



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

June 27, 2018

Sam Falk  
Environmental Specialist  
Vertex Chemical Corporation  
2381 Rosegate  
Roseville, MN 55113

Subject: Notification per PRN 98-10 – Add Alternate Brand Names, Graphics and Remove Fogging Language  
Product Name: Vertex Germicidal Ultra Bleach  
EPA Registration Number: 9616-13  
Application Date: May 21, 2018  
Decision Number: 541804

Dear Mr. Falk:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 for the above referenced product. The Antimicrobials Division (AD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action requested falls within the scope of PRN 98-10.

The label submitted with the application has been stamped “Notification” and will be placed in our records.

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

The following alternate brand names have been added to the product record:

- TANDIL CONCENTRATED BLEACH 2
- GERMICIDAL BLEACH 2

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EPA Reg. No. 9616-13  
Decision No. 541804

If you have any questions, you may contact Wanda Henson at (703) 308-6345 or via email at [henson.wanda@epa.gov](mailto:henson.wanda@epa.gov)

Sincerely,

A handwritten signature in blue ink that reads "Wanda G. Henson". The signature is written in a cursive style with a large initial "W" and "H".

Demson Fuller, Product Manager 32  
Regulatory Management Branch II  
Antimicrobials Division (7510P)  
Office of Pesticide Programs

**NOTIFICATION**

9616-13

The applicant has certified that no changes, other than those reported to the Agency have been made to the labeling. The Agency acknowledges this notification by letter dated:

06/27/2018

**VERTEX  
GERMICIDAL  
ULTRA  
BLEACH**

**ABN #1: TANDIL CONCENTRATED BLEACH 2**  
**ABN #2: GERMICIDAL BLEACH 2**

**KEEP OUT OF REACH OF CHILDREN**

Active Ingredient:  
Sodium Hypochlorite ..... 6.0%  
Other Ingredients ..... 94.0%  
TOTAL:.....100.0%

Available Chlorine 6%

**FIRST AID STATEMENT**

**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 further treatment advice.

**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 further treatment advice

**If swallowed:**

- Call a poison control center or doctor immediately for further treatment advice.
- Have person sip a glass of water if able to swallow.
- Do not induce vomiting unless told to do so by poison control center or doctor.
- Do not give anything by mouth to an unconscious person.

**If inhaled:**

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

**HOT LINE NUMBER**

Have the product container or label with you when calling a poison center, doctor, or going for treatment. (We will use one of these two numbers) Contact 1-800-222-1222 or 1-800-535-5035 for emergency medical treatment information.

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

**DANGER**

Double Quality Guarantee – Quality, performance and satisfaction is always Double guaranteed at Vertex Chemical Corporation. If for any reason you are not 100% satisfied with this product, we will gladly replace the product, AND refund your money. When corresponding, please Include code information from (the product).

Manufactured by:  
Vertex Chemical Corporation  
11685 Manchester Rd.  
St. Louis, MO 63131

EPA Reg. No. 9616-13  
EPA Est. No. 9616-IL-1: IA-1: TN-1

(optional statement)  
**FOR CHEMICAL EMERGENCY  
DURING TRANSPORTATION ONLY**  
Call INFOTRAC 1-800-535-5053  
24 hours a day, 7 days a week

(optional statement) Visit us at (web site address)

- Respiratory illnesses attributable to Pandemic 2009 H1N1 are caused by influenza A virus.
- This product (Product Name) is a broad-spectrum hard surface disinfectant that has been shown to be effective against (influenza A virus tested and listed on the label) and is expected to inactivate all influenza A viruses including Pandemic 2009 H1N1 (formerly called swine flu).
- This product has demonstrated effectiveness against influenza A virus and is expected to inactivate all influenza A viruses including Pandemic 2009 H1N1 influenza A virus.
- This product has demonstrated effectiveness against (influenza A virus tested and listed on the label) and is expected to inactivate all influenza A viruses including Pandemic 2009 H1N1 (formerly called swine flu).
- Kills Pandemic 2009 H1N1 influenza A (formerly called swine flu).
- Kills Pandemic 2009 H1N1 influenza A virus.

See Back Panel for Additional Precautionary Statements

NET 96 FL. OZ. (3 QT.) 2.84 L, 64 FL. OZ., 48 FL. OZ., 32 FL. OZ., 1 GALLON, 182 FL. OZ. OR 1.4GAL (5.38L)  
(optional statement) Made in the U.S.A.

**[ Additional optional claims; note these can be listed in any order and location, parenthetical terms need not be included:] [The phrase “this product” may be used interchangeably with the product name “VERTEX GERMICIDAL ULTRA BLEACH” throughout the label]**

Kills 99.9% of common household germs

Kills 99.9% germs

Vertex Germicidal Ultra Bleach kills germs

This product, when used as directed on hard, non-porous surfaces, is effective against the following:

FUNGICIDAL

- Trichophyton mentagrophytes (Athlete's foot fungus)

BACTERICIDAL

- Escherichia coli 0157:H7 (E. coli)
- Pseudomonas aeruginosa (pseudomonas)
- Salmonella enterica (Salmonella)
- Shigella dysenteriae
- Staphylococcus aureus (staph)
- Streptococcus pyogenes (strep)

\*VIRUCIDAL

- Adenovirus type 2
- \*Canine Parvovirus
- \*Cytomegalovirus
- \*Feline Panleukopenia virus (Parvovirus)
- \*Hepatitis A virus
- \*Herpes simplex virus 1 (herpes)
- \*Herpes simplex virus 2 (herpes)
- \*Influenza A virus
- \*Poliovirus type 1
- \*Respiratory syncytial virus
- \*Rhinovirus type 37 (viruses that cause colds and flu)
- \*Rotavirus

**[Or, optional: can be listed in the following format:]**

Vertex Germicidal Ultra Bleach kills germs:

Kills common household germs including Staphylococcus aureus (staph), Streptococcus pyogenes (strep), Salmonella enterica (salmonella), Pseudomonas aeruginosa (pseudomonas), \*Influenza A virus, \*Rhinovirus type 37 (viruses that cause colds and flu), Trichophyton mentagrophytes (Athlete's foot fungus), \*Rotavirus and Escherichia coli 0157:H7 (E. coli). Also kills \*Adenovirus type 2, \*Hepatitis A, \*Cytomegalovirus, \*Respiratory Syncytial Virus, \*Poliovirus type 1, \*Herpes Virus 1 (herpes), \*Herpes Virus 2 (herpes), \*Canine Parvovirus, \*Feline Parvovirus, Shigella dysenteriae

**[Statements in brackets on the following pages are instructional and not part of labeling]**

***[Additional optional claims:]***

Commercial/Institutional Use

DISINFECTS • SANITIZES • DEODORIZES

\*VIRUCIDE

BACTERICIDE • FUNGICIDE

HIGHER CONCENTRATION FORMULA

DISINFECTS AND DEODORIZES

WHITENS

BRIGHTENS LAUNDRY

KILLS GERMS

FORMULATED FOR FOODSERVICE APPLICATIONS

REMOVES STAINS

BACTERICIDAL

MILDEWICIDAL

FUNGICIDAL

CLEANS

ELIMINATES ODORS

SAFE ON BLEACHABLE FABRICS

JUST AS SAFE ON BLEACHABLE FABRICS AS BEFORE

FOR A CLEANER, FRESHER HOUSEHOLD & [AND] LAUNDRY

This product can be used on hard non-porous surfaces in commercial, institutional, hospital and household premises (including kitchens, bathrooms, nurseries, sick rooms, laundry rooms), eating establishments, pet kennels, veterinary premises, farms, dairies, and food processing plants.

