



**KEEP OUT OF REACH OF CHILDREN
DANGER**

ACTIVE INGREDIENT: Sodium Dichloro-s-triazinetrione 48.21 %*
OTHER INGREDIENTS 51.79%
TOTAL 100.00%

*Equivalent to 31.10% active chlorine by tablet weight. Refer to dilution chart for Available Chlorine concentrations

For use in Cleaning and Disinfection in hospitals, neo-natal units, hospital drain pipes, nursing homes, child care centers, daycares, veterinary clinics, zoos and aquariums, livestock quarters, industrial facilities, kennels, boarding facilities, laboratories, lab animal facilities, licensed care facilities, institutions, Intensive Care Unit (ICU) operating rooms, dental facilities, restrooms and Tattoo parlors.

- This product is consistent with the CDC's definition of hospital disinfectant products per 2008 CDC Guideline for Disinfection and Sterilization
- Helps infection control when used on hard, non-porous surfaces by quickly acting against a wide spectrum of micro-organisms
- Kills *C. diff* (*Clostridium difficile* spores) in 4 minutes!
- Kills 99.9999% of bacteria¹, *Pseudomonas aeruginosa* and *Staphylococcus aureus* in biofilms on a hard, non-porous surface
- Reduces at least 99.9999% of bacteria², *Pseudomonas aeruginosa* and *Staphylococcus aureus* growing in biofilms
- Bacteria tested as a biofilm include *Pseudomonas aeruginosa* and *Staphylococcus aureus*
- Effective against Hepatitis A Virus and Hepatitis B Virus and Hepatitis C Virus
- Convenient tablet form that is dissolved in water. Solution can be applied with dry wipes
- Single dose tablet delivers accurate strength solution every time, eliminating "measure and pour" guesswork
- Defender provides effective cleaning strength that will not dull high gloss floors finishes with repeated use
- Can be used at a concentration of 1076 ppm to disinfect floors when used at the contact times specified in the Usage Table

EFFERVESCENT DISINFECTANT TABLETS FOR HOSPITALS AND INSTITUTIONAL USE

Defender is effective against the following micro-organisms on pre-cleaned, hard, non-porous, inanimate surfaces: *Salmonella enterica*, *Staphylococcus aureus*, *Pseudomonas aeruginosa*, *Klebsiella pneumoniae*, *Staphylococcus epidermidis*, *Escherichia coli* O157:H7, *Staphylococcus aureus* – methicillin-resistant (MRSA) & glycopeptide-resistant (GRSA), carbapenem resistant *Klebsiella pneumoniae*, *Acinetobacter baumannii*, *Streptococcus pneumoniae*, vancomycin resistant *Enterococcus faecalis*¹, Poliovirus type 1¹, Herpes simplex virus type 1¹, Hepatitis A virus¹, Hepatitis B virus¹, Hepatitis C virus¹, Human Immunodeficiency Virus Type 1¹, (associated (AIDS Virus), Influenza virus H1N1¹, respiratory syncytial virus¹, Canine Parvovirus¹, Newcastle Disease Virus¹, Pseudorabies¹, Canine Distemper Virus¹, Feline Calicivirus¹, Norovirus¹, Coxsackievirus¹, *Trichophyton interdigitale*¹, *Aspergillus fumigatus*, *Mycobacterium bovis* (TB)¹, and *Clostridium difficile* spores¹. Refer to Usage Table for solution concentration and contact times.

Defender is designed to provide effective cleaning, and disinfection in areas where it is of prime importance in controlling the hazard of cross contamination on treated pre-cleaned, hard, nonporous, inanimate surfaces.

DEFENDER IS FOR USE IN:

- Hospitals, nursing homes, medical and dental offices and clinics, operating rooms, isolation wards, and medical research facilities.
- Day care centers and nurseries.
- Veterinary clinics, animal life science laboratories, kennels, breeding and grooming establishments, pet animal quarters, zoos, pet shops, and other animal care facilities.
- Cosmetic, pharmaceutical, and medical device manufacturing facilities, biotechnology firms, pharmacies, and compounding pharmacies.

| FIRST AID | |
|--|--|
| If in eyes | <ul style="list-style-type: none"> • 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 | <ul style="list-style-type: none"> • 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 the poison control center or doctor. • Do not give anything by mouth to an unconscious person. |
| If inhaled | <ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice. |
| If on skin or clothing | <ul style="list-style-type: none"> • 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. |
| <p>IN THE EVENT OF A MEDICAL EMERGENCY CALL YOUR POISON CONTROL CENTER AT 1-800-222-1222. Have the product container or label with you when calling a poison control center or doctor, or going for treatment.</p> | |
| <p>NOTE TO PHYSICIAN Probable mucosal damage may contraindicate the use of gastric lavage.</p> | |

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER

Corrosive. Causes irreversible eye damage. Harmful if swallowed, inhaled, or absorbed through skin.

