHART**

Ounces of Product	Amount of Water
1.25 ounces	1 quart
2.5 ounce	½ gallon
5 ounces	1 gallon
12.5 ounces	2 ½ gallons
25.0 ounces	5 gallons
50 ounces	10 gallons

**GENERAL DISINFECTION/VIRUCIDAL\*/FUNGICIDAL DILUTION CHART**

Ounces of Product	Amount of Water
0.625 ounces	1 quart
1.25 ounce	½ gallon
2.5 ounces	1 gallon
6.25 ounces	2 ½ gallons
12.5 ounces	5 gallons
25.0 ounces	10 gallons

**DILUTION CHART:**

- For Hospital or Medical Environment claims 5oz/1 gal. water
- For General or Broad Spectrum claims 2.5 oz/1 gal. water
- For Virucidal\* claims 2.5 oz/1 gal. water
- For Animal Virucidal\* claims 2.5 oz/1 gal. water
- For Non-Food Contact Sanitizing claims 1 oz/1 gal. water
- For Fungicidal/Mold and Mildew claims 2.5 oz/1 gal. water

**HOSPITAL/HEALTH CARE/INSTITUTIONAL**

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

This product is not to be used as a terminal sterilant/high level disinfectant on any surface or instrument that (1) is introduced directly into the human body, either into or in contact with the bloodstream or normally sterile areas of the body, or (2) contacts intact mucous membranes but which does not ordinarily penetrate the blood barrier or otherwise enter normally sterile areas of the body. This product can be used to pre-clean or decontaminate critical or semi-critical medical devices prior to sterilization high level disinfection.

(Or)

This product is not for use on Medical device surfaces.

Defend is a Hospital Use Disinfectant at 5 ounces per gallon (or equivalent use dilution).

**HOSPITAL DISINFECTANT DIRECTIONS:** Add 5 ounces per gallon (or equivalent use dilution) to disinfect hard, non-porous surfaces OR mix a 5-ounce packet with 1 gallon of water. 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 2.5 ounces per gallon of water use level, (859 ppm active quat) (or equivalent use dilution) treated surfaces must remain wet for ten minutes. For heavily soiled areas, a preliminary cleaning is required. Prepare a fresh solution at least daily or more often if solution becomes diluted or soiled.

**\*KILLS HIV 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 blood or body fluids and in which the surfaces/objects likely to be soiled with blood or body fluids can be associated with the potential for transmission of human immunodeficiency virus Type 1 (HIV-1) (associated with AIDS).

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

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

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

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

**Contact Time:** Leave surface wet for 10 minutes with a 2.5-ounce per gallon use solution.

**SURGICAL INSTRUMENT PRESOAK:** Add 5 ounces of this product to 1 gallon of water (or equivalent use dilution). Place pre-cleaned instruments in solution to presoak surgical instruments for a minimum of 10 minutes, then proceed with normal sterilization procedure.

**Note:** Plastic instruments can remain immersed until ready to use. 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.

**ULTRASONIC BATH DISINFECTANT DIRECTIONS:** Use this product to disinfectant hard, (inanimate) non-porous, non-critical objects compatible with Ultrasonic cleaning units. Pour (a) fresh solution at 5 ounces of this product per gallon of water (or equivalent use dilution) directly into bath chamber. Pre-clean heavily soiled objects. Place objects into unit and operate for a minimum of 10 minutes, according to the manufacturers' (use) directions. Remove objects and wash (rinse) with sterile water (sterile water for injection) or allow to air dry. Prepare fresh solution for each use.

**FOR DISINFECTING HARD, NON-POROUS (FIBERGLASS) BATH AND THERAPY EQUIPMENT:** To remove body oils, dead tissue, soil and all other buildups or organic matter on inanimate surfaces after using the unit, drain the water and refill with fresh water to just cover the intake valve. Add 5 ounces of this product for each gallon of water (or equivalent use dilution) 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. Product to surface contact time must be at least 10 minutes for proper disinfection. After the unit has been thoroughly disinfected, drain solution from the unit and rinse any/all cleaned surfaces with fresh water. The unit is ready for reuse.

