

1258-1217

6/29/2013

1/24



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

Joanna Holcombe  
Sr. Regulatory Services Associate  
Arch Chemicals, Inc.  
5660 New Northside Drive, Suite 1100  
Atlanta, GA 30328

June 20, 2013

Subject: HTH Dry Chlorinator 20 Gram Tablets  
EPA Registration Number: 1258-1217  
Application Date: June 12, 2013  
EPA Receipt Date: June 14, 2013

Dear Ms. Holcombe:

This acknowledges receipt of the above notification application, submitted under the provision of PR Notice 98-10, FIFRA 3(c)9.

**Proposed Notifications:**

- Minor Label Revision. See letter dated June 12, 2013

**General Comments:**

Based on a review of the material submitted, the following comment applies:

The notification application is acceptable. A copy of the accepted notification has been inserted in your file for future reference.

Should you have any questions or comments concerning this letter, please contact Adam Heyward via email at [Heyward.adam@epa.gov](mailto:Heyward.adam@epa.gov) or by telephone at (703) 347-0274 during the hours of 6:00 am to 2:30 pm EST.

Sincerely,

A handwritten signature in black ink that reads "Mike Mendelsohn".

Mike Mendelsohn  
Acting Product Manager (32)  
Regulatory Management Branch II  
Antimicrobials Division (7510P)

 Environmental Protection Agency Washington, DC 20460	United States <input type="checkbox"/> Registration <input type="checkbox"/> Amendment <input checked="" type="checkbox"/> Other	OPP Identifier Number
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**Application for Pesticide - Section I**

1. Company/Product Number <b>1258-1217</b>	2. EPA Product Manager <b>Mike Mendelsohn</b>	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) <b>HTH Dry Chlorinator 20 Gram Tablets</b>	PM# <b>32</b>	
5. Name and Address of Applicant (Include ZIP Code) Arch Chemicals, Inc. 5660 New Northside Drive NW, Suite 1100 Atlanta, GA 30328  <input type="checkbox"/> Check if this is a new address		6. Expedited Review. In accordance with FIFRA Section 3(c)(3)(b)(I), my product is similar or identical in composition and labeling to:  EPA Reg. No. Product Name

**Section - II**

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application
<input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below

**Explanation:** Use additional page(s) if necessary. (For Section I and Section II.)

**\*Not Subject to PRIA\***

**Label Notification to delete duplicate language, etc. Please see cover letter for details.**


This notification is consistent with the provisions of PR-Notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA.

Signature: Joanna Holcombe Date: 6-12-13

**Section - III**

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input checked="" type="checkbox"/> Yes* <input type="checkbox"/> No <i>*Certification must be submitted</i>	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If "Yes" Unit Packaging wgt.      No. per container	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If "Yes" Package wgt.      No. per container		<input type="checkbox"/> Metal <input checked="" type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify)	
3. Location of Net Contents Information <input type="checkbox"/> Label <input checked="" type="checkbox"/> Container		4. Size(s) Retail Container <b>Various</b>		5. Location of Label Directions <input checked="" type="checkbox"/> On Label <input checked="" type="checkbox"/> On labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input checked="" type="checkbox"/> Lithograph <input type="checkbox"/> Other <input checked="" type="checkbox"/> Paper glued <input checked="" type="checkbox"/> Stenciled					

**Section - IV**

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application)		
Name <b>Joanna Holcombe</b>	Title <b>Sr. Regulatory Services Associate</b>	Telephone No. (Include Area Code) <b>678-627-2336</b>
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		6. Date Application Received (Stamped)
2. Signature 	3. Title <b>Sr. Regulatory Services Associate</b>	
4. Typed Name <b>Joanna Holcombe</b>	5. Date <b>6-12-13</b>	

Via FedEx

Arch Chemicals, Inc.  
5660 New Northside Drive NW, Suite 1100  
Atlanta, GA 30328, USA

Mr. Mike Mendelsohn, Acting PM-32  
Document Processing Desk (NOTIF)  
Office of Pesticide Programs (7504P)  
US Environmental Protection Agency  
Room S-4900, One Potomac Yard  
2227 S. Crystal Drive  
Arlington, VA 22202

Joanna Holcombe  
Specialty Ingredients  
Regulatory Assurance

Tel 678-627-2336  
Fax 678-627-2081  
joanna.holcombe@lonza.com

June 12, 2013

**SUBJECT: HTH Dry Chlorinator 20 Gram Tablets, EPA Reg. No. 1258-1217  
Application for Label Notification**

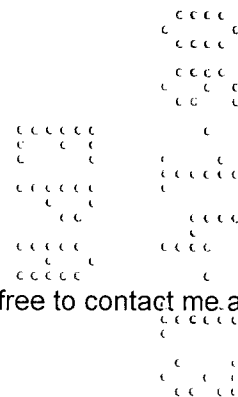
Dear Mr. Mendelsohn:

Lonza is submitting an application to make the following changes to the label:

- Page 6: Add brackets around the word “your” in the sentence “Consult your authorized [brand] dealer for advice on the system that best suits your pool and [your] lifestyle.”
- Page 6: Delete duplicate text:  
[For best results follow a weekly program with our [brand] System. Consult your authorized [brand] dealer for advice on the system that best suits your pool and lifestyle.]  
[Take a pool water sample to your authorized [brand] dealer regularly for a detailed water analysis.]
- Pages 11-13: Correct the conversion of 16 oz. to 23 tablets.
- Page 21: Add optional NSF logo and text.