Do not get in eyes, on skin, or clothing. Avoid breathing dust. Wear chemical-resistant gloves and safety glasses or face shield when making up solution. Wash thoroughly with soap and water after handling, and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

DIRECTIONS FOR USE

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

General Solution Preparation: Prepare a fresh solution twice weekly (every 3 days) with water of up to 400 ppm hardness when using closed containers (spray bottles). Prepare a fresh solution daily with water of up to 400 ppm hardness when using open containers (buckets) or if solution becomes diluted. Follow specific Directions for Use and Usage Table and Dilution Chart when preparing solution.

Do not use hot water in solution preparation.

Notice to User: 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 blood stream or normally sterile areas of the body, or (2) contacts intact mucous membranes but which does not ordinarily penetrate the blood barrier or otherwise enter normally sterile areas of the body. This product may be used to pre-clean or decontaminate critical or semi-critical medical devices prior to sterilization or high level disinfection

Usage Table:

| Pathogen | Minimum Dose required (ppm) | Minimum Contact time required (minutes) |
|---|-----------------------------|---|
| Sanitizer Claims | | |
| <i>Staphylococcus aureus</i> | 100 ppm | 1 minute |
| <i>Salmonella enterica</i> | 100 ppm | 1 minute |
| Disinfection Claims - bacteria | | |
| <i>Staphylococcus aureus</i> | 538 ppm | 10 minutes |
| | 4306 ppm* | 4 minutes |
| <i>Staphylococcus aureus</i> – methicillin resistant (MRSA) & glycopeptide-resistant (GRSA) | 1076 ppm | 10 minutes |
| | 4306 ppm* | 4 minutes |
| <i>Staphylococcus epidermidis</i> | 1076 ppm | 10 minutes |
| <i>Salmonella enterica</i> | 538 ppm | 10 minutes |
| | 4306 ppm* | 4 minutes |
| <i>Pseudomonas aeruginosa</i> | 538 ppm | 10 minutes |
| | 4306 ppm* | 4 minutes |
| <i>Streptococcus pneumoniae</i> | 1076 ppm | 10 minutes |
| | 4306 ppm* | 4 minutes |
| Escherichia coli O157:H7 | 1076 ppm | 10 minutes |
| | 4306 ppm* | 4 minutes |
| <i>Acinetobacter baumannii</i> | 1076 ppm | 10 minutes |
| | 4306 ppm* | 4 minutes |
| Vancomycin resistant <i>Enterococcus faecalis</i> | 1076 ppm* | 10 minutes |
| | 4306 ppm* | 4 minutes |
| Carbapenem resistant <i>Klebsiella pneumoniae</i> | 4306 ppm* | 4 minutes |
| | 1076 ppm | 10 minutes |
| <i>Klebsiella pneumoniae</i> | 1076 ppm | 10 minutes |
| Biofilm Claims | | |
| <i>Staphylococcus aureus</i> (in a biofilm) ² | 4306 ppm | 4 minutes |
| <i>Pseudomonas aeruginosa</i> (in a biofilm) ² | 4306 ppm | 4 minutes |
| Virucidal Claims | | |
| Respiratory syncytial virus ¹ | 538 ppm* | 10 minutes |
| Rhinovirus [Type 14] ¹ | 1076 ppm* | 10 minutes |
| | 538 ppm* | 10 minutes |
| Influenza Virus H1N1 ¹ | 4306 ppm* | 1 minute |
| | 1076 ppm* | 10 minutes |
| Human Immunodeficiency Virus Type 1 (HIV- 1) | 4306 ppm* | 1 minute |
| | 1076 ppm | 10 minutes |
| Hepatitis A virus ¹ | 4306 ppm* | 1 minute |
| | 1076 ppm* | 10 minutes |
| Hepatitis B virus ¹ | 4306 ppm* | 1 minute |
| | 1076 ppm | 10 minutes |
| Hepatitis C virus ¹ | 4306 ppm | 1 minute |
| | 1076 ppm | 10 minutes |
| Avian influenza A (H5N1) ¹ | 4306 ppm* | 1 minute |
| | 2153 ppm* | 1 minute |
| Poliovirus Type 1 ¹ | 1076 ppm | 10 minutes |
| Coxsackievirus B3 ¹ | 4306 ppm | 1 minute |
| Herpes simplex virus type 1 ¹ | 1076 ppm | 10 minutes |
| Fungicidal/Yeastcidal Claims | | |
| <i>Aspergillus fumigatus</i> | 4306 ppm* | 1 minute |
| <i>Trichophyton interdigitale</i> | 1076 ppm | 10 minutes |
| Clostridium difficile Claims | | |
| <i>Clostridium difficile</i> spores | 2153 ppm | 10 minutes |
| | 4306 ppm ² | 4 minutes |
| Mycobactericidal Claims | | |
| <i>Mycobacterium bovis</i> (TB) | 5382 ppm* | 4 minutes |
| Animal Pathogens¹ | | |
| Canine Parvovirus ¹ | 1076 ppm | 10 minutes |
| Herpes simplex virus type ³ * | 1076 ppm | 10 minutes |
| Newcastle Disease Virus ¹ | 1076 ppm | 10 minutes |
| Pseudorabies ¹ | 1076 ppm | 10 minutes |
| Feline Calicivirus ¹ | 1076 ppm | 10 minutes |
| | 2153 ppm* | 1 minute |
| Canine Distemper virus ¹ | 1076 ppm* | 10 minutes |
| Infectious Canine hepatitis ⁴ * | 1076 ppm | 10 minutes |
| Teschen/Talfan disease ⁴ * | 1076 ppm | 10 minutes |
| Avian influenza virus [H5N1] ¹ * | 1076 ppm | 10 minutes |
| | 4306 ppm | 1 minute |
| Porcine parvovirus ¹ * | 1076 ppm | 10 minutes |
| Runting & Stunting virus (tenosynovitis) ¹ * | 1076 ppm | 10 minutes |