**CLEANING AND DISINFECTING HARD, NON-POROUS SURFACES ON PERSONAL PROTECTIVE EQUIPMENT (RESPIRATORS):** Pre-clean equipment if heavily soiled to ensure proper surface contact. Add 5 ounces of this product to one

gallon of water (or equivalent use dilution). 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 SANITIZING DIRECTIONS:** Use this product to sanitize hard (inanimate) nonporous non-critical objects compatible with Ultrasonic cleaning units. Pour fresh solution of 1 ounce per gallon of water (or equivalent use dilution) (343 ppm active quat) directly into bath chamber. Pre-clean soiled objects. Place objects into unit and operate for a minimum of 1 minute, 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 visible dirty or discolored.

**Note:** This product in its use solution is compatible with stainless steel, aluminum : most other surfaces. Before product use, it is recommended that you apply product to a smaller test area to determine compatibility before proceeding with its use.

#### FOOD PROCESSING PREMISES

Before using this product, food products and packaging materials must be removed from the room or carefully protected. After use, all surfaces in the area must be thoroughly rinsed with potable water.

**DIRECTIONS FOR FOOD PROCESSING PLANTS:** For use on non-food contact surfaces such as floors, walls, tables, garbage cans and disposal areas. Before using 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, mop 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 floors, walls and storage areas, add 2.5 ounces of this product to 1 gallon of water (or equivalent use dilution) (859 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 surfaces to remain wet for 10 minutes. Then remove excess liquid. After use, all surfaces in the area must be thoroughly rinsed with potable water.

**TO DISINFECT FOOD SERVICE ESTABLISHMENT FOOD CONTACT SURFACES:**

For countertops, exterior surfaces of appliances, and tables. Before using this product food products and packaging materials must be removed from area or carefully protected. Add 2.5 ounces of this product to 1 gallon of water (or equivalent use dilution) (859 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 surfaces to remain wet for 10 minutes. Then remove excess liquid and rinse the surface with potable water. This product is not for use on dishes, glassware or eating utensils.

**FOR USE ON NON-FOOD CONTACT SURFACES AS A GENERAL DISINFECTANT IN THE BREWERY INDUSTRY:** Use 2.5 ounces of this product per 1 gallon (or equivalent use dilution) (859 ppm active quat) of water. Follow the disinfectant directions above.

**SANITIZING NON-FOOD CONTACT SURFACE DIRECTIONS  
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 1-ounce of this product per gallon of water (343 ppm active quat) (or equivalent use dilution) solution for 1 minute prior to entering area. Change the sanitizing solution in the bath at least daily or sooner if solution appears dirty.

**SHOE FOAM DIRECTIONS:** To prevent cross contamination from area to area in animal areas, and the packaging and storage areas of food plants, apply a foam layer approximately 0.5 to 2 inches thick made from a solution of 1 to 2.5 ounces per gallon of water (or equivalent use dilution) (343 to 859 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 1 minute 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 (1 oz. per gallon of water) (343 ppm active) of sanitizing solution. The (spray) (foam) must cover the entire path of the doorway. Set the system so that a continuous wet blanket of sanitizer solution is delivered to the floor.

Do not mix other foam additives to the sanitizing solution.

**ANIMAL PREMISES**

**ANIMAL VIRUCIDAL\* PERFORMANCE:** This product was evaluated at 2.5 ounces per gallon of water (859 ppm active quat) (or equivalent use dilution) with a 10-minute contact time and found to be effective in the presence of 5% blood serum against the following virus on hard, non-porous surfaces:

*Avian Influenza A (H3N2) virus*

**VETERINARY PRACTICE (CLINICS)/ANIMAL CARE FACILITIES/ANIMAL RESEARCH CENTERS/ANIMAL LABORATORY/ANIMAL QUARANTINE AREAS/ ANIMAL LIFE SCIENCE LABORATORY/ZOOS/PET SHOP/KENNELS/ANIMAL HUSBANDRY/ANIMAL BREEDING FACILITIES/BREEDING AND GROOMING ESTABLISHMENTS DISINFECTION DIRECTIONS:** For cleaning and disinfecting the

following hard, non-porous surfaces: equipment not used for animal food or water, utensils, instruments, and cages. Remove all animals, and their feed from premises, animal transportation vehicles, crates, etc. Remove all litter, droppings and manure from floors, walls and surfaces occupied or traversed by animals. Saturate surfaces, or immerse all hard, non-porous equipment used in handling and restraining animals, as well as forks, shovels, and scrapers used for removing litter and manure, with a use solution of 2.5 ounces of this product per gallon of water (859 ppm active quat) (or equivalent dilution). Allow surfaces to remain wet for 10 minutes. Ventilate buildings and other closed spaces where treatment has been performed. Thoroughly scrub all treated surfaces with soap or detergent and rinse with potable water before reuse. Do not house animals or employ equipment until treatment has been absorbed set or dried. Prepare fresh solution at least daily or when solution becomes visibly dirty.

**SMALL ANIMAL CAGE AND CAGE FURNITURE DISINFECTION:** Animals frequently defecate on cage furniture items inside the cage. 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.

1. Remove all animals.
2. Saturate all surfaces (floors, walls, cages and other washable hard, non-porous environmental surfaces) with the disinfecting and virucidal\* solution (2.5 ounces per gallon of water (or equivalent use dilution) (859 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.
3. 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.
4. Do not return animals to the habitat until it is dry and ventilated.
5. Thoroughly scrub all treated surfaces with soap or detergent and rinse with potable water before reuse.
6. Prepare fresh solution at least daily or when solution becomes visibly dirty.
7. Clean cage 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 cages must be completely dry before returning to. Always replace substrate if a foul odor persists.

**FARM PREMISE DISINFECTION DIRECTIONS**

**FARM PREMISE USE (Poultry/Turkey Farms):** 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, chutes and other facilities and fixtures occupied or traversed by animals. Empty all troughs, racks and other feeding and watering appliances. Thoroughly clean all surfaces with soap or detergent and rinse with water. Saturate all surfaces with a use solution of 2.5 ounces of this product per gallon of water (859 ppm active quat) (or equivalent dilution) for a period of 10 minutes. Immerse all 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 animals or employ equipment until treatment has been absorbed, set or dried. Thoroughly scrub all treated feed racks, 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 and enclosures.
2. Remove all litter and manure from floors, walls and surfaces of facilities and fixtures occupied or traversed by animals.
3. Empty all 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 (2.5 ounces per gallon of water or equivalent use dilution) (859 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 types of equipment used in handling and restraining animals as well as forks, shovels, scrapers used in removing litter and manure.
7. Ventilate buildings and other closed spaces. Do not house animals or employ equipment until treatment has been absorbed, set and dried.
8. Thoroughly scrub all treated feed racks, troughs, automatic feeders, fountains and waterers with soap or detergent and rinse with potable water before reuse.

#### POULTRY/TURKEY ANIMAL QUARTERS AND KENNEL SANITATION

**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/VIRUCIDE OF POULTRY/TURKEY EQUIPMENT, ANIMAL QUARTERS AND KENNELS DIRECTIONS:** Prior to disinfection, remove all poultry and feed from premises, vehicles (trucks and cars) and enclosures (coops, crates). Remove all litter, droppings and manure from floors, walls and surfaces of barns, pens and other surfaces of facilities and fixtures 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. Use 2.5 ounces of this product per gallon of water (or equivalent use dilution) (859 ppm active quat). Saturate surfaces with the disinfecting solution for a period of 10 minutes. Immerse all 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 and other closed spaces. Do not house poultry 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.

(OR)

**APPLICATION AND USE DILUTION POULTRY/TURKEY/SWINE PREMISE, ANIMAL QUARTERS AND KENNELS:** Remove all poultry and feeds from premises, vehicles (trucks and cars), and enclosures (coops, crates). Remove all litter, droppings and manure from floors, walls and surfaces of barns, pens and other facilities and other 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. Use 2.5 ounces of DEFEND per gallon of water (or equivalent use dilution) (859 ppm active quat). Saturate surfaces with the disinfecting solution for a period of 10 minutes. Immerse all 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

employ equipment until treatment has been absorbed, set or dried. Thoroughly scrub all treated feed racks, troughs, automatic feeders, fountains and waterers, and other equipment which may contact food or water with soap or detergent, and rinse with potable water before reuse.