Please find the enclosed documents in support of this notification:

- Application for Notification;
- Certification with Respect to Label Integrity;
- CD with label; and
- One copy of the proposed label with changes highlighted.



If you have any questions or need any additional information, please feel free to contact me at 678-627-2336.

Sincerely,  
Lonza Inc.

Joanna Holcombe  
Sr. Regulatory Services Associate

[Items in brackets [AAA] are optional and may/may not be included on final label]

{Items in braces {AAA} are for information purposes and will not appear on final label}

### HTH<sup>®</sup> Dry Chlorinator 20 Gram Tablets

ACTIVE INGREDIENT: CALCIUM HYPOCHLORITE.....	68%
OTHER INGREDIENTS: .....	32%
TOTAL: .....	100%

[MINIMUM AVAILABLE CHLORINE... 65%]

KEEP OUT OF REACH OF CHILDREN

### DANGER

Contamination or improper use may cause intense fire, explosion, or the release of toxic gases. Do not allow product to contact any foreign matter, including other water treatment products. If product is exposed to small amounts of water, it can react violently to produce heat and toxic gases and spatter. {Optional – for use on residential use swimming pool products} [Do not mix this product with a small amount of water. Only add directly to your pool or spa.] Do not add water to this product. Add only into water. {Optional – for use on residential use swimming pool and spa products} [Do not remove floater or other dispensing device from water for more than five minutes if it contains tablets or tablet residue.] Highly corrosive. Causes irreversible eye damage and skin burns. May be fatal if swallowed.

Read all precautionary statements on [right] [left] [back] [side] panel before use.

{required on front panel}

**FIRST AID:**

**IF IN EYES:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

**IF ON SKIN OR CLOTHING:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

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

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

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

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

IN CASE OF EMERGENCY CALL: 1-800-654-6911

**NOTIFICATION**  
 Date Received: 6-20-13  
 Reviewed By: [Signature]

**PRECAUTIONARY STATEMENTS**

**HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

**DANGER: Highly corrosive. Causes irreversible eye damage and skin burns. May be fatal if swallowed. Harmful if inhaled. Irritating to nose and throat.**

- Open container in a well ventilated area. Avoid breathing dust and fumes.
- Do not get in eyes, on skin, or on clothing. When handling this product, wear goggles, protective clothing and rubber gloves. Do not use bare hands. For additional protection wear long sleeves and long pants.
- Remove and wash contaminated clothing before reuse. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, smoking tobacco, or using the toilet.
- Only use utensils that are thoroughly clean and dry.

**PHYSICAL and CHEMICAL HAZARDS:**

**If product is exposed to small amounts of water, it can react violently to produce heat and toxic gases and spatter. Do not add water to this product. Add only into water.**

- Do not allow to become wet or damp before use.
- [Do not remove floater or other dispensing device from water for more than five minutes if it contains tablets or tablet residue].

**Can react with other materials, including other water treatment products, to cause intense fire, explosion, and the release of toxic gases.**

- Keep all foreign matter, including other water treatment products, away from this product.
- Do not use this product in a floater or feeder that has been used with any other product.
- Do not allow this product to contact other water treatment products. If used with a skimmer, make sure skimmer is completely clean and free of residue from other water treatment products before putting this product in a skimmer.

**Exposure to heat can cause this product to rapidly decompose, leading to intense fire, explosion, and the release of toxic gases.**

- Store in a cool, dry, well ventilated area.

**Strong oxidizing agent. This product can increase fire intensity.** Keep away from heat and from flame and burning material (like a lighted cigarette).

{Environmental hazards statement for end-use products in containers less than 5 gallons (liquid) or less than 50 pounds (solid, dry weight) use only the first sentence. All others use the full paragraph.}

**ENVIRONMENTAL HAZARDS:** This pesticide is toxic to fish and aquatic organisms. {{Do not discharge effluent containing this product into lakes, ponds, streams, 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.}}

**STORAGE & DISPOSAL:** {Optional statements – usage depends on whether or not refillable or nonrefillable containers are used and whether or not product is packaged for household/residential use only}

{{Nonrefillable container - household/residential use}}

[Keep this product dry in its tightly closed container when not in use. Store in a cool, dry, well-ventilated area. Keep away from heat or open flame. Nonrefillable container. Do not reuse or refill this container. Rinse empty container thoroughly with water to dissolve all material prior to disposal. Offer for recycling if available. Do not contaminate food or feed by storage or disposal or cleaning of equipment. FOR DISPOSAL OF A CONTAMINATED OR DECOMPOSING PRODUCT SEE EMERGENCY HANDLING.]