| | | |
|---|-----------|------------|
| <i>Actinobacillus pleuropneumoniae</i> *† | 1076 ppm | 10 minutes |
| <i>Bordetella bronchiseptica</i> (rhinitis)*† | 1076 ppm | 10 minutes |
| <i>Brachyspira hyodysenteriae</i> (Treponema/Serpulina) (swine dysentery)*† | 1076 ppm | 10 minutes |
| Gumboro disease*†† | 1076 ppm | 10 minutes |
| <i>Streptococcus uberis</i> *† | 1076 ppm | 10 minutes |
| Transmissible gastroenteritis (TGE)*† | 1076 ppm | 30 minutes |
| Swine Vesicular disease*† | 1076 ppm | 30 minutes |
| African swine fever*†† | 1076 ppm | 30 minutes |
| Hog cholera/Classical swine fever*† | 1076 ppm | 30 minutes |
| Avipox (fowl pox)*† | 1076 ppm | 30 minutes |
| Respiratory syncytial virus*† | 538 ppm* | 10 minutes |
| Bovine Viral Diarrhea Virus*† | 4306 ppm* | 1 minute |
| Duck Hepatitis B Virus*† | 4306 ppm* | 1 minute |
| Porcine epidemic diarrhea virus*† | 1076 ppm* | 10 minutes |

†Note: The California DPR has not yet approved the use of this product (or marketed product name) against the following animal pathogens: {insert appropriate pathogen names from the table}

†Note: The California DPR has not yet approved the use of this product (or marketed product name) against these animal pathogens. {insert names of pathogens not approved in the state of California]}

†Note: This use has not been approved by the California DPR

‡Note: these organisms not approved by the state of California

*Note: testing has been conducted in the presence of ≥5% serum

†Note: testing has been conducted in the presence of 0.25% Bovine Serum Albumin, 0.08% Bovine Mucin and 0.35% Yeast Extract

HEALTHCARE AND GENERAL DISINFECTION PERFORMANCE

Defender is a Hospital Use Disinfectant. As a general Healthcare disinfectant it is effective against standard Gram positive and Gram negative bacteria, *Staphylococcus aureus*, *Pseudomonas aeruginosa* and *Salmonella enterica* and Cold and flu viruses, respiratory syncytial virus, Influenza Virus H1N1. Refer to Usage Table for the appropriate doses and contact times.