Kitchen: Clean and disinfect kitchen sinks and countertops.

Bath room: Deodorize and disinfect bathtubs, showers, floors, vinyl, and tile.

Toilet Bowls: Disinfect your toilet.

Exercise care in handling. Check to make sure bottle is always tightly capped. Product should be carried and stored in an upright position to avoid spillage.

Do not use this product full strength for cleaning surfaces. Always dilute strictly in accordance with label directions. Wear gloves when cleaning for prolonged periods.

Contains no phosphorous.

Keep upright.

Do not drop.

***[The following headings maybe placed above or in front of appropriate directions (e.g., Household Use in front of directions for dishes or floors)]***

FARM - DAIRY USE

RESTAURANT USE

FOODSERVICE APPLICATIONS

HOUSEHOLD USE

FOOD PROCESSING PLANT USE

[ Additional optional claims:]

HE Pictogram:



The following icons:



\*NOT RECYCLED IN ALL AREAS



[www.ALDI.us](http://www.ALDI.us)

**PRECAUTIONARY STATEMENTS**  
**Hazards to Humans and Domestic Animals**

DANGER: Corrosive, may cause severe skin and eye irritation or chemical burns to broken skin. Causes eye damage. Wear safety glasses and rubber gloves when handling this product. Wash after handling. Avoid breathing vapors. Vacate poorly ventilated areas as soon as possible. Do not return until strong odors have dissipated.

*[In accordance with PR notice 95-1, the Environmental Hazards statement only required for containers 5 gallons and larger]*

**Environmental Hazards**

This product is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, streams ponds, estuaries, oceans or public 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 to 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 and Chemical Hazards**

Strong oxidizer. Flush drains before and after use. Do not use or mix with other household chemicals, such as toilet bowl cleaners, rust removers, acid or ammonia containing products. To do so will release hazardous gases. Prolonged contact with metal may cause pitting or discoloration.

**STORAGE AND DISPOSAL**

**VERTEX GERMICIDAL ULTRA BLEACH STORAGE:** Store this product in a cool dry area, away from direct sunlight and heat to avoid deterioration. Do not contaminate water, food or feed by storage, disposal or cleaning of equipment. In case of spill, flood areas with large quantities of water. Product or rinsates that cannot be used should be diluted with water before disposal in a sanitary sewer, in accordance with state & local regulations.

**VERTEX GERMICIDAL ULTRA BLEACH DISPOSAL:** Pesticide wastes may be 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 HANDLING:** (HOUSEHOLD & RESIDENTIAL USE LABELS) (marketing label will include only applicable container handling instructions) **NONREFILLABLE CONTAINER-DO NOT reuse or refill this container.** Offer for recycling, if available or place in trash collection.

**CONTAINER HANDLING:** (ALL OTHER LABELS) (marketing label will include only applicable container handling instructions) (When check -off box format is used on label, filler will mark appropriate box.)

**NONREFILLABLE CONTAINER-DO NOT reuse or refill this container.** Offer for

recycling if available or place in trash collection.

- CONTAINER CLEANING:** (NOT REQUIRED FOR HOUSEHOLD AND RESIDENTIAL USE LABELS) Triple rinse promptly after emptying
- Triple Rinse:** If the container has a capacity greater than five (5) gallons, triple rinse as follows: Empty remaining contents into application equipment or a mix tank. Fill the container  $\frac{1}{4}$  full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat procedure two more times.
- If the container has a capacity of five (5) gallons or less, triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container  $\frac{1}{4}$  full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store the rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat the procedure two more times.
- REFILLABLE CONTAINER-Refill this container with VERTEX GERMICIDAL ULTRA BLEACH only.** Do not reuse this container for any other purpose. Clean container promptly after emptying. Cleaning the container before refilling is the responsibility of the refiller. Cleaning the container before final disposal is the responsibility of the person disposing of the container. If disposing refillable container, offer for recycling if available or place in trash collection.
- CONTAINER CLEANING:** Triple rinse promptly after emptying.
- Triple Rinse:** If the container has a capacity greater than five (5) gallons, triple rinse as follows: Empty remaining contents into application equipment or a mix tank. Fill the container  $\frac{1}{4}$  full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat procedure two more times.
- If the container has a capacity of five (5) gallons or less, triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container  $\frac{1}{4}$  full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store the rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat the procedure two more times.



*[The Directions for Use on the following pages are similar directions with different formats and quantities in order to provide flexibility to distributors to address their customers' and market needs on labeling for the marketplace.]*

**DIRECTIONS FOR USE**

It's a violation of Federal law to use this product in a manner inconsistent with its labeling.

One Tbsp. (1/2 oz.) of this product in 1 gallon of water is equivalent to approximately 200 parts per million (ppm) available chlorine. Use a chlorine test kit to determine exact available chlorine concentration and adjust as necessary to obtain specified ppm.

**LAUNDRY**

Use to bleach white and colorfast Acrylics, Cotton, Nylon, Polyester, Rayon (test to be sure). Do not use on Acetate, Leather, Silk, Spandex or Wool, Mohair and non-fast colors. Sort laundry by color and fabric. Separate whites from colors, light colors from dark colors.

**BLEACH TEST:** Before using, mix one tablespoon of bleach with ¼ cup of water in a glass, rubber, porcelain, or plastic container and test a small piece of fabric in a place that doesn't show. Test all colors, including trim. Let stand one minute, then blot dry. No color change means the article can be bleached safely.

**LAUNDRY:** Before adding clothes, mix ¾ cup of bleach with water in top-loading 16 gallon machines or mix ½ cup bleach with water in front-loading 8 gallon machines. For large top loading automatics or larger heavily soiled loads use 1 1/8 cup. Add clothes. If sanitization is desired, soak clothes for 5 minutes. Wash and rinse with usual cycles. If clothes are in machine the addition of bleach can cause damage.

**TOP LOAD AUTOMATIC ..... 3/4 CUP      LARGE TOP LOADING AUTOMATIC .....1 1/8 CUP**  
**FRONT LOAD AUTOMATIC ..... 1/3 CUP      LARGE/HEAVY SOILED LOADS.....1 1/8 CUP**

**REMOVE STAINS:** Mix 1/4 cup of bleach with a gallon of water. Soak stained area for 5 minutes to remove grass, ink, coffee, tea, scorch, fruit, etc. Rinse thoroughly.

[OR: *the following format maybe used:*]

**LAUNDRY USE:**

1. Before adding clothes, mix 3/4 cup of bleach with water in top-loading 16 gallon machines or mix 1/3 cup bleach with water in front-loading 8 gallon machines. For large top loading automatics or larger heavily soiled loads, use 1 1/8 cup.
2. Add clothes
3. Wash and rinse with usual cycles.

Do not use on Acetate, Leather, Silk, Spandex or Wool, Mohair and non-fast colors.

**REMOVE STAINS:**

1. Mix 1/4 cup of bleach with a gallon of water.
2. Soak stained area for 5 minutes to remove grass, ink, coffee, tea, scorch, fruit, etc.
3. Rinse thoroughly.

## **DISINFECTION OF HARD NON-POROUS SURFACES**

Kitchen: Clean and disinfect countertops and sinks:

1. Use 3/4 cup of Vertex Germicidal Ultra Bleach [or this product] per gallon of water.
2. Wash, wipe, or rinse surfaces then apply disinfecting solution.
3. Let stand 5 minutes.
4. Rinse thoroughly and air dry.