{Refillable container – household/residential use}

[Keep this product dry in its tightly closed container when not in use. Store in a cool, dry, well-ventilated area. Keep away from heat or open flame. Do not contaminate food or feed by storage or disposal or cleaning of equipment. FOR DISPOSAL OF A CONTAMINATED OR DECOMPOSING PRODUCT SEE EMERGENCY HANDLING. Refillable container. Refill this container with calcium hypochlorite only. Do not use this container for any other purpose. Rinse empty container thoroughly with water to dissolve all material prior to disposal.]

{For non-household/residential use}

**STORAGE & DISPOSAL:**

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

**Pesticide Storage:**

Keep this product in a tightly closed container when not in use. Store in a cool, dry, well ventilated area away from heat or open flame. In case of decomposition, isolate container (if possible) and flood area with large amounts of water to dissolve all materials before discarding this container.

**Pesticide Disposal:**

Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the EPA Regional Office for guidance.

**Container Handling:**

**[For rigid non-refillable container less than 5 gallons]**

**Container Handling: Nonrefillable rigid container. Do not re-use or refill this container.** Triple rinse as follows: Empty the remaining contents into application equipment or mix tank. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application or mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or reconditioning if available, or puncture and dispose of in trash or in a sanitary landfill, or incineration, or, if allowed by a state and local authorities, by burning. If burned, stay out of smoke.

*Note: When an inner bag is used add the followed instructions: Completely empty liner/bag by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application equipment. When completely empty offer for recycling, if available or dispose of liner/bag in a sanitary landfill or by incineration or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.*

**Container Handling:**

**[For rigid non-refillable container greater than 5 gallons]**

**Container Handling: Nonrefillable rigid container. Do not re-use or refill this container.** Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ 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 it 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 this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in trash in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

*Note: When an inner bag is used add the followed instructions: Completely empty liner/bag by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application equipment. When completely empty offer for recycling, if available or dispose of liner/bag in a sanitary landfill or by incineration or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.*

[For refillable container]

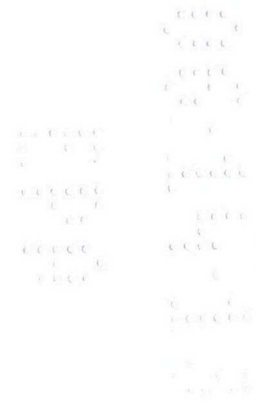
**Container Handling: Refillable Container.** Refill this container with this product only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller.

**EMERGENCY HANDLING:** In case of contamination or decomposition – Do not reseal container. Immediately remove container to an open and well-ventilated outdoor area by itself. Flood with large amounts of water. Dispose of the container and any remaining contaminated material in an approved landfill area.

Sold by:  
Arch Chemicals, Inc.  
P.O. Box 724438  
Atlanta, GA 31139-1438

EPA Reg. No. 1258-1217  
EPA Est. No. Xxx-yy--zz

Net Wt. xxx



{Optional}



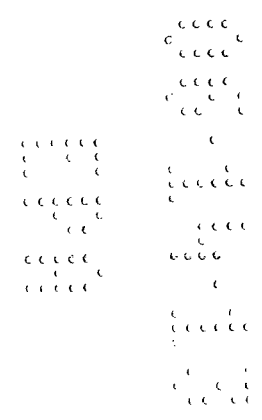
[HELPLINE  
 1-800-654-6911  
 Toll Free

Call 7 days a week with your questions  
 concerning pool water care. 8:00 a.m.  
 - 10:00 p.m. Eastern Time]

[ ]

**{OPTIONAL MARKETING CLAIMS}**  
**{Statements available to all labels}**

- [Kills Bacteria]
- [Controls Algae]
- [Destroys Organic Contaminants]
- [Step 1]
- [65% available chlorine]
- [Provides effective chlorination at an economical price]
- [Easy to use]
- [Dissolves slowly for continuous chlorination]
- [Kills bacteria, destroys organic contaminants and controls algae]
- [Controls algae]
- [Destroys organic contaminants]
- [Kills bacteria]
- [Eliminates bacteria]
- [Destroys bacteria]
- [Get bacteria-free water]
- [Food Grade]
- [For Food Contact Applications]
- [Improved with Anti-Scale Additive]
- [Anti-scale formulation]
- [Scale control additive to reduce maintenance]
- [Reduced maintenance formulation]
- [Designed for use in the skimmer or a floater]
- [For routine use in the skimmers]
- [For routine use in floaters]
- [For routine use in feeders]
- [Contains no cyanuric acid]
- [Sanitizes pool water]
- [Swimming pool sanitizer]
- [No risk of over stabilization]
- [Will not cause over stabilization]
- [Good for all pool surfaces]



**{Optional statement for inclusion on dealer direct brands}**

- [Step 1. Sanitize
- Step 2. Shock
- Step 3. Add Algaecide]



**DIRECTIONS FOR USE:**

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

**READ ALL PRECAUTIONARY STATEMENTS BEFORE USE.**

**[[Use 1] [SWIMMING POOLS:**

**[WHY YOU SHOULD USE THIS PRODUCT:** (Brand) [tablets<sup>1</sup>] {or} [This product] is a multipurpose product that [sanitizes], [clarifies], controls algae, kills bacteria and destroys organic contaminants. These convenient and easy to use [tablets] are designed to provide a steady source of available chlorine for safe swimming enjoyment in your pool.]