HEALTHCARE AND GENERAL DISINFECTION DIRECTIONS

Prepare a 538 ppm solution; (refer to Dilution Chart). Apply use solution to pre-cleaned, hard, non-porous, inanimate surface with mop, cloth, sponge, brush, wipe, or mechanical sprayer to wet all surfaces thoroughly. Allow surface to remain wet for 10 minutes. Also refer to Usage Table, then remove product by wiping with brush, sponge, or cloth, or allow to air dry.

For sprayer applications using a spray device, spray at appropriate distance from surface depending on sprayer type, (6 – 8 inches for spray bottles). Allow to remain wet for 10 minutes, then remove product by rubbing with brush, sponge, wipe or cloth or allow to air dry. Do not breathe spray mist.

Defender is effective as a Healthcare disinfectant for micro-organisms and blood borne viruses† when used at the dose and contact time as indicated in the Usage Table. It is effective against, Human Immunodeficiency Virus Type 1 (HIV-1)†, Hepatitis B Virus†, Hepatitis A Virus†, vancomycin resistant *Enterococcus faecalis*, *Trichophyton interdigitale*, *Klebsiella pneumoniae*, *Staphylococcus epidermidis*, *Streptococcus pneumoniae*, *Escherichia coli* O157:H7, *Staphylococcus aureus* – methicillin resistant (MRSA) & glycopeptide resistant (GRSA), Poliovirus type 1†, Rhinovirus Type 14†, Herpes simplex virus type 1†, and Norovirus. Re-apply product as necessary to ensure surface remains wet.

Defender is also effective as a Healthcare disinfectant for bloodborne viruses (HIV-1, Hepatitis A Virus, Hepatitis B Virus and Hepatitis C Virus) when used at the dosage and contact time as detailed in the Usage Table.

HEALTHCARE DISINFECTION/VRUCIDAL† DIRECTIONS:

Prepare solution strength as required, refer to Usage Table for correct doses and contact times; refer to Dilution Chart for solution preparation. Apply use solution to pre-cleaned, hard, non-porous, inanimate surfaces with mop, cloth, sponge, brush, wipe, or mechanical sprayer to wet all surfaces thoroughly. Allow surface to remain wet for contact time as indicated in the Usage Table, then remove product by wiping with brush, sponge, or cloth, or allow to air dry.

For sprayer applications using a spray device, spray at appropriate distance from surface depending on sprayer type, (6 – 8 inches for spray bottles). Allow to remain wet for contact time as indicated in the Usage Table, then remove product by rubbing with brush, sponge, wipe or cloth or allow to air dry. Do not breathe spray mist.

Before using this product, food products and packaging materials must be removed from the room or carefully protected.

KILLS HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 (HIV-1), HEPATITIS A VIRUS, AND HEPATITIS B VIRUS AND HEPATITIS C VIRUS ON PRE-CLEANED ENVIRONMENTAL SURFACES/OBJECTS PREVIOUSLY SOILED WITH BLOOD/BODY FLUIDS in health care settings or other settings in which there is an expected likelihood of soiling of inanimate surfaces/objects with blood or body fluids, and in which the surfaces/objects likely to be soiled with blood or body fluids can be associated with the potential for transmission of Human Immunodeficiency Virus Type 1 (HIV-1) (associated with AIDS). Refer to Usage Table for correct doses and contact times. Refer to Dilution Chart for solution preparation.

SPECIAL INSTRUCTIONS FOR CLEANING AND DECONTAMINATION AGAINST Human Immunodeficiency Virus Type 1 (HIV-1) OF 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 must be thoroughly cleaned from surfaces and objects before application of Defender. This cleaning process may be accomplished with any cleaning solution including Defender.

DISPOSAL OF INFECTIOUS MATERIALS: Blood and other body fluids should be autoclaved and disposed of according to federal, state and local regulations for infectious waste disposal.

CONTACT TIME: Leave surfaces wet for 10 minutes.