Disinfecting and Deodorizing Bathrooms: Disinfect and deodorize bathtubs, showers, sinks, floors, vinyl, tile.

1. Spread a solution of 3/4 cup of Vertex Germicidal Ultra Bleach [or this product] per gallon of water [or Spread a solution of 1 1/2 cups of Vertex Germicidal Ultra Bleach [or this product] per 2 gallons of water.]
2. Let stand 5 minutes, then drain and air dry.

Toilet bowls: Disinfect and deodorize toilet

1. Prewash toilet and flush.
2. Pour 1 cup of Vertex Germicidal Ultra Bleach [or this product] - brush, making sure to get under the rim.
3. Let stand 10 minutes and flush. DO NOT use with bowl cleaners or any other household chemical

Disinfects, sanitizes, and deodorizes by killing most germs and their odors.

**SANITIZING FOOD CONTACT SURFACES:** Before using this product, remove or carefully protect food. Remove gross food particles from surface. Prewash surface with a good detergent and rinse thoroughly with potable water. Mix approximately 1 Tbsp. of Bleach per gallon of water to prepare a 200 ppm available chlorine solution. Cover surface with bleach solution for at least 2 minutes. Air dry.

**DISINFECTING KITCHEN, DISHES, SINKS:** Use 1/4 cup bleach mixed with a quart of water to soak cleaned dishes, teapot, cups, sinks, etc. for 5 minutes. Rinse with a solution of approximately 1 Tbsp. of bleach per gallon of water to prepare a 200 ppm solution. Do not use on silverware. Bleach solution can be used on porcelain, enamel, etc. surfaces after cleaning. Let air dry.

**DISINFECTING WALLS, FLOORS, AND OTHER HARD INANIMATE SURFACES NOT IN DIRECT CONTACT WITH FOOD:** Prewash surfaces and rinse. Mix 3/4 cup bleach per gallon of water. Spray, rinse, or wipe surface with bleach solution and let stand for 5 minutes. Drain and air dry.

**DISINFECTING BATHROOM:** Prewash toilet and flush. Pour 1 cup bleach into toilet bowl, scrub with a brush, making sure to get under rim, let stand 10 minutes, flush. Do not use with bowl cleaners or any other household chemicals,

**DEODORIZING GARBAGE CANS:** Wash and rinse, Use 3/4 cup bleach for each gallon of water in can. Empty and let drain.

**EGG SHELL SANITIZING:** Thoroughly clean eggs. Mix approximately 1 Tbsp. (1/2 oz) of bleach per gallon of warm water to produce a 200 ppm available chlorine solution. The sanitizer temperature should not exceed 130°F. Spray the warm sanitizer so that the eggs are thoroughly wetted. Allow the eggs to thoroughly dry before casing or breaking. Do not apply a potable rinse, the solution should not be re-used to sanitize eggs.

One Tbsp. (1/2 ounce) of Vertex Germicidal Ultra bleach in 1 gallon of water is equivalent to approximately 200 parts per million (ppm) available chlorine. Use a chlorine test kit to determine exact available chlorine concentration.

<b>FOR SANITIZING</b>	<b>Amount Bleach</b>	<b>Amount Water</b>	<b>Instructions</b>
Work Surfaces	1 Tbsp.	1 Gallon	Pre-wash with detergent, rinse, cover surface with bleach solution for at least 2 minutes, drain, let air dry.
Dishes, Glassware, Utensils	1 Tbsp.	1 Gallon	After washing, soak for at least two minutes in bleach solution. Drain and let air dry.
Bathtubs, Showers	1 Tbsp.	1 Gallon	Wash, rinse, apply bleach solution for at least two minutes, drain, let air dry.
Refrigerators, Freezers	1 Tbsp.	1 Gallon	Wash, rinse, apply bleach solution for at least two minutes, drain, let air dry.
<b>FOR DISINFECTING</b>			
Floors & Walls	3/4 Cup	1 Gallon	Pre-wash surfaces and rinse. Spray, rinse or wipe surface with bleach solution, let stand for 5 minutes. Drain and air dry.
Mops, Brushes, Brooms & Rugs	3/4 Cup	1 Gallon	Wash with detergent, apply bleach solution, soak at least 10 minutes. Rinse well.
<b>FOR DEODORIZING</b>			
Garbage Cans	3/4 Cup	1 Gallon	After washing and rinsing, brush inside with solution. Empty and let drain.
Drains	1 Cup		Pour into drain. Flush with hot water.
<b>FOR BLEACHING/WHITENING</b>			
Wooden Surfaces	1/2 Cup	1 Gallon	Apply for 5 minutes, rinse.
<b>FOR MOLD, MILDEW, &amp; STAIN REMOVAL</b>			
All Surfaces	1/2 Cup	1 Gallon	Add bleach to detergent solution, apply, rinse.
<b>FOR AGRICULTURAL USES</b>			
Food Egg	1 Tbsp.	1 Gallon	Wash, rinse, spray with maximum 130°F bleach solution until completely wet; let air dry before casing or breaking. Once solution is used it must not be reused for this purpose.
Fruits and Vegetables	1 Tbsp.	20 Gallons	Wash, rinse, soak in circulating bleach solution (25 ppm) for 2 min. Spray vegetables with bleach solution before packing; use potable water to rinse fruit before packaging. Rinse is to occur only immediately prior to packaging.
Rev. 1108			