[For crystal clean [clear] pool water, follow our 4 step pool care program: Step 1: Test and adjust pool water balance, Step 2: Chlorinate and clarify, Step 3: Shock treat your pool at least once a week, and Step 4: Add algaecide regularly [where needed].]

[For best results, follow a weekly program with our [brand] system. Consult your authorized [brand] dealer for advice on the system that best suits your pool and [your] lifestyle.] [Take a pool water sample to your authorized [brand] dealer regularly for a detailed water analysis.]

[Additional shocking to keep water clean and clear may be necessary after: rain and heavy winds, high number of swimmers, increased water temperature, increased frequency of pool usage.]

**HOW TO USE:** Do not allow this product to contact other water treatment products. [Do not pre-mix this product.] [Only add this product directly to your pool.] One tablet weighs 20 grams (3/4 ounce). Add the recommended dosages of this product during evening hours while the filter pump is running. You can measure the product in two ways: Use the clean, dry scoop if provided or count the number of tablets added. Do not use any other scoop. Do not use scoop for any other purpose.]

[You may place the product into your pool in the following ways:

- 1. Use a floating dispenser or feeder designed for this product. Use only new feeders or floaters or ones that have previously contained only this product. Floating dispenser or feeder must be free of all other water treatment products before adding recommended amount of this product.
- 2. Use the skimmer. Skimmer basket must be free of all other water treatment products before adding recommended amount of this product.
- 3. Do not reuse floaters or feeders from other brands of dry chlorinator tablets.

Do not throw tablets directly into pool or use in any chlorinating device that has been used with other chlorinating compounds.]

**[Directions for use in [brand name] Feeder**

Before use, read the appropriate installation instructions and operating manual for your (brand name) Pool Feeder.

- 1. Start the filter pump and check chlorine residual with a reliable test kit.
- 2. [Fill the pellet container with this product only. Adjust chlorine feed rate setting according to the operating instructions in the feeder manual.]
- 3. After 24 hours, check the chlorine residual. If 1 to 4 ppm, leave the feed rate setting, if below 1 ppm, increase the feed rate. Allow sufficient time (e.g. one day) after changing the feed rate setting for the chlorine residual to readjust. Do not re-enter the pool until the 1 to 4 ppm chlorine residual is established.
- 4. Always maintain pH between 7.2 and 7.6 by using a suitable pH adjuster according to directions on the label for such products.
- 5. If cyanuric acid is used to stabilize available chlorine, follow label directions for this product and maintain the chlorine residual at 1 to 4 ppm as determined by the test kit.

<sup>1</sup> The term 'tablet' may be replaced by any of the following terms throughout this label: tab, briquette, pellet.

6. Refer to operating manuals for feed rate information.]

**[WATER BALANCE:** For best product performance, swimmer comfort and crystal clear water, maintain pH in the 7.2-7.6 range. Maintain total alkalinity in the 60-120 parts per million (ppm) ranges. {retail brands only} {Commercial brands for very large commercial or municipal pools will use [60 to 100]}. Maintain calcium hardness above 200 ppm. Use a reliable test kit that measures all these ranges. Use the (brand) Pool Care Products to make adjustments. Follow label directions for each product.]

**[OPENING YOUR POOL:** For best results, see Water Balance section above before treatment. Adjust and maintain pH in the 7.2 to 7.6 range. Follow "Shock Treatment" directions on this package. Allow product to dissolve. Test free available chlorine residual with a pool test kit. Do not re-enter pool until the free available chlorine residual is 1 to 4 ppm. Repeat treatment as needed.]

[For best results [during the season], follow [our] [the HTH] [brand name] 4 step pool care program [outlined below].]

**[ROUTINE CHLORINATION:** For best results, see Water Balance section above before treatment. Throughout the pool season, adjust and maintain pH to 7.2-7.6.

**[FOR UNSTABILIZED POOLS:** Add 6 to 8 ounces of this product (8 to 11 tablets) per 10,000 gallons of pool water daily or as often as needed to maintain chlorine residual at 1 to 4 ppm. ]

**[FOR POOLS STABILIZED USING [HTH] (brand name) STABILIZER CONDITIONER:** Add 3-4 ounces (4 to 5 tablets) per 10,000 gallons every other day or as often as needed to maintain the free available chlorine residual at 1-4 ppm. Follow "HOW TO USE" directions on this package.]

**[SHOCK TREATMENT/SUPERCHLORINATION:** For best results, see Water Balance section above before treatment. Adjust and maintain pH to 7.2-7.6 with [HTH pH Plus®] or [HTH pH Minus] [brand name]. Follow label directions. Shock treat using [a chlorine shock product] {or specific brand name}. Follow label directions on those products. Do not re-enter pool until the free available chlorine residual is 1 to 4 parts per million (ppm). Shock treat your pool when opening, then weekly to prevent pool problems. Super chlorination may be necessary in the summer months when the pool water temperature is 80°F or above, or if the chlorine residual falls rapidly after regular chlorination. Use a chlorine shock product and follow the directions on that product for superchlorination.]