PERFORMANCE AGAINST BACTERIA GROWING IN A BIOFILM ON HARD NON-POROUS NON-FOOD CONTACT SURFACES

Defender is also effective against bacteria‡ growing in biofilms on hard, non-porous, non-food contact surfaces when used at the dosage and contact time as detailed in the Usage Table for *Staphylococcus aureus* and *Pseudomonas aeruginosa* in a biofilm

DIRECTIONS FOR USE AGAINST BACTERIA GROWING IN A BIOFILM

Pre-clean surfaces to remove soil and filth. Wipe dry. Prepare solution strength as required, refer to Usage Table for correct doses and contact times; refer to Dilution Chart for solution preparation. Thoroughly wet pre-cleaned surface with product. Allow surface to remain wet for the contact time as indicated on the Usage Table. Rinse thoroughly

ANIMAL PREMISES:

ANIMAL PATHOGENS PERFORMANCE:

When used at dosage and contact times as outlined in the Usage Table, Defender is effective against the following animal pathogens: Canine Parvovirus†, Herpes simplex virus type 1†, Newcastle Disease Virus†, Pseudorabies†, Feline Calicivirus†, Norovirus†, Canine Distemper virus†, Infectious Canine hepatitis†, Teschen/Talfan disease†, Avian influenza Virus†, Porcine parvovirus†, Runting & Stunting virus (tenosynovitis)†, *Actinobacillus pleuropneumoniae*†, *Bordetella bronchiseptica* (rhinitis)†, *Brachyspira hyodysenteriae* (Treponema/Serpulina) (swine dysentery)†, Gumboro disease†, Porcine Epidemic Diarrhea Virus†, *Streptococcus uberis*†, Transmissible gastroenteritis (TGE)†, Swine Vesicular disease†, African swine fever†, Hog cholera/Classical swine fever†, Avipox (fowl pox)†, Respiratory syncytial virus†, and Bovine Viral Diarrhea Virus†. Re-apply product as necessary to ensure surface remains wet.

‡ Note: these organisms not approved by the state of California

SPECIAL INSTRUCTIONS FOR CLEANING AND DECONTAMINATION IN ANIMAL HOUSING FACILITIES:

1. Remove all animals and feed from premises, vehicles, and enclosures.
2. Remove all litter and manure from floors, walls and surfaces of barns, pens, stalls, chutes, and other facilities and fixtures occupied or traversed by animals.
3. Empty all troughs, racks, and other feeding and watering appliances.
4. Thoroughly clean all surfaces with soap or detergent and rinse with water.
5. Saturate all surfaces with appropriate solution strength for the appropriate contact time, refer to Usage Table for correct dose and contact time, and to Dilution Chart for solution preparation
6. Immerse all halters, ropes, and other types of equipment used in handling and restraining animals, as well as forks, shovels, and scrapers used for removing litter and manure.
7. Ventilate buildings, cars, boats, and other closed spaces. Do not house livestock or employ equipment until treatment has been absorbed, set, or dried.
8. Thoroughly scrub all treated feed racks, mangers, troughs, automatic feeders, fountains and waterers with soap or detergent, and allow to air dry before reuse.

Defender is also effective as a Healthcare disinfectant for critical areas potentially contaminated with *Clostridium difficile* spores when used at the dosage and contact time as detailed in the Usage Table

DISINFECTION FOR SURFACES CONTAMINATED WITH CLOSTRIDIUM DIFFICILE

Special Label Instructions for Cleaning Prior to Disinfection against *Clostridium difficile* spores:

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

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

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

Directions for Use:

Prepare the appropriate solution strength by referring to Usage Table. Refer to Dilution Chart for solution preparation. Apply solution to pre-cleaned, hard, non-porous, inanimate surface with mop, cloth, sponge, brush, wipe, or mechanical sprayer. Allow surface to remain for appropriate contact time as indicated on Usage Table, then remove product by wiping with brush, sponge, or cloth, or allow to air dry.

GENERAL and HEALTHCARE DISINFECTION WITHOUT PRECLEAN PERFORMANCE

Defender is a Healthcare and General disinfectant when used at the doses and contact times indicated in the Usage Table. It is effective against Norovirus, Coxsackievirus and *Aspergillus fumigatus*. It is effective against *Salmonella enterica*, *Staphylococcus aureus*, *Pseudomonas aeruginosa*, carbapenem resistant *Klebsiella pneumoniae*, *Acinetobacter baumannii*, vancomycin resistant *Enterococcus faecalis*, *Staphylococcus aureus* – methicillin-resistant (MRSA) & glycopeptide-resistant (GRSA), and *Streptococcus pneumoniae*.