<p>■ <b>Laundering:</b> To bleach and sanitize white and colorfast cotton, linen nylon, Dacron, Orlon, Polyester, Dynel and rayon in washing machine: <math>\frac{3}{4}</math> cup of this product per load for conventional washing machine: <math>\frac{1}{2}</math> cup for front load automatic. Add to pre-soak, wash water or first rinse. If clothes, are in machine, dilute product in 1 quart water before adding.</p> <p>■ <b>To Whiten Nylon and Other Synthetics</b> that have turned yellow or grey: 1 tablespoon of this product per gallon water. Soak clean fabric in solution for 15 to 20 minutes. Rinse well. Repeat if necessary.</p> <p>■ <b>To Remove Stains:</b> Berry, wine, coffee, tea, ink, grass, dye, medicine stains, scorch and mildew. Make solutions of 2 tablespoons of this product to each quart water. Immerse fabric for 5 to 10 minutes. Rinse well in clear water. Repeat if necessary.</p> <p>■ <b>Today's Permanent Press Fabrics are Bleachable</b> and need this product to Get out stains and help prevent dirt build up. Wash with regular laundry as directed: Top-load automatics - <math>\frac{3}{4}</math> cup per load. Wringer-type washers - <math>\frac{3}{4}</math> cup per load. Front-load automatics - <math>\frac{1}{2}</math> cup per load. Use this product with any Good laundry soap or detergent. If your washer has an automatic bleach dispenser, follow washer directions. If not, add this product to wash water before laundry is put in. If laundry is put in before wash water then dilute this product in quart of water and add after machine has started agitating and fabrics are thoroughly wet.</p> <p>■ <b>Disinfecting and Deodorizing Bathrooms:</b> To disinfect and deodorize washable surfaces such as tubs, showers, countertops, sinks, ceramic tile and vinyl flooring, spread a solution of 1 <math>\frac{1}{2}</math> cups of this product per 2 gallons of water on clean surface. Let stand 5 minutes then drain.</p> <p>■ <b>Toilet Bowls:</b> To sanitize and deodorize pre-cleaned toilet bowls, use <math>\frac{1}{2}</math> cup of this product. Flush, pour in bleach - brush, making sure to get under the rim and let stand for 10 minutes. Flush. DO NOT use with bowl cleaners or any other household chemicals.</p> <p>■ <b>Sickroom Equipment:</b> Wash all surfaces thoroughly. Rinse, then spread a solution of 1 <math>\frac{1}{2}</math> cups of this product per 2 gallons of water over all surfaces. Let stand 5 minutes, then drain.</p> <p>■ <b>Garbage cans:</b> Wash thoroughly with warm soapy solution. Rinse, then spread a solution of 1 <math>\frac{1}{2}</math> cups of this product per 2 gallons of water over all surfaces. Let stand 5 minutes, then drain.</p> <p>Avoid prolonged contact with metal since corrosion or discoloration may occur. Do not use this product in chipped enamel.</p>	<p>■ <b>Sanitizing Nonporous Food Contact Surfaces:</b> Prepare a sanitizing solution by thoroughly mixing 2 Tbsp. (1 oz.) of this product with 2 <math>\frac{1}{2}</math> gallons of water to provide approximately 200 ppm available chlorine by weight. Clean all surfaces in the normal manner. Prior to use, rinse all surfaces thoroughly with the sanitizing solution, maintaining contact with the sanitizer for at least 2 minutes. Do not rinse equipment with water after treatment and do not soak equipment overnight.</p> <p>■ <b>To Sanitize Milking Equipment:</b> Prepare sanitizing solution as above immediately prior to use. All surfaces to be sanitized should be properly cleaned before application of chlorine solution. Milking utensils should be submerged in the solution for at least 2 minutes and allowed to drain. Do not rinse equipment with water after treatment. If solution contains less than 50 ppm available chlorine, as determined by a suitable test kit, either discard the solution or add sufficient product to reestablish a 200 ppm residual. Sanitizers used in automated systems may be used for general cleaning but may not be reused for sanitizing purposes.</p> <p>■ <b>Sanitizing Porous Food Contact Surfaces:</b> Prepare a solution of approximately 600 ppm by thoroughly mixing 6 Tbsp. (3 ozs.) of this product with 2 <math>\frac{1}{2}</math> gallons of water. Clean surfaces in the normal manner. Rinse all surfaces thoroughly with the 600 ppm solution, maintaining contact with the sanitizer for at least 2 minutes. Prepare a 200 ppm sanitizing solution by thoroughly mixing 2 Tbsp. (1 oz.) of this product with 2 <math>\frac{1}{2}</math> gallons of water. Prior to using equipment, rinse all surfaces with 200 ppm available chlorine solution. Do not rinse with water and do not soak equipment overnight.</p>
	<b>PROPORTIONS FOR DILUTION OF THIS PRODUCT</b>
	200 ppm: 1 oz. (2 Tbsp) in 2 $\frac{1}{2}$ gallons of water
	600 ppm: 3 oz. (6 Tbsp) in 2 $\frac{1}{2}$ gallons of water
	(Use a chlorine test kit to determine exact available chlorine concentration and adjust dosage as necessary.)
	<b>RESTAURANTS, TAVERNS, SODA FOUNTAINS, DAIRIES, ETC.</b>
	<b>DIRECTIONS FOR SANITIZING EATING AND DRINKING UTENSILS:</b>
	Prepare sanitizing solution immediately prior to use.
	1. Scrape and pre-wash utensils and glass whenever possible.
	2. Wash with good detergent or compatible cleaner.
	3. Rinse with clean water.
	4. Sanitize in solution of 1 oz. to 2 $\frac{1}{2}$ gallons of water (200 ppm).
	5. Immerse utensils at least 2 minutes or for contact time specified by governing sanitary code.
	6. Do not reuse sanitizing solution.
Rev. 1108	

## **DIRECTIONS FOR USE**

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

NOTE: This product degrades with age. Use a chlorine test kit and increase dosage, as necessary, to obtain the required level of available chlorine.

### **TABLE OF PROPORTIONS AVAILABLE CHLORINE**

600 ppm - 12 oz. in 10 gal. water

200 ppm - 4 oz. in 10 gal. water

## **SWIMMING POOL WATER DISINFECTION**

For a new pool or spring start-up, superchlorinate with 107 to 213 oz. of product for each 10,000 gallons of water to yield 5 to 10 ppm available chlorine by weight. Check the level of available chlorine with a test kit. Adjust and maintain pool water pH to between 7.2 to 7.6. Adjust and maintain the alkalinity of the pool to between 50 to 100 ppm.

To maintain the pool, add manually or by a feeder device 21.3 oz. of this product for each 10,000 gallons of water to yield an available chlorine residual between 0.6 to 1.0 ppm by weight. Stabilized pools should maintain a residual of 1.0 to 1.5 ppm available chlorine. Test the pH, available chlorine residual and alkalinity of the water frequently with appropriate test kits. Frequency of water treatment will depend upon temperature and number of swimmers.

Every 7 days, or as necessary, superchlorinate the pool with 107 to 213 oz. of product for each 10,000 gallons of water to yield 5 to 10 ppm available chlorine by weight. Check the level of available chlorine with a test kit. Do not reenter pool until the chlorine residual is 4.0 ppm. Re-entry into treated pools is prohibited above levels of 4 ppm due to risk of bodily harm.

At the end of the swimming pool season or when water is to be drained from the pool, chlorine must be allowed to dissipate from treated pool water before discharge. Do not chlorinate the pool within 24 hours prior to discharge.

**WINTERIZING POOLS** - While water is still clear & clean, apply 6.4 oz. of product per 1000 gallons, while filter is running, to obtain a 3 ppm available chlorine residual, as determined by a suitable test kit. Cover pool, prepare heater, filter and heater components for winter by following manufacturers' instructions.

## **SPAS, HOT-TUBS, IMMERSION TANKS, ETC.**

**SPAS/HOT-TUBS** - Apply 10.7 oz. of product per 1000 gallons of water to obtain a free available chlorine concentration of 5 ppm, as determined by a suitable chlorine test kit. Adjust and maintain pool water pH to between 7.2 and 7.8. Some oils, lotions, fragrances, cleaners, etc. may cause foaming or cloudy water as well as reduce the efficiency of the product.

To maintain the water, apply 10.7 oz. of product per 1000 gallons of water over the surface to maintain a chlorine concentration of 5 ppm. After each use, shock treat with 17 oz. of this product per 500 gallons of water to control odor and algae.

Re-entry into treated pools is prohibited above levels of 5 ppm due to risk of bodily harm. During extended periods of disuse, add 6.4 oz. of product daily per 1000 gallons of water to maintain a 3 ppm chlorine concentration.

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HUBBARD AND IMMERSION TANKS -Add 10.7 oz. of this product per 200 gallons of water before patient use to obtain a chlorine residual of 25 ppm, as determined by a suitable test kit. Adjust and maintain the water pH to between 7.2 and 7.6. After each use, drain the tank. Add 10.7 oz. to a bucket of water and circulate this solution through the agitator of the tank for 15 minutes and then rinse out the solution. Clean tank thoroughly and dry with clean cloths.  
**[NOT FOR USE IN CALIFORNIA]**

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HYDROTHERAPY TANKS - Add 2.1 oz. of this product per 1000 gallons of water to obtain a chlorine residual of 1 ppm, as determined by a suitable chlorine test kit. Pool should not be entered until the chlorine residual is below 3 ppm. Adjust and maintain the water pH to between 7.2 and 7.6. Operate pool filter continuously. Drain pool weekly, and clean before refilling.