(OR)

#### FOR USE IN 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), 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) 2.5 oz per gallon of water for a period of 10 minutes.
6. Immerse all 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 animals or employ equipment until treatment has been absorbed, set and dried.
8. Thoroughly scrub all treated feed racks, mangers, troughs, automatic feed, fountains and waterers with soap or detergent and rinse with potable water before reuse.

**HATCHERIES:** Use 2.5 ounces of this product per gallon of water (859 ppm active quat) (or equivalent use dilution) to treat the following hard, non-porous surfaces: hatching, setters, trays, racks, egg flats, walls, floors, ceilings, chick boxes, egg cases, trash containers, carts, sexing tables, delivery trucks, vans and other hard surfaces. Leave all treated surfaces exposed to disinfectant solution wet for 10 minutes or more. Rinse with potable water before reuse. Then allow to air dry.

**VEHICLES:** Clean all vehicles including mats, crates, cabs, and wheels with high-pressure water and this product. Use 2.5 ounces per gallon of water to treat all vehicles. Leave all treated surfaces exposed to disinfectant solution wet for 10 minutes or more and allow to air dry. For sprayer applications, use a coarse spray device.

**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 2.5 oz. per gallon of water (or equivalent dilution) (859 ppm active) 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 (2.5 oz. per gallon of water) (or equivalent dilution) (859 ppm active). 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 (2.5 oz. per gallon of water) (or equivalent dilution) (859 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.

**SPECIAL INSTRUCTIONS FOR INACTIVATING AVIAN INFLUENZA A (H3N2):**

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 (2.5 oz per gallon of water) (859 ppm active quat) (equivalent use dilution) for a period of 10 minutes. Immerse all 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. *(new stmt)*

**SANITIZING NON-FOOD CONTACT SURFACE DIRECTIONS  
IN ANIMAL PREMISES**

**TO SANITIZE HOOF TRIMMING EQUIPMENT:** Prior to application, pre-clean hoof trimming equipment and utensils 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 solution of 1 oz. of this product per 1 gallon of water (343 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 1 minute followed by adequate draining or air drying. Prepare fresh solution at least daily or when solution becomes visibly dirty.

**BARBER/SALON**

**DISINFECTION/VIRUCIDE FOR BARBER/SALON TOOLS DIRECTIONS:** Immerse pre-cleaned barber/salon tools (such as combs, brushes, razors, manicare/pedicure tools, clippers, tweezers, clipper and trimmer blades, cutting implements, plastic rollers, and scissors) in a 2.5-ounce per gallon solution (or equivalent use dilution) (859 ppm active quat) of the product. 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. (Alternate statement: Prepare a fresh solution at least daily or more often if solution becomes cloudy or soiled.)

(OR)

**DISINFECTING 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 2.5 ounces per gallon (or equivalent use dilution) (859 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 2.5-ounce per gallon of water solution (or equivalent use dilution) (859 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 2.5 ounces per gallon of water solution (or equivalent use dilution) (859 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.

(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, clipper blades, razors, manicare implements and other non-porous instruments in the use solution (2.5 ounces per gallon) (or equivalent use dilution) 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.

**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. *(Note to reviewer: This paragraph will follow any direction chosen from the above selection in this section.)*

**DISINFECTION/VIRUCIDE OF HARD, NON-POROUS SURFACES IN FOOTBATH**

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 2.5 oz per gallon of water (or equivalent use dilution) (859 ppm active quat) 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 1 ounce per gallon (or equivalent use dilution) (343 ppm active) of water for at least 1 minute. Rinse thoroughly and dry before use. Prepare a fresh solution at least daily or more often if solution becomes cloudy or soiled.

**Note:** Plastic instruments can remain immersed until ready to use. Stainless 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 (AND URINAL) DISINFECTION/CLEANER DIRECTIONS**

Remove gross filth prior to disinfection.