GENERAL and HEALTHCARE DISINFECTION WITHOUT PRECLEAN DIRECTIONS

Prepare a 4,306 ppm solution; refer to Dilution Chart. Apply use solution to hard, non-porous, inanimate surface with mop, cloth, sponge, brush, wipe, or mechanical sprayer. Allow surface to remain wet for the appropriate contact time. Refer to Usage Table then remove product by wiping with brush, sponge, or cloth, or allow to air dry.

Defender is also effective as a Healthcare disinfectant for critical areas potentially contaminated with *Mycobacterium bovis* (TB) when used at the dosage and contact time as detailed in the Usage Table

[DISINFECTION FOR SURFACES CONTAMINATED WITH *MYCOBACTERIUM BOVIS* (TB) IN 4 MINUTES AT 20°C (68°F)]

Special Label Instructions for Cleaning Prior to Disinfection against *Mycobacterium bovis* (TB):

This product when used as directed below is effective against *Mycobacterium bovis* (TB) in 4 minutes at 20°C (68°F).

This product can be used on hard non-porous surfaces in commercial institutional hospital and premises. To disinfect hard non-porous surfaces, first clean surface by removing gross filth (loose dirt debris food materials etc). Prepare a 5,382 ppm available chlorine solution. Apply use solution to pre-cleaned, hard, non-porous, inanimate surfaces with mop, cloth, sponge, brush, wipe, or mechanical sprayer to wet all surfaces thoroughly. Allow surface to remain wet for 4 minutes then remove product by wiping with brush, sponge, or cloth, or allow to air dry.

To Pre-clean Instruments Prior to Terminal Sterilization/High Level Disinfection

Prepare a 2153 ppm solution. As a pre-cleaning spray- Place instruments into a suitable container, Spray DEFENDER onto instruments to thoroughly wet all surfaces. Let stand for up to 10 minutes. Rinse instruments.

As a pre-cleaning immersion solution - Fill appropriate size container with a sufficient amount of DEFENDER to completely submerge instruments. Place instruments into the container of this product, cover, and allow to soak for up to 10 minutes. Remove and rinse and follow with an appropriate cleaning and disinfecting process. Change solution daily.

As a manual instrument cleaner - Thoroughly pre-rinse dirty instruments under running water to remove gross debris. Immerse pre-rinsed instruments into an appropriate size container filled with DEFENDER. Scrub instruments using a stiff bristle brush until visibly clean. Submerge instruments while scrubbing. Rinse instruments thoroughly. Change solution daily. Follow with an appropriate disinfection process. Cleaning of critical and semi-critical devices must be followed by an appropriate terminal sterilization/high level disinfection process.

To Disinfect Non- Critical Pre-Cleaned Instruments - Instruments must be thoroughly pre-cleaned to remove excess organic debris rinsed and rough dried (Clean and rinse lumens of hollow instruments before filling with DEFENDER or before immersion).

Immersion method using a soaking tray immerses instruments into this product and let stand for one or 1 minute. Change solution for each use

Spray method - Spray all surfaces of instruments with DEFENDER until thoroughly wet. Let stand for 10 minutes.

SANITIZER PERFORMANCE

This product is an effective Sanitizer against *Staphylococcus aureus* and *Salmonella enterica* at 100 ppm with a 1 minute contact time

SANITIZER FOR FOOD AND BEVERAGE PROCESSING AND FOOD HANDLING OPERATIONS

Prepare a 100 ppm solution; (refer to dilution chart for the number of tablets to use).

This product is recommended for sanitizing all types of hard, non-porous equipment and utensils used in food processing and canning plants, bottling plants, breweries, fish processing plants, meat and poultry processing plants, milk handling and processing plants, stores, restaurant and institutional dining establishments. Use a 100 ppm available chlorine solution (refer to Dilution Chart) to sanitize previously cleaned processing and packaging equipment. Allow at least a 1 minute contact time before draining. Allow adequate draining before contact with beverages.

SANITIZING HARD, NON-POROUS SURFACES, DISHES, GLASSES, FOOD PROCESSING EQUIPMENT AND UTENSILS, DAIRY AND BREWERY EQUIPMENT AND UTENSILS

Prepare a 100 ppm solution; (refer to dilution chart for the number of tablets to use). This product is an effective sanitizing agent. Treatment with this product throughout food and beverage processing and food handling operations can help ensure the quality of the final product.