**[ALGAE CONTROL:** Follow Shock Treatment directions on this label. Add this product through skimmer or use in floater. See "HOW TO USE". DO NOT enter pool until free available chlorine residual is 1-4 ppm. If necessary, repeat the treatment. Immediately after treatment, and tablets are dissolved, thoroughly clean pool by brushing surface of algae growth, vacuum and cycle through filter.]

[For preventive algae control, use your preferred [brand name] algacide product regularly.]

**[WINTERIZING:** For best results, see Water Balance section above before treatment. Gradually add 30 ounces of this product (40 [tablets] per 10,000 gallons of pool water that is clear and clean. This provides 15 ppm free available chlorine. Follow "HOW TO USE". Run the filter until [tablets] are completely dissolved. Cover the pool with a pool cover. Prepare the heater, pump and filter components for winterizing by following manufacturer's directions.]

[TO DETERMINE YOUR POOL CAPACITY IN U.S. GALLONS, USE THE APPROPRIATE FORMULA BELOW:

POOL SHAPE FORMULA (Use measurements in feet only)

RECTANGULAR - Length x Width x Average Depth x 7.5 = Total Gallons.

ROUND - Diameter x Diameter x Average Depth x 5.9 = Total Gallons.

OVAL - Maximum Length x Maximum Width x Average Depth x 5.9 = Total Gallons.

FREE FORM - Surface Area (Sq. Feet) x Average Depth x 7.5 = Total Gallons]

{[Dosing Table for Industrial, Commercial & Municipal Use Sites}

[Available Chlorine, (Conc.) ppm			
Nominal	Actual	Number of Tablets	Volume in Gallons
1	0.9	1	4000
5	4.9	1	700
10	9.8	1	350
25	27.4	1	125
50	45.7	1	75
100	114.3	1	30
200	205.8	3	50
500	457.2	2	15
600	685.9	2	10
1000	914.5	4	15
4000	4115.1	6	5

]

**{Use 2} [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 that the available chlorine does not drop below 50 ppm. Using a suitable chemical feed dispenser and test kit, dissolve and dose the chlorinated solution until a concentration of 100 ppm is achieved.

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 insure that the available chlorine does not drop below 50 ppm. Using a suitable chemical feed dispenser, dissolve and dose the chlorinated solution until a concentration of 100 ppm is achieved.

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.]

**[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. Using a suitable chemical feed dispenser and test kit, dissolve and dose the chlorinated solution until a concentration of 200 ppm is achieved. 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 insure 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.]

**[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. Using a suitable chemical feed dispenser and test kit, dissolve and dose the chlorinated solution until a concentration of 200 ppm is achieved. 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 insure 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.]

**[[COARSE] SPRAY METHOD** - Preclean all surfaces after use. Use a 200 ppm available chlorine solution to control bacteria, mold or fungi and a 600 ppm solution to control bacteriophage. Using a suitable chemical feed dispenser and test kit, dissolve and dose the chlorinated solution until a concentration of 200 ppm is achieved; or using a suitable chemical feed dispenser, dissolve and dose the chlorinated solution until a concentration of 600 ppm is achieved. Use spray equipment which can resist hypochlorite solutions. Always empty and rinse spray equipment with potable water after use. Thoroughly spray all surfaces until wet, allowing excess sanitizer to drain. Vacate area for at least 2 hours. Prior to using equipment, rinse all surfaces treated with a 600 ppm solution with a 200 ppm solution.]]

**{Use 3} [SANITIZATION OF POROUS FOOD CONTACT SURFACES**

**[RINSE METHOD** - Using a suitable chemical feed dispenser and test kit, dissolve and dose the chlorinated solution until a concentration of 600 ppm is achieved. Clean surfaces in the normal manner. Rinse all surfaces thoroughly with the 600 ppm solution, maintaining contact for at least 2 minutes. Using a suitable chemical feed dispenser, dissolve and dose the chlorinated solution until a concentration of 200 ppm is achieved. Prior to using equipment, rinse all surfaces with a 200 ppm available chlorine solution. Do not rinse and do not soak equipment overnight.]

**[IMMERSION METHOD** - Using a suitable chemical feed dispenser, dissolve and dose the chlorinated solution until a concentration of 600 ppm is achieved. Clean equipment in the normal manner. Using a suitable chemical feed dispenser, dissolve and dose the chlorinated solution until a concentration of 200 ppm is achieved. Prior to using, immerse equipment in the 200 ppm sanitizing-solution for at least 2 minutes and allow the sanitizer to drain. Do not rinse and do not soak equipment overnight.]