**FROM CONCENTRATE:** Add 2.5 ounces to the toilet bowl and mix. Brush thoroughly over exposed surfaces and under the rim with a cloth, mop, or sponge. Repeat and allow solution to stand for 10 minutes and flush.

*(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 2.5 fluid ounces per 128 ounces of water into toilet bowl (or equivalent use dilution).

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:** Pre-clean surface. Empty toilet bowl or urinal and apply 2.5 ounces per 128 ounces of water use solution to exposed surfaces including under the rim with a cloth, mop, sponge or sprayer. Brush or swab thoroughly and allow solution to stand for 10 minutes and flush. For sprayer 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. 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 pre-clean to remove heavy soil, then remove or expel over the inner trap the residual bowl water. Pour in 2.5 oz. of the product. 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.

*(Or)*

**GENERAL CLEANING TOILET BOWL:** Apply (Open cap) (Squeeze gently, directing) 2.5 ounces of bowl cleaner under the rim and on sides of bowl (inside only). Brush, clean and flush toilet. (Close cap). Rinse brush with clean water. Do not use on any other surfaces including toilet seat, toilet lid, countertops, tubs and sinks. To clean other acid resistant toilet bowls or urinals, dilute product with 3 parts water. Do not allow solution to remain on surfaces without immediately rinsing thoroughly with water.

*(Or)*

**TO CLEAN AND DISINFECT:** A preliminary cleaning is required for the removal of heavy soil prior to disinfection. Fill toilet bowl with clean water. Saturate mop with 2.5 ounces of this product while holding bottle and mop applicator over bowl. Swab bowl completely making sure to get under the rim. Let stand for 10 minutes then flush. Rinse applicator completely.

*(Or)*

**TO DISINFECT TOILET BOWLS:** Fill toilet bowl with clean water. Apply (Squeeze) 2.5 ounces of bowl cleaner onto bowl brush. Clean the entire unit especially under the rim at water outlets. Allow surface to remain wet 10 minutes. Flush and rinse out bowl brush with clean water. A preliminary cleaning step is required for the removal of heavy soil prior to disinfection.

*(Or)*

**TO DISINFECT TOILET BOWLS:** Flush to remove heavy soil. To clean, simply squirt 2.5 ounces of this product under the rim and around sides. Allow it to stand several minutes then scrub entire surface (especially under the rim) with a bowl (toilet) mop. Flush and rinse. To disinfect, squirt 2.5 ounces 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 2.5 ounces 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 2.5 ounces of this product per 128 ounces of water to exposed surfaces including under the rim. Allow toilet bowl to fill with water. Brush or swab thoroughly with a cloth, mop, sponge or sprayer and allow solution to stand for 10 minutes and flush.

*(Or)*

**TO CLEAN AND DISINFECT URINALS:** Flush to remove heavy soil. Remove screens and strainers. Then squirt a solution of 2.5 ounces of this product per 128 ounces of water around the 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 2.5 ounces of this product per 128 ounces of water directly to urinal surfaces including water outlets area for general cleaning.
3. Then pour an additional 2.5 ounces of product on applicator.
4. Clean entire unit, especially under rim at water outlets, with applicator.
5. Remove screen trap to deodorize drain and apply 2.5 ounces directly on edge and into drain.
6. Wait 10 minutes, flush and rinse applicator.

**FOR HEAVY DUTY CLEANING:** Pre-clean surface. Empty toilet bowl or urinal and apply 5 ounces per gallon use solution (or equivalent use dilution) to exposed surfaces including under the rim with a cloth, mop, sponge or sprayer. Brush or swab thoroughly and allow solution to stand for 10 minutes and flush. For sprayer applications, use a coarse spray device.

**TO DISINFECT TUBS, SHOWER STALLS, SINKS, AND FAUCETS:** Swab area and remove gross filth and heavy soil. Apply 2.5 ounces of (product name) per gallon of water (859 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 2.5 ounces per gallon of water (859 ppm quat active) (or equivalent use dilution) to floors, walls and ceilings making sure not to over spray. To disinfect, all surfaces must remain wet for 10 minutes.