FOOD CONTACT SANITIZING DIRECTIONS

HANDWASHING OF ITEMS

1. Remove all gross food particles and soil by a preflush or prescrape and, when necessary, presoak treatment. Wash surfaces or objects with a good detergent or compatible cleaner, followed by a potable water rinse before application of the sanitizing solution.
2. Prepare a 100 ppm available chlorine sanitizing solution (refer to Dilution Chart).
3. Place equipment, utensils, dishes, glasses, etc. in the solution or apply the use solution to surfaces using a cloth, sponge, or coarse sprayer.
4. Allow to stand at least one minute, drain the excess solution from the surface, rinse thoroughly, and allow to air dry.
5. Fresh sanitizing solution must be prepared at least daily or more often if the solution becomes diluted or soiled.

MACHINE WASHING OF ITEMS

1. Remove all gross food particles and soil by a preflush or prescrape and, when necessary, presoak treatment. Wash surfaces or objects with a good detergent or compatible cleaner, followed by a potable water rinse before application of the sanitizing solution.
2. Prepare a 100 ppm available chlorine solution (refer to Dilution Chart).
3. Add the solution to the feed tank of immersion or spray type machines that can provide at least one minute contact time for sanitizing dishes, glasses, food processing equipment, or utensils. Allow to drain, rinse thoroughly and allow to air dry before use.
4. Promptly use the sanitizing solution. Prepared solutions cannot be reused for sanitizing.

THE FOLLOWING DIRECTIONS ARE NOT APPROVED IN THE STATE OF CALIFORNIA

MILK HANDLING AND PROCESSING EQUIPMENT

This product can be used on dairy farms and in plants processing milk, cream, ice cream, and cheese. Rinse milking machines, utensils, and all equipment with cold water to remove excess milk. Clean and rinse prior to sanitizing. To sanitize, spray or rinse all pre-cleaned surfaces with 100 ppm available chlorine solution (refer to Dilution Chart). Allow at least a 1 minute contact time before draining. Allow adequate draining before contact with dairy products. It is important to clean out large deposits of milk or other organic matter before sanitizing. A sharp decline in the available chlorine content of the sanitizer following circulation through milk processing equipment is usually regarded as evidence of inadequate cleaning of the equipment and should be promptly investigated.

SANITIZING APPLICATION METHODS

Prepare a 100 ppm solution; refer to dilution chart for the number of tablets to use. Freshly prepare all sanitizing solutions. Test solutions during use to ensure the concentration does not drop below the recommended level. Keep in properly labeled containers to protect against contamination. Discard unused solutions.

PRESSURE METHOD OF SANITIZING EQUIPMENT

This method is commonly used to sanitize closed systems, such as fluid milk cooling and handling equipment. It is also appropriate for sanitizing weigh tanks, coolers, short-time pasteurizers, pumps, homogenizers, fillers, sanitary piping and fittings, and bottle and can fillers.

For manual operations, fresh sanitizing solutions must be prepared at least daily or more often if the solution becomes diluted or soiled.

1. Disassemble and thoroughly clean all equipment immediately after use.
2. Remove all gross food particles and soil by a preflush or prescrape and, when necessary, presoak treatment.
3. Wash surfaces or objects with a good detergent or compatible cleaner, followed by a potable water rinse before application of the sanitizing solution.
4. Re-assemble into operating position.
5. Prepare a solution containing 100 ppm available chlorine (refer to Dilution Chart) in a volume equal to 110% of capacity.
6. Pump the solution through the system until it is filled with sanitizer and air excluded.
7. Close final drain valves and hold under pressure for 1 minute to ensure proper contact with all surfaces.
8. Remove a portion of the cleaning solution from the drain valve and test with a chlorine test kit.
9. Repeat entire cleaning/sanitizing process if effluent contains less than 50 ppm available chlorine.

NOT APPROVED IN THE STATE OF CALIFORNIA.

SPRAY METHOD OF SANITIZING EQUIPMENT

The spray method is generally used to sanitize large, non-porous surfaces that have already been freed of physical soil.

It is appropriate for batch pasteurizers; holding tanks, weigh tanks, tank trucks and cars, vats, tile walls, ceilings, and floors. Clean all surfaces after use. Prepare a solution containing 100 ppm available chlorine (refer to Dilution Chart).