**[[COARSE] SPRAY METHOD** - Preclean all surfaces after use. Using a suitable chemical feed dispenser and test kit, dissolve and dose the chlorinated solution until a concentration of 600 ppm is achieved. Use spray equipment which can resist hypochlorite solutions. Always empty and rinse, spray equipment with potable water after use. Thoroughly spray all surfaces until wet, allowing excess sanitizer to drain. Vacate area for at least 2 hours. Using a suitable chemical feed dispenser, dissolve and dose the chlorinated solution until a concentration of 200 ppm is achieved. Prior to using equipment, rinse all surfaces with a 200 ppm available chlorine solution.]]

**{Use 4} [SANITIZATION OF NONPOROUS NON-FOOD CONTACT SURFACES**

**[RINSE METHOD** - Using a suitable chemical feed dispenser and test kit, dissolve and dose the chlorinated solution until a concentration of 200 ppm is achieved. 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.]

**[IMMERSION METHOD** - Using a suitable chemical feed dispenser and test kit, dissolve and dose the chlorinated solution until a concentration of 200 ppm is achieved. 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.]

**[[COARSE SPRAY METHOD** – Preclean all surfaces after use. Using a suitable chemical feed dispenser and test kit, dissolve and dose the chlorinated solution until a concentration of 200 ppm is achieved. Use spray equipment which can resist hypochlorite solutions. Prior to using equipment, thoroughly spray all surfaces until wet, allowing excess sanitizer to drain. Vacate area for at least 2 hours.]]

**{Use 5} [DISINFECTION OF NONPOROUS NON-FOOD CONTACT SURFACES**

**[RINSE METHOD** - Using a suitable chemical feed dispenser, dissolve and dose the chlorinated solution until a concentration of 600 ppm is achieved. 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** - Using a suitable chemical feed dispenser and test kit, dissolve and dose the chlorinated solution until a concentration of 600 ppm is achieved. Clean equipment in the normal manner. Prior to use, immerse equipment in the disinfecting solution for at least 10 minutes and allow the sanitizer to drain. Do not rinse equipment with water after treatment.]

**{Use 6} [SANITIZATION OF POROUS NON-FOOD CONTACT SURFACES**

**[RINSE METHOD** - Using a suitable chemical feed dispenser and test kit, dissolve and dose the chlorinated solution until a concentration of 600 ppm is achieved. 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 sanitizer to drain. Do not rinse equipment with water after treatment and do not soak equipment overnight.]

**[IMMERSION METHOD** - Using a suitable chemical feed dispenser and test kit, dissolve and dose the chlorinated solution until a concentration of 600 ppm is achieved. 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.]

**[[COARSE] SPRAY METHOD** - Cleaning and sanitize non-food contact surfaces with 600 ppm available chlorine solution. Using a suitable chemical feed dispenser and test kit, dissolve and dose the chlorinated solution until a concentration of 600 ppm is achieved. Use spray equipment which can resist hypochlorite solutions. Always empty and rinse, spray equipment with potable water after use. Prior to using equipment, thoroughly spray all surfaces until wet, allowing excess sanitizer to drain. Vacate area for at least 2 hours.]]

**{Use 7} [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 waste water 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, must be the final and primary standard and the chlorine residual must be considered an operating standard valid only to the extent verified by the coliform quality of the effluent.

The following are critical factors affecting waste water disinfection.

1. **Mixing:** It is imperative that the product and the waste water be instantaneously and completely flash mixed to assure reaction with every chemically active soluble and particulate component of the waste water.
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 must 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.]]

**{Use 8} [SEWAGE AND WASTEWATER TREATMENT:**

**[EFFLUENT SLIME CONTROL** - Apply a 100 to 1000 ppm available chlorine solution at a location which will allow complete mixing. Using a suitable chemical feed dispenser and test kit, dissolve and dose the chlorinated solution until a concentration of 100 to 1000 ppm is achieved. Once control is evident, apply a 15 ppm available chlorine solution. Using a suitable chemical feed dispenser, dissolve and dose the chlorinated solution until a concentration of 15 ppm is achieved.]]

**[FILTER BEDS - SLIME CONTROL:** Remove filter from service, drain to a depth of 1 ft. above filter sand, and add 16 oz. [or 23 [tablets] 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.]]

**{Use 9} [DISINFECTION OF DRINKING WATER (EMERGENCY/PUBLIC/INDIVIDUAL SYSTEMS)**

**[PUBLIC SYSTEMS-** Using a suitable chemical feed dispenser and test kit, dissolve and dose the chlorinated solution until a concentration of 0.2 – 0.6 ppm is achieved. 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.]

**[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. Using a suitable chemical feed dispenser and test kit, dissolve and dose the chlorinated solution until a concentration of 100 ppm is achieved. After covering the well, pour the sanitizing solution into the well through both the pipe sleeve 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. Contact your local Health Department for further details.]

**[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. Using a suitable chemical feed dispenser and test kit, dissolve and dose the chlorinated solution until a concentration of 100 ppm is achieved. 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 pump cylinder with the sanitizer. Drop pipeline into 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 into the well. Consult your local Health Department for further details.]

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

**[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 1 grain of this product to 1 gallon of water. One grain is approximately the size of the letter "o" in this sentence. Allow the treated water to stand for 30 minutes. Properly treated water must 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.]]