### **SANITIZATION OF NONPOROUS FOOD CONTACT SURFACES**

RINSE METHOD - A solution of 100 ppm available chlorine may be used in the sanitizing solution if a chlorine test kit is available. Solutions containing an initial concentration of 100 ppm available chlorine must be tested and adjusted periodically to insure the available chlorine does not drop below 50 ppm. Prepare a 100 ppm sanitizing solution by thoroughly mixing 2.1 oz. of this product with 10 gallons of water. If no test kit is available, prepare a sanitizing solution by thoroughly mixing 4.25 oz. of this product with 10 gallons of water to provide approximately 200 ppm available chlorine by weight.

Clean equipment surfaces in the normal manner. Prior to use, rinse all surfaces thoroughly with the sanitizing solution, maintaining contact with the sanitizer for at least 2 minutes. If solution contains less than 50 ppm available chlorine, as determined by a suitable test kit, either discard the solution or add sufficient product to reestablish a 200 ppm residual, Do not rinse equipment with water after treatment and do not soak equipment overnight.

Sanitizers used in automated systems may be used for general cleaning but may not be reused for sanitizing purposes.

IMMERSION METHOD - A solution of 100 ppm available chlorine may be used in the sanitizing solution if a chlorine test kit is available. Solutions containing an initial concentration of 100 ppm available chlorine must be tested and adjusted periodically to ensure that the available chlorine does not drop below 50 ppm. Prepare a 100 ppm sanitizing solution by thoroughly mixing 2.1 oz. of this product with 10 gallons of water. If no test kit is available, prepare a sanitizing solution by thoroughly mixing 4.25 oz. of this product with 10 gallons of water to provide approximately 200 ppm available chlorine by weight.

Clean equipment in the normal manner. Prior to use, immerse equipment in the sanitizing solution for at least 2 minutes and allow the sanitizer to drain. If solution contains less than 50 ppm available chlorine, as determined by a suitable test kit, either discard the solution or add sufficient product to reestablish a 200 ppm residual. Do not rinse equipment with water after treatment.

Sanitizers used in automated systems may be used for general cleaning but may not be reused for sanitizing purposes.

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**FLOW/PRESSURE METHOD** - Disassemble equipment and thoroughly clean after use. Assemble equipment in operating position prior to use. Prepare a volume of a 200 ppm available chlorine sanitizing solution equal to 110% of volume capacity of the equipment by mixing the product in a ratio of 4.25 oz. product with 10 gallons of water. Pump solution through the system until full flow is obtained at all extremities, the system is completely filled with the sanitizer and all air is removed from the system. Close drain valves and hold under pressure for at least 2 minutes to ensure contact with all internal surfaces. Remove some cleaning solution from drain valve and test with a chlorine test kit. Repeat entire cleaning/sanitizing process if effluent contains less than 50 ppm available chlorine.

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**CLEAN-IN-PLACE METHOD** - Thoroughly clean equipment after use. Prepare a volume of a 200 ppm available chlorine sanitizing solution equal to 110% of volume capacity of the equipment by mixing the product in a ratio of 4.25 oz. product with 10 gallons of water. Pump solution through the system until full flow is obtained at all extremities, the system is completely filled with the sanitizer and all air is removed from the system. Close drain valves and hold under pressure for at least 10 minutes to ensure contact with all internal surfaces. Remove some cleaning solution from drain valve and test with a chlorine test kit. Repeat entire cleaning/sanitizing process if effluent contains less than 50 ppm available chlorine.

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### **SANITIZING OF POROUS FOOD CONTACT SURFACES**

**RINSE METHOD** - Prepare a sanitizing solution by thoroughly mixing 12.8 oz. of this product with 10 gallons of water to provide 600 ppm available chlorine by weight. Clean surfaces in the normal manner. Prior to use, rinse all surfaces thoroughly with the sanitizing solution, maintaining contact with the sanitizer for at least 2 minutes and allow the sanitizer to drain. Prepare a 200 ppm sanitizing solution by thoroughly mixing 4.25 oz. of this product with 10 gallons of water and rinse all surfaces with this 200 ppm solution. Do not rinse with water and do not soak equipment overnight.



IMMERSION METHOD - Prepare a sanitizing solution by thoroughly mixing, in an immersion tank, 12.8 oz. of this product with 10 gallons of water to provide 600 ppm available chlorine by weight. Clean equipment in the normal manner. Prior to use, immerse equipment in the sanitizing solution, maintaining contact for at least 2 minutes and allow the sanitizer to drain. Following this, prepare a 200 ppm sanitizing solution by thoroughly mixing 4.25 oz. of this product with 10 gallons of water and rinse all surfaces with this 200 ppm solution. Do not rinse with water and do not soak equipment overnight.

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### **SANITIZATION OF NONPOROUS NON-FOOD CONTACT SURFACES**

RINSE METHOD - Prepare a sanitizing solution by thoroughly mixing 4.25 oz. of this product with 10 gallons of water to provide approximately 200 ppm available chlorine by weight. Clean equipment surfaces in the normal manner, Prior to use, rinse all surfaces thoroughly with the sanitizing solution, maintaining contact with the sanitizer for at least 2 minutes. Do not rinse equipment with water after treatment and do not soak equipment overnight.

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IMMERSION METHOD - Prepare a sanitizing solution by thoroughly mixing, in an immersion tank, 4.25 oz. of this product with 10 gallons of water to provide approximately 200 ppm available chlorine by weight. Clean equipment in the normal manner. Prior to use, immerse equipment in the sanitizing solution for at least 2 minutes and allow the sanitizer to drain. Do not rinse equipment with water after treatment.

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### **DISINFECTION OF NONPOROUS NON-FOOD CONTACT SURFACES**

RINSE METHOD - Prepare a disinfecting solution by thoroughly mixing 12.8 oz. of this product with 10 gallons of water to provide approximately 600 ppm available chlorine by weight. Clean equipment surfaces in the normal manner. Prior to use, rinse all surfaces thoroughly with the disinfecting solution, maintaining contact with the solution for at least 10 minutes. Do not rinse equipment with water after treatment and do not soak equipment overnight

IMMERSION METHOD - Prepare a disinfecting solution by thoroughly mixing, in an immersion tank, 12.8 oz. of this product with 10 gallons of water to provide approximately 600 ppm available chlorine by weight. Clean equipment in the normal manner. Prior to use, immerse equipment in the disinfecting solution for at least 10 minutes and allow the disinfectant to drain. Do not rinse equipment with water after treatment.

## **SANITIZATION OF POROUS NON-FOOD CONTACT SURFACES**

RINSE METHOD - Prepare a sanitizing solution by thoroughly mixing 12.8 oz. of this product with 10 gallons of water to provide approximately 600 ppm available chlorine by weight. Clean surfaces in the normal manner. Prior to use, rinse all surfaces thoroughly with the sanitizing solution, maintaining contact with the sanitizer for at least 2 minutes. Do not rinse equipment with water after treatment and do not soak equipment overnight.

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IMMERSION METHOD - Prepare a sanitizing solution by thoroughly mixing, in an immersion tank, 12.8 oz. of this product with 10 gallons of water to provide approximately 600 ppm available chlorine by weight. Clean equipment in the normal manner. Prior to use, immerse equipment in the sanitizing solution for at least 2 minutes and allow the sanitizer to drain. Do not rinse equipment with water after treatment.

## **SEWAGE & WASTEWATER EFFLUENT TREATMENT**

The disinfection of sewage effluent must be evaluated by determining the total number of coliform bacteria and/or fecal coliform bacteria, as determined by the Most Probable Number (MPN) procedure, of the chlorinated effluent has been reduced to or below the maximum permitted by the controlling regulatory jurisdiction.