Use pressure spraying equipment designed to resist chlorine-containing solutions (e.g. rubber-coated, plastic or stainless steel). When using any other kind of spraying equipment, always empty and thoroughly rinse the spray equipment with potable water immediately after treatment. Apply spray heavily to all surfaces the product will touch.

Thoroughly spray all treated surfaces, corners and turns until wet. Allow at least a one minute contact time before draining. Allow excess solution to drain and air dry then place in service. Vacate area for at least two hours.

GENERAL RINSE METHOD

Prepare a solution containing 100 ppm available chlorine (refer to Dilution Chart) sanitize plant floors, walls and ceilings, and also control odors in refrigerated areas and drain platforms. Generously flush or swab surfaces with the solution.

After one minute contact time allow solution to drain and then air dry.

FILTRATION DEVICES

This product is for use in filtration devices (water purification systems and its cartridges). Its purpose is to clean membranes, such as reverse osmosis membranes of fouling contaminants. One dose of product is necessary to achieve reduction in fouling contaminants. Product should be used following the manufacturer's instructions. Add 3 ppm available chlorine solution (refer to Dilution Chart) to the system water. Repeat this process, if necessary, until a free available chlorine (FAC) level of 0.5 – 1.0 ppm is obtained, as determined by use of a reliable test kit.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE

Store in a cool, dry, well-ventilated area at a temperatures below 40°C/104°F. Avoid moisture getting into container

PESTICIDE DISPOSAL

Pesticide may be acutely hazardous. Wastes resulting from the use of this product must be disposed of on-site, or at an approved waste disposal facility.

CONTAINER HANDLING

Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available or puncture and dispose of in a sanitary landfill.

PHYSICAL OR CHEMICAL HAZARDS

STRONG OXIDIZING AGENT: Use only clean dry utensils. Mix only into water. Contamination with moisture, dirt, organic matter or other chemicals (including other chemicals) or any other foreign matter may start a chemical reaction with generation of heat, liberation of hazardous gases and possible generation of fire and explosion. Avoid any contact with flaming or burning material such as a lighted cigarette. Do not use this product in any chlorinating device which has been used with any inorganic or unstabilized chlorinating compounds (e.g., calcium hypochlorite). Such use may cause fire or explosion.

WARRANTY

Seller warrants that this product conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with label directions under normal conditions of use, but to the extent consistent with applicable law, neither this warranty nor any other warranty of MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, expressed or implied, extends to the use of this product contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable to Seller, and Buyer assumes the risk of any such use.

| DILUTION CHART | | | | | | | | | | |
|--|---------|-----------------|---------|-----------------|---------|-----------------|---------|------------------|---------|------------------|
| Tablet Size | 0.3 g | | 1.7 g | | 3.3 g | | 6.55 g | | 13.1 g | |
| Solution ppm (mg/l) Available Chlorine | Tablets | Quarts of Water | Tablets | Quarts of Water | Tablets | Quarts of Water | Tablets | Gallons of Water | Tablets | Gallons of Water |
| 0.5 | 1 | 200 | 1 | 1118 | 1 | 2170 | 1 | 1076 | 1 | 2153 |
| 1 | 1 | 100 | 1 | 559 | 1 | 1085 | 1 | 583 | 1 | 1076 |
| 1.5 | 1 | 66 | 1 | 373 | 1 | 723 | 1 | 359 | 1 | 718 |
| 3 | 1 | 33 | 1 | 186 | 1 | 362 | 1 | 179 | 1 | 359 |
| 4 | 1 | 25 | 1 | 140 | 1 | 271 | 1 | 135 | 1 | 269 |
| 5 | 1 | 20 | 1 | 112 | 1 | 217 | 1 | 108 | 1 | 215 |
| 10 | 1 | 10 | 1 | 50 | 1 | 100 | 1 | 50 | 1 | 100 |
| 100 | 1 | 1 | 1 | 5 | 1 | 10 | 1 | 5 | 1 | 10 |
| 538 | 6 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 2 |
| 1076 | 11 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 1 |
| 2153 | 21 | 1 | 4 | 1 | 2 | 1 | 4 | 1 | 2 | 1 |
| 4306 | 42 | 1 | 8 | 1 | 4 | 1 | 8 | 1 | 4 | 1 |
| 5382 | 53 | 1 | 10 | 1 | 5 | 1 | 10 | 1 | 5 | 1 |



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