**{Use 10} [PUBLIC WATER SYSTEMS:**

**[RESERVOIRS - ALGAE CONTROL:** Hypochlorinate streams feeding the reservoir. Suitable feeding points must be selected on each stream at least 50 yards upstream from the points of entry into the reservoir.]

**[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.]

**[NEW TANKS, BASINS, ETC. -** Remove all physical soil from surfaces. Using a suitable chemical feed dispenser and test kit, dissolve and dose the chlorinated solution until a concentration of 500 ppm is achieved. Fill to working capacity and allow to stand for at least 4 hours. Drain and flush with potable water and return to surface.]

**[NEW FILTER SAND -** Apply 16 oz. [or 23 tablets] 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. Using a suitable chemical feed dispenser and test kit, dissolve and dose the chlorinated solution until a concentration of 50 ppm is achieved. The solution must be pumped or fed by gravity into the well after thorough mixing with agitation. The well must 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.]

**[EXISTING EQUIPMENT** - Remove equipment from service, thoroughly clean surfaces of all physical soil. Using a suitable chemical feed dispenser and test kit, dissolve and dose the chlorinated solution until a concentration of 500 ppm is achieved. 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 chlorinated solution. Using a suitable chemical feed dispenser, dissolve and dose the chlorinated solution until a concentration of 1000 ppm is achieved. After drying, flush with water and return to service.]

**{Use 11} [EMERGENCY DISINFECTION AFTER FLOODS**

**[WELLS** - Thoroughly flush contaminated casing with a 500 ppm available chlorine solution. Using a suitable chemical feed dispenser and test kit, dissolve and dose the chlorinated solution until a concentration of 500 ppm is achieved. 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] [Treat well again] if water samples are biologically unacceptable.]

**[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.]

**[BASINS, TANKS, FLUMES, ETC.** - Thoroughly clean all equipment, then using a suitable chemical feed dispenser and test kit, dissolve and dose the chlorinated solution until a concentration of 500 ppm is achieved, 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. Using a suitable chemical feed dispenser, dissolve and dose the chlorinated solution until a concentration of 1000 ppm is achieved. Allow to stand for 2 to 4 hours, flush and return to service.]

**[FILTERS** - when the sand filter needs replacement, apply 16 oz. or 23 tablets of this product for each 150 to 200 cubic feet of sand. Distribute additional product over the surface at the rate of 16 oz. or 23 tablets per 20 sq. ft. when the filter is severely contaminated. Water must stand at a depth of 1 foot above the surface of the filter bed for 4 to 24 hours. When filter beds can be back washed of mud and silt, apply 16 oz. or 23 tablets 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 back washing.]

**[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 a 24 hour retention time. Use a chlorine test kit.]

**{Use 12} [EMERGENCY DISINFECTION AFTER FIRES**

**[CROSS CONNECTIONS OR EMERGENCY CONNECTIONS-** Hypochlorination or gravity feed equipment must 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.]



**{Use 13} [EMERGENCY DISINFECTION AFTER DROUGHTS:**

**[SUPPLEMENTARY WATER SUPPLIES** – Set up gravity or mechanical feeders 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.]

**[WATER SHIPPED IN BY TANKS, TANK CARS, TRUCKS, ETC.** (not approved for use in the state of California) -Thoroughly clean all containers and equipment. Spray using a suitable chemical feed dispenser and test kit, dissolve and dose the chlorinated solution until a concentration of 500 ppm is achieved. 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.]

**{Use 14} [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 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.]

**{Use 15} [COOLING TOWER/EVAPORATIVE CONDENSER WATER**

**[SLUG FEED METHOD** - Initial dose: When system is noticeably fouled, use a suitable chemical feed dispenser and test kit, and dissolve and dose the chlorinated solution until a concentration of 5 to 10 ppm is achieved. Repeat until control is achieved. Subsequent dose: When microbial control is evident, Use a suitable chemical feed dispenser, and dissolve and dose the chlorinated solution until a concentration of 1 ppm is achieved. Add to 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 is begun.]

**[INTERMITTENT FEED METHOD** - Initial Dose: When system is noticeably fouled, use a suitable chemical feed dispenser and test kit, and dissolve and dose the chlorinated solution until a concentration of 5 to 10 ppm is achieved. 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 blow down. Subsequent Dose: When microbial control is evident, use a suitable chemical feed dispenser, dissolve and dose the chlorinated solution until a concentration of 1 ppm is achieved. 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 blow down. Badly fouled systems must be cleaned before treatment is begun.]

**[CONTINUOUS FEED METHOD** - Initial dose: when system is noticeably fouled, use a suitable chemical feed dispenser and test kit, dissolve and dose the chlorinated solution until a concentration of 5 to 10 ppm is achieved. Subsequent Dose: Maintain this treatment level by Using a suitable chemical feed dispenser and test kit, dissolve and dose the chlorinated solution until a concentration of 1 ppm is achieved. Badly fouled systems must be cleaned before treatment is begun.]