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

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

**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 1¼ – 5 ounces per gallon of water to deodorize. If odors return before time to empty, add 1¼ – 2½ ounces to the tank. For kitchen waste, add 1¼ to 2½ ounces to gray water tank as needed to control malodors created by dirty dishwasher.

### FUNGICIDAL/DEODORIZATION / MOLD & MILDEW

**FUNGICIDAL CONTROL:** At 2.5 ounces per gallon use level, fungicidal activity has been demonstrated in the presence of 5% blood serum and with a 10-minute contact time, when used on surfaces such as locker rooms, dressing rooms, shower and bath areas, exercise facilities against *Trichophyton mentagrophytes* (the athlete's foot fungus) and *Aspergillus niger*.

**MOLD AND MILDEW CONTROL:** At 2.5 ounces per gallon, 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). Treated surfaces must remain wet for 60 seconds. Allow to dry on surface and repeat when mildew growth returns.

**GENERAL DEODORIZATION:** To deodorize, add 2.5 ounces of this product to 1 gallon of water (or equivalent use dilution) (859 ppm active quat). Treated surfaces must remain wet for 10 minutes. Excess liquid must be wiped up or allowed to air dry.

**MOLD AND MILDEW CONTROL DIRECTIONS:** Add 2.5 ounces of this product per gallon (859 ppm active quat) (or equivalent use dilution) of water to control the growth of mold and mildew and their odors on hard, non-porous surfaces. Thoroughly wet all treated surfaces completely. Treated surfaces must remain wet for 10 minutes. Let air dry. Repeat application weekly or when growth or odor reappears.

**CLEANING/DEODORIZING DIRECTIONS:** Add 0.25 – 1 ounce per gallon of water to clean and deodorize windows, mirrors and non-food contact glass surfaces. Apply solution with a mop, cloth, sponge or mechanical sprayer so as to wet all surfaces thoroughly. For sprayer applications, use a coarse spray device. Spray 6-8 inches from surface. Allow to air dry or wipe up excess liquid. Rub with sponge or cloth. Do not breathe spray.

**FOR DEODORIZING GARBAGE CANS, GARBAGE TRUCKS, INDUSTRIAL WASTE RECEPTACLES AND GARBAGE HANDLING EQUIPMENT:** It is especially important to pre-clean for the product to perform properly. Use 2.5 ounces per gallon of this product or other suitable detergent system for pre-cleaning step. Then, apply a wetting concentration of 5 ounces of this product per gallon of water (or equivalent use dilution) (1718 ppm quat active). Treated surfaces must remain wet for 10 minutes.

**FOR DEODORIZING SEPTIC STORAGE TANKS:** When tanks are empty, pour 2.5 oz. per gallon of water (859 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 2.5 ounces of this product per gallon of water will effectively neutralize damp musty odors caused by mildew in storage areas, basements, closets, bathrooms and A/C filters. Effective on smoking and cooking odors (garlic, fish, onions, etc.), automobile odors from tobacco, musty carpet smell, and beverage smells. Spray or apply onto seats, carpets, headliner and ashtray or into trunk and all vents to eliminate odors from tobacco, beverage spills and musty carpet. For sprayer applications, use a coarse spray device. Allow surfaces to air dry.

**FOR ODORS CAUSED BY DOGS, CATS AND OTHER DOMESTIC ANIMALS:** Use on rugs, floors, walls, tile, cages, crates, litter boxes, mats, floor coverings, or any surface soiled by a pet. Test a small inconspicuous area first. Blot problem area. Then follow directions for "General Deodorization".

**TO CONTROL THE GROWTH OF MOLD AND MILDEW ON LARGE INFLATABLE NON-POROUS PLASTIC AND RUBBER STRUCTURES** (animals, promotional items, moonwalks, slides, obstacle course play and exercise equipment): Thoroughly clean all surfaces with soap or detergent and rinse with water. Saturate surfaces with a use solution of 2.5 ounces per 1 gallon (859 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 2.5 ounces per gallon of water (859 ppm active quat) (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.