On the average, satisfactory disinfection of secondary wastewater effluent can be obtained when the chlorine residual is 0.5 ppm after 15 minutes contact. Although the chlorine residual is the critical factor in disinfection, the importance of correlating chlorine residual with bacterial kill must be emphasized. The MPN of the effluent, which is directly related to the water quality standards requirements, should be the final and primary standard and the chlorine residual should be considered an operating standard valid only to the extent verified by the coliform quality of the effluent.

The following are critical factors affecting wastewater disinfection.

1. **Mixing:** It is imperative that the product and the wastewater be instantaneously and completely flash mixed to assure reaction with every chemically active soluble and particulate component of the wastewater.
2. **Contacting:** Upon flash mixing, the flow through the system must be maintained.
3. **Dosage/Residual Control:** Successful disinfection is extremely dependent on response to fluctuating chlorine demand to maintain a predetermined, desirable chlorine level, Secondary effluent should contain 0.2 to 1.0 ppm chlorine residual after a 15 to 30 minute contact time. A reasonable average of residual chlorine is 0.5 ppm after 15 minutes contact time.

## **SEWAGE AND WASTE WATER TREATMENT**

EFFLUENT SLIME CONTROL - Apply a 100 to 1000 ppm available chlorine solution at a location which will allow complete mixing. Prepare this solution by mixing 21.3 to 213 oz. of this product with 100 gallons of water. Once control is evident, apply a 15 ppm available chlorine solution, Prepare this solution by mixing 3.2 oz. of this product with 100 gallons of water,

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**FILTER BEDS - SLIME CONTROL:** Remove filter from service, drain to a depth of 1 ft. above Filter sand and add 170 oz. of product per 20 sq/ft evenly over the surface. Wait 30 minutes before draining water to a level that is even with the top of the filter. Wait for 4 to 6 hours before completely draining and backwashing filter.

**DISINFECTION OF DRINKING WATER  
(EMERGENCY/PUBLIC/INDIVIDUAL SYSTEMS)**

**PUBLIC SYSTEMS -** Mix a ratio of 2 oz. of this product to 100 gallons of water, begin feeding this solution with a hypochlorinator until a free available chlorine residual of at least 0.2 ppm and no more than 0.6 ppm is attained throughout the distribution system. Check water frequently with a chlorine test kit. Bacteriological sampling must be conducted at a frequency no less than that prescribed by the National Interim Primary Drinking Water Regulations. Contact your local Health Department for further details.

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**INDIVIDUAL SYSTEMS: DUG WELLS -** Upon completion of the casing (lining), wash the interior of the casing (lining) with a 100 ppm available chlorine solution using a stiff brush. This solution can be made by thoroughly mixing 2.1 oz. of this product into 10 gallons of water. After covering the well, pour the sanitizing solution into the well through both the pipesleeve opening and the pipeline. Wash the exterior of the pump cylinder also with the sanitizing solution. Start pump and pump water until strong odor of chlorine in water is noted. Stop pump and wait at least 24 hours. After 24 hours flush well until all traces of chlorine have been removed from the water. Consult your local Health Department for further details.

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**INDIVIDUAL WATER SYSTEMS: DRILLED, DRIVEN & BORED WELLS -** Run pump until water is as free from turbidity as possible. Pour a 100 ppm available chlorine sanitizing solution into the well. This solution can be made by thoroughly mixing 2.1 oz. of this product into 10 gallons of water. Add 5 to 10 gallons of clean, chlorinated water to the well in order to force the sanitizer into the rock formation. Wash the exterior of the pump cylinder with the sanitizer. Drop pipeline into the well, start pump and pump water until strong odor of chlorine in water is noted. Stop pump and wait at least 24 hours. After 24 hours, flush well until all traces of chlorine have been removed from the water. Deep wells with high water levels may

necessitate the use of special methods for introduction of the sanitizer to the well. Consult your local Health Department for further details.

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**INDIVIDUAL WATER SYSTEMS: FLOWING ARTESIAN WELLS** - Artesian Wells generally do not require disinfection. If analyses indicate persistent contamination, the well should be disinfected. Consult your local Health Department for further details.

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**EMERGENCY DISINFECTION** - When boiling of water for 1 minute is not practical, water can be made potable by using this product. Prior to addition of the sanitizer, remove all suspended material by filtration or by allowing it to settle to the bottom. Decant the clarified, contaminated water to a clean container and add 3 drops of this product to 20 gallons of water. Allow the treated water to stand for 30 minutes. Properly treated water should have a slight chlorine odor, if not, repeat dosage and allow the water to stand an additional 15 minutes. The treated water can then be made palatable by pouring it between clean containers for several times. This process has not been demonstrated to inactivate Cryptosporidium cysts.

### **PUBLIC WATER SYSTEMS**

**RESERVOIRS: ALGAE CONTROL** – Hypo chlorinate streams feeding the reservoir. Suitable feeding points should be selected on each stream at least 50 yards upstream from the points of entry into the reservoir.

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**MAINS** - Thoroughly flush section to be sanitized by discharging from hydrants. Permit a water flow of at least 2.5 feet per minute to continue under pressure while injecting this product by means of a hypochlorinator. Stop water flow when a chlorine residual test of 50 ppm is obtained at the low pressure end of the new main section after a 24 hour retention time. When chlorination is completed, the system must be flushed free of all heavily chlorinated water.

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**NEW TANKS, BASINS, ETC.** - Remove all physical soil from surfaces. Place 43 oz. of this product for each 5 cubic feet of working capacity (500 ppm available chlorine). Fill to working capacity and allow to stand for at least 4 hours. Drain and flush with potable water and place in service.

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**NEW FILTER SAND** -Apply 170 oz. of this product for each 150 to 200 cubic feet of sand. The action of the product dissolving as the water passes through the bed will aid in sanitizing the new sand.

**NEW WELLS** - Flush the casing with a 50 ppm available chlorine solution of water containing 10.7 oz. of this product for each 100 gallons of water. The solution should be pumped or fed by gravity into the well after thorough mixing with agitation. The well should stand for several hours or overnight under chlorination. It may then be pumped until a representative raw water sample is obtained. Bacterial examination of the water will indicate whether further treatment is necessary.

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EXISTING EQUIPMENT - Remove equipment from service, thoroughly clean surfaces of all physical soil. Sanitize by placing 45 oz. of this product for each 5 cubic feet capacity (approximately 500 ppm available chlorine). Fill to working capacity and let stand at least 4 hours. Drain and place in service. If the previous treatment is not practical, surfaces may be sprayed with a solution containing 10.7 oz. of this product for each 5 gallons of water (approximately 1000 ppm available chlorine). After drying, flush with water and return to service.

### **EMERGENCY DISINFECTION AFTER FLOODS**

WELLS - Thoroughly flush contaminated casing with a 500 ppm available chlorine solution. Prepare this solution by mixing 10.7 oz. of this product with 10 gallons of water. Backwash the well to increase yield and reduce turbidity, adding sufficient chlorinating solution to the backwash to produce a 10 ppm available chlorine residual, as determined by a chlorine test kit. After the turbidity has been reduced and the casing has been treated, add sufficient chlorinating solution to produce a 50 ppm available chlorine residual. Agitate the well water for several hours and take a representative water sample. Retreat well if water samples are biologically unacceptable.