### OTHER USES

**DISINFECTION 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 2.5 ounces of this product for each gallon of fresh water added (859 ppm active quat) (or equivalent use dilution). 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 unit and rinse any/all cleaned surfaces with fresh water. Repeat for heavy soiled units.

**FOR USE ON FINISHED FLOORS:** To limit gloss reduction, use 2.5 ounces of this product per gallon of water. Apply with a damp mop or auto scrubber. Allow surfaces to air dry.

**COMMERCIAL FLORIST USE DIRECTIONS:** To clean, disinfect and deodorize hard, non-porous surfaces in one step, prepare use solution by adding (mixing) 2.5 ounces of this product per gallon of water. For heavy-duty use, add (mix) 5 ounces per gallon of water.

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 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 surfaces to air dry

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

#### **DIRECTIONS FOR HOUSEHOLD USE**

**KITCHEN/BATHROOM/HOUSEHOLD CLEANING:** Apply 2.5 oz per gallon of water (859 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 2.5 oz per gallon of water (859 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.

#### **SANITIZING NON-FOOD CONTACT SURFACE DIRECTIONS**

**FOR SANITIZING HARD, NON-POROUS WHIRLPOOL UNITS:** After using the whirlpool unit, drain and refill with fresh water to just cover the intake valve. Add 1 ounce of this product for each gallon of water (or equivalent use dilution) (343 ppm active quat) 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 1 minute. After the unit has been thoroughly sanitized, drain solutions from the unit and rinse any/all cleaned surfaces with fresh water. The unit is ready for reuse.

#### **SANITIZATION of EXTERIOR HOUSEHOLD SURFACES DIRECTIONS**

**Preparation of Use Solution:** Add 1 ounce per gallon of water (343 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 surface. 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 1 minute. 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 400-600 sq ft of surface.

#### **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)

(Simply) (Tear) open and pour contents into 1 gallon of water. Keep packets in box until ready to use.

(OR)

Pour contents of (2.5 oz) (5 oz) packet into 1 gallon of water. Keep packets in box until ready to use.

##### **REFILLS**

**To Refill Concentrate From Large Containers Into Smaller Containers:** This product can 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.



**2.5 OUNCE PACKET LABEL TO BE USED WITH MASTER  
CONTAINER LABEL**

FOR GENERAL DISINFECTION  
MIX EACH PACKET WITH 1 GALLON OF WATER

**DEFEND**

E.P.A. Reg. No. 10324-166 E.P.A. Est. No. 10324-IL-1

NET CONTENTS: 2.5 FLUID OZ.

**ACTIVE INGREDIENTS:**

Octyl Decyl Dimethyl Ammonium Chloride ..... 0.570%  
Didecyl Dimethyl Ammonium Chloride..... 0.285%  
Dioctyl Dimethyl Ammonium Chloride..... 0.285%  
Alkyl (C<sub>14</sub>, 50%; C<sub>12</sub>, 40%; C<sub>16</sub>, 10%)  
dimethyl benzyl ammonium chloride ..... 0.760%  
Pine Oil..... 2.500%

**INERT INGREDIENTS:**..... 78.300%  
**TOTAL**..... 100.000%

**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

Toll Free:  
1-800-362-1855



**5 OUNCE PACKET LABEL TO BE USED WITH MASTER  
CONTAINER LABEL**

FOR HOSPITAL DISINFECTION  
MIX EACH PACKET WITH 1 GALLON OF WATER

**DEFEND**

E.P.A. Reg. No. 10324-166 E.P.A. Est. No. 10324-IL-1

NET CONTENTS: 5 FLUID OZ.

**ACTIVE INGREDIENTS:**

Octyl Decyl Dimethyl Ammonium Chloride ..... 0.570%  
Didecyl Dimethyl Ammonium Chloride..... 0.285%  
Dioctyl Dimethyl Ammonium Chloride..... 0.285%  
Alkyl (C<sub>14</sub>, 50%; C<sub>12</sub>, 40%; C<sub>16</sub>, 10%)  
dimethyl benzyl ammonium chloride ..... 0.760%  
Pine Oil..... 2.500%

**INERT INGREDIENTS:**..... 78.300%  
**TOTAL**..... 100.000%

**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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