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RESERVOIRS - in case of contamination by overflowing streams, establish hypochlorinating stations upstream of the reservoir. Chlorinate the inlet water until the entire reservoir obtains a 0.2 ppm available chlorine residual, as determined by a suitable chlorine test kit. In case of contamination from surface drainage, apply sufficient product directly to the reservoir to obtain a 0.2 ppm available chlorine residual in all parts of the reservoir.

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BASINS, TANKS, FLUMES, ETC. - Thoroughly clean all equipment, then apply 43 oz. of product per 5 cu. ft. of water to obtain 500 ppm available chlorine, as determined by a suitable test kit. After 24 hours, drain, flush, and return to service. If the previous method is not suitable, spray or flush the equipment with a solution containing 10.7 oz. of this product for each 5 gallons of water (1000 ppm available chlorine). Allow to stand for 2 to 4 hours, flush and return to service.

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FILTERS- When the sand filter needs replacement, apply 170 oz. of this product for each 150 to 200 cubic feet of sand. When the filter is severely contaminated, additional product should be distributed over the surface at the rate of 100 oz. per 20 sq.ft. Water should stand at a depth of 1 foot above the surface of the filter bed for 4 to 24 hours. When filter beds can be backwashed of mud and silt, apply 170 oz. of this product per each 50 sq. ft., allowing the water to stand at a depth of 1 foot above the filter sand. After 30 minutes, drain water to the level of the filter. After 4 to 6 hours, drain, and proceed with normal backwashing,

DISTRIBUTION SYSTEM - Flush repaired or replaced section with water. Establish a hypochlorinating station and apply sufficient product until a consistent available chlorine residual of at least 10 ppm remains after 24 hour retention time. Use a chlorine test kit.

## **EMERGENCY DISINFECTION AFTER FIRES**

CROSS CONNECTIONS OF EMERGENCY CONNECTIONS - Hypochlorination or gravity feed equipment should be set up near the intake of the untreated water supply. Apply sufficient product to give a chlorine residual of at least 0.1 to 0.2 ppm at the point where the untreated supply enters the regular distribution system. Use a chlorine test kit.

## **EMERGENCY DISINFECTION AFTER DROUGHTS**

SUPPLEMENTARY WATER SUPPLIES - Gravity or mechanical hypochlorite feeders should be set up on a supplementary line to dose the water to a minimum chlorine residual of 0.2 ppm after a 20 minute contact time. Use a chlorine test kit.

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WATER SHIPPED IN BY TANKS, TANK CARS, TRUCKS, ETC. - Thoroughly clean all containers and equipment. Spray a 500 ppm available chlorine solution and rinse with potable water after 5 minutes, This solution is made by mixing 10.7 oz. of this product for each 10 gallons of water. During the filling of the containers, dose with sufficient amounts of this product to provide at least a 0.2 ppm chlorine residual. Use a chlorine test kit.

## **EMERGENCY DISINFECTION AFTER MAIN BREAKS**

MAINS - Before assembly of the repaired section, flush out mud and soil. Permit a water flow of at least 2.5 feet per minute to continue under pressure while injecting this product by means of a hypochlorinator. Stop water flow when a chlorine residual of test of 50 ppm is obtained at the low pressure end of the new main section after a 24 hour retention time. When chlorination is completed, the system must be flushed free of all heavily chlorinated water.

## **COOLING TOWER/EVAPORATIVE CONDENSER WATER**

SLUG FEED METHOD - Initial Dose: When system is noticeably fouled, apply 107 to 213 oz. of this product per 10,000 gallons of water in the system to obtain from 5 to 10 ppm available chlorine. Repeat until control is achieved.

Subsequent Dose: When microbial control is evident, add 21.3 oz. of this product per 10,000 gallons of water in the system daily, or as needed to maintain control and keep the chlorine residual at 1 ppm. Badly fouled systems must be cleaned before treatment has begun.

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INTERMITTENT FEED METHOD - Initial Dose: When system is noticeably fouled, apply 107 to 213 oz. of this product per 10,000 gallons of water in the system to obtain 5 to 10 ppm available chlorine. Apply half (or 1/3, 1/4, or 1/5) of this initial dose when half (or 1/3, 1/4, or 1/5) of the water in the system has been lost by blowdown.

Subsequent Dose: When microbial control is evident, add 21.3 oz. of this product per 10000 gallons of water in the system to obtain a 1 ppm residual. Apply half (or 1/3, 1/4, or 1/5) of this initial dose when half (or 1/3, 1/4, or 1/5) of the water in the system has been lost by blowdown. Badly fouled systems must be cleaned before treatment has begun.

CONTINUOUS FEED METHOD - Initial Dose: When system is noticeably fouled, apply 107 to 213 oz. of this product per 10,000 gallons of water in the system to obtain 5 to 10 ppm available chlorine.

Subsequent Dose: Maintain this treatment level by starting a continuous feed of 2.1 oz. of this product per 1,000 gallons of water lost by blowdown to maintain a 1 ppm residual. Badly fouled systems must be cleaned before treatment has begun.

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## **LAUNDRY SANITIZERS**

### Household Laundry Sanitizers

IN SOAKING SUDS - Thoroughly mix 4.25 oz. of this product to 10 gallons of wash water to provide 200 ppm available chlorine. Wait 5 minutes, then add soap or detergent. Immerse laundry for at least 11 minutes prior to starting the wash/rinse cycle.

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IN WASHING SUDS - Thoroughly mix 4.25 oz. of this product to 10 gallons of wash water containing clothes to provide 200 ppm available chlorine. Wait 5 minutes, then add soap or detergent and start the wash/rinse cycle.

### Commercial Laundry Sanitizers

Wet fabrics or clothes should be spun dry prior to sanitization. Thoroughly mix 4.25 oz. of this product with 10 gallons of water to yield 200 ppm available chlorine. Promptly after mixing the sanitizer, add the solution into the prewash prior to washing fabrics/clothes in the regular wash cycle with a good detergent. Test the level of available chlorine, if solution has been allowed to stand. Add more of this product if the available chlorine level has dropped below 200 ppm.

## **FARM PREMISES**

Remove all animals, poultry, 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 occupied or transversed by animals or poultry. Empty all troughs, racks and other feeding and watering appliances. Thoroughly clean all surfaces with soap or detergent and rinse with water. To disinfect, saturate all surfaces with a solution of at least 1000 ppm available chlorine for a period of 10 minutes. A 1000 ppm solution can be made by thoroughly mixing 21.3 oz. of this product with 10 gallons of water. Immerse all halters, ropes, and other types of equipment used in handling and restraining animals or poultry, as well as the cleaned forks, shovels, and scrapers used for removing litter and manure. Ventilate buildings, cars, boats, and other closed spaces. Do not house livestock or poultry or employ equipment until chlorine has been dissipated. All treated feed racks, mangers, troughs, automatic feeders, fountains, and waterers must be rinsed with potable water before reuse.

## **PULP AND PAPER MILL PROCESS WATER SYSTEMS**

**SLUG FEED METHOD** - Initial Dose: When system is noticeably fouled, apply 107 to 213 oz. of this product per 10,000 gallons of water in the system to obtain from 5 to 10 ppm available chlorine. Repeat until control is achieved.

Subsequent Dose: When microbial control is evident, add 21.3 oz. of this product per 10,000 gallons of water in the system daily, or as needed to maintain control and keep the chlorine residual at 1 ppm. Badly fouled systems must be cleaned before treatment has begun.

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**INTERMITTENT FEED METHOD** - Initial Dose: When system is noticeably fouled, apply 107 to 213 oz. of this product per 10,000 gallons of water in the system to obtain 5 to 10 ppm available chlorine. Apply half (or 1/3, 1/4, or 1/5) of this initial dose when half (or 1/3, 1/4, or 1/5) of the water in the system has been lost by blowdown.

Subsequent Dose: When microbial control is evident, add 21.3 oz. of this product per 10,000 gallons of water in the system to obtain a 1 ppm residual. Apply half (or 1/3, 1/4, or 1/5) of this initial dose when half (or 1/3, 1/4, or 1/5) of the water in the system has been lost by blowdown. Badly fouled systems must be cleaned before treatment has begun.

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**CONTINUOUS FEED METHOD** - Initial Dose: When system is noticeably fouled, apply 107 to 213 oz. of this product per 10000 gallons of water in the system to obtain 5 to 10 ppm available chlorine.

Subsequent Dose: Maintain this treatment level by starting a continuous feed of 2.1 oz. of this product per 1000 gallons of water lost by blowdown to maintain a 1 ppm residual. Badly fouled systems must be cleaned before treatment is begun.

## **AGRICULTURAL USES**

**POST-HARVEST PROTECTION** - Potatoes can be sanitized after clearing and prior to storage by spraying with a sanitizing solution at a level of 1 gallon of sanitizing solution per ton of potatoes. Thoroughly mix 2.1 oz. of this product to 2 gallons of water to obtain 500 ppm available chlorine.

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Disinfect leaf cutting bee cells and bee boards by immersion in a solution containing 1 ppm available chlorine for 3 minutes, allow cells to drain for 2 minutes and dry for 4 to 5 hours or until no chlorine odor can be detected. This solution is made by thoroughly mixing 2 tsp. of this product to 100 gallons of water. The bee domicile is disinfected by spraying with a 0.1 ppm solution until all surfaces are thoroughly wet. Allow the domicile to dry until all chlorine odor has dissipated. [Not for use in California]

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**FOOD EGG SANITIZATION** - Thoroughly clean all eggs. Thoroughly mix 4.25 oz. of this product with 10 gallons of warm water to produce a 200 ppm available chlorine solution. The sanitizer temperature should not exceed 130 degrees F. Spray the warm sanitizer so that the eggs are thoroughly wetted. Allow the eggs to thoroughly dry before casing or breaking. Do not apply a potable water rinse. The solution should not be re-used to sanitize eggs.



FRUIT & VEGETABLE WASHING - Thoroughly clean all fruits and vegetables in a wash tank. Thoroughly mix 10.7 oz. of this product in 200 gallons of water to make a sanitizing solution of 25 ppm available chlorine. After draining the tank submerge fruit or vegetables for 2 minutes in a second wash tank containing the recirculating sanitizing solution. Spray rinse vegetables with the sanitizing solution prior to packaging. Rinse fruit with potable water only prior to packaging.

### **AQUACULTURAL USES**

FISH PONDS - Remove fish from ponds prior to treatment. Thoroughly mix 213 oz. of this product to 10000 gallons of water to obtain 10 ppm available chlorine. Add more product to the water if the available chlorine level is below 1 ppm after 5 minutes. Return fish to pond after the available chlorine level reaches zero.

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FISH POND EQUIPMENT - Thoroughly clean all equipment prior to treatment. Thoroughly mix 4.25 oz. of this product to 10 gallons of water to obtain 200 ppm available chlorine. Porous equipment should soak for one hour.

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MAINE LOBSTER PONDS – Remove lobsters, seaweed, etc. from ponds prior to treatment. Drain the pond. Thoroughly mix 12,800 oz. of this product to 10,000 gallons of water to obtain at least 600 ppm available chlorine. Apply so that all barrows, gates, rocks and dams are treated with product. Permit high tide to fill the pond and then close the gates. Allow water to stand for 2 to 3 days until the available chlorine level reaches zero. Open and allow 2 tidal cycles to flush the pond before returning lobsters to the pond. **[NOT FOR USE IN CALIFORNIA]**

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CONDITIONING LIVE OYSTERS - Thoroughly mix 10.7 oz. of this product to 10,000 gallons of water at 50 to 70 degrees F to obtain 0.5 ppm available chlorine. Expose oysters to this solution for at least 15 minutes, monitoring the available chlorine level so that it does not fall below 0.05 ppm. Repeat entire process if the available chlorine level drops below 0.05 ppm or the temperature falls below 50 degrees F. [Not for use in California]

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CONTROL OF SCAVENGERS IN FISH HATCHERY PONDS - Prepare a solution containing 200 ppm of available chlorine by mixing 4.25 oz. of product with 10 gallons of water. Pour into drained pond potholes. Repeat if necessary. Do not put desirable fish back into refilled ponds until chlorine residual has dropped to 0 ppm, as determined by a test kit.

### **SANITIZATION OF DIALYSIS MACHINES**

Flush equipment thoroughly with water prior to using this product. Thoroughly mix 12.8 oz. of this product to 10 gallons of water to obtain at least 600 ppm available chlorine. Immediately use this product in the hemodialysate system allowing for a minimum contact time of 15 minutes at 20 degrees C. Drain system of the sanitizing solution and thoroughly rinse with

water. Discard and DO NOT reuse the spent sanitizer. Rinsate must be monitored with a suitable test kit to ensure that no available chlorine remains in the system.

This product is recommended for decontaminating single and multi-patient hemodialysate systems. This product has been shown to be an effective disinfectant (\*virucide, fungicide, bactericide, pseudomonicide) when tested by AOAC and EPA test methods. This product may not totally eliminate all vegetative microorganisms in hemodialysate delivery systems due to their construction and/or assembly but can be relied upon to reduce the number of microorganisms to acceptable levels when used as directed. This product should be used in a disinfectant program which includes bacteriological monitoring of the hemodialysate delivery system. This product is NOT recommended for use in hemodialysate or reverse osmosis (RO) membranes.

Consult the guidelines for hemodialysate systems which are available from the Hepatitis Laboratories, CDC, Phoenix, AR 85021.

### **ASPHALT OR WOOD ROOFS AND SIDINGS**

To control fungus and mildew, first remove all physical soil by brushing and hosing with clean water, and apply a 5000 ppm available chlorine solution, Mix 10.7 oz, of this product per gallon of water and brush or spray roof or siding. After 30 minutes, rinse by hosing with clean water. [Not for Use in California]

### **BOAT BOTTOMS**

To control slime on boat bottoms sling a plastic tarp under boat, retaining enough water to cover the fouled bottom area, but not allowing water to enter enclosed area. This envelope should contain approximately 500 gallons of water for a 14 foot boat. Add 37.3 oz. of this product to this water to obtain a 35 ppm available chlorine concentration. Leave immersed for 8 to 12 hours. Repeat if necessary. Do not discharge the solution until the free chlorine level has dropped to 0 ppm, as determined by a swimming pool test kit. [Not for Use in California]

### **ARTIFICIAL SAND BEACHES**

To sanitize the sand, spray a 500 ppm available chlorine solution containing 10.7 oz. of this product per 10 gal. of water at frequent intervals. Small areas can be sprinkled with a watering can. [Not for Use in California]

### **WARE WASHING**

**FOR SANITIZING TABLEWARE IN LOW TEMPERATURE DISHWASHING MACHINE -**

Dispense this product into final rinse water at 100 ppm available chlorine. Do not allow concentration to fall below 50 ppm. Air dry. Dispenser should be set to deliver 6.5 cc of sanitizing solution per gallon of water to give 100 ppm of available chlorine. Only a qualified service representative should set or adjust dispenser on the machine.