**[TABLETS:** Initially slug dose the system using a suitable chemical feed dispenser, dissolving and dosing the chlorinated solution until a concentration of 5 ppm is achieved. Badly fouled systems must be cleaned before treatment is begun. Subsequent Dose: When microbial control is evident, use a suitable chemical feed dispenser to dissolve and dose the chlorinated solution until a concentration of 1 ppm is achieved. Control and keep the chlorine residual at 1 ppm. Badly fouled systems must be cleaned before treatment is begun.]

**{Use 16} [LAUNDRY SANITIZERS  
[HOUSEHOLD LAUNDRY SANITIZERS**

**IN SOAKING SUDS** - Using a suitable chemical feed dispenser and test kit, dissolve and dose the chlorinated solution until a concentration of 200 ppm is achieved. Wait 5 minutes, then add soap or detergent. Immerse laundry for at least 11 minutes prior to starting the wash/rinse cycle.

**IN WASHING SUDS** - Using a suitable chemical feed dispenser, dissolve and dose the chlorinated solution until a concentration of 200 ppm is achieved. Wait 5 minutes, then add soap or detergent and start the wash/rinse cycle.]

**COMMERCIAL LAUNDRY SANITIZERS:**

Spin dry wet fabrics or clothes prior to sanitization. Using a suitable chemical feed dispenser and test kit, dissolve and dose the chlorinated solution until a concentration of 200 ppm is achieved. 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.

**FEDERALLY INSPECTED MEAT & POULTRY PLANT LAUNDRY SANITIZERS:**

Wet fabrics which contact meat or poultry products directly or indirectly must be spun dry prior to sanitization. Thoroughly mix 1 **tablet** of this product with **15** gallons of water to yield 200 ppm available chlorine. Promptly after mixing the sanitizer, add the solution into the prewash prior to washing fabrics 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. Thoroughly rinse fabrics with potable water at the end of the laundering operation.]

**{Use 17} [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 traversed 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. Using a suitable chemical feed dispenser, dissolve and dose the chlorinated solution until a concentration of 1000 ppm is achieved. 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.]

**{Use 18} [PULP AND PAPER MILL PROCESS WATER SYSTEMS**

**[SLUG FEED METHOD** - Initial Dose: When system is noticeably fouled use a suitable chemical feed dispenser and test kit to dissolve and dose the chlorinated solution until a concentration of 5 to 10 ppm is achieved. Repeat until control is achieved. Subsequent Dose: When microbial control is evident, use a suitable chemical feed dispenser to dissolve and dose the chlorinated solution until a concentration of 5 - 10 ppm is achieved. Maintain control and keep the chlorine residual at 1 ppm. Badly fouled systems must be cleaned before treatment is begun.]

**[INTERMITTENT FEED METHOD** - Initial Dose: when system is noticeably fouled, use a suitable chemical feed dispenser and test kit to dissolve and dose the chlorinated solution until a concentration of 5 to 10 ppm is achieved. 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 blow down. Subsequent Dose: When microbial control is evident, use a suitable chemical feed dispenser to dissolve and dose the chlorinated solution until a concentration of 1 ppm is achieved. 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 blow down. Badly fouled systems must be cleaned before treatment is begun.]

**[CONTINUOUS FEED METHOD** Initial dose: When system is noticeably fouled, use a suitable chemical feed dispenser to dissolve and dose the chlorinated solution until a concentration of 5 to 10 ppm is achieved. Subsequent Dose: Maintain this treatment level by using a suitable chemical feed dispenser to dissolve and dose the chlorinated solution until a concentration of 1 ppm is achieved.]

**[TABLETS:** Initially slug dose by using a suitable chemical feed dispenser and test kit, dissolving and dosing the chlorinated solution until a concentration of 5 ppm is achieved. Badly fouled systems must be cleaned before treatment is begun. Subsequent Dose: When microbial control is evident, use a suitable chemical feed dispenser to dissolve and dose the chlorinated solution until a concentration of 1 ppm is achieved. Badly fouled systems must be cleaned before treatment is begun.]

**{Use 19} [AGRICULTURAL USES:**

{Note: The following WPS section will appear only on end-use product labels that bear agricultural uses}

**AGRICULTURAL USE REQUIREMENTS**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Workers Protection Standard.

The Restricted-Entry Interval is 0 days when using this product.

There are no posting or notification requirements when using this product.

Wear Personal Protective Equipment as described under the "Precautionary Statements" section of this label.

**[Bees -** 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. Using a suitable chemical feed dispenser, dissolve and dose the chlorinated solution until a concentration of 1 ppm is achieved. The bee domicile is disinfected by spraying with a 0.1 ppm solution until all surfaces are thoroughly wet. Again, use a suitable chemical feed dispenser to dissolve and dose the chlorinated solution until a concentration of 0.1 ppm is achieved. Allow the domicile to dry until all chlorine odor has dissipated.]

**[FOOD EGG SANITIZATION -** Thoroughly clean all eggs. Using a suitable chemical feed dispenser and test kit, dissolve and dose the chlorinated solution until a concentration of 200 ppm is achieved. 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 water rinse. Do not reuse solution to sanitize eggs.]

**[WHOLE FRUIT & VEGETABLE WASHING -** Thoroughly clean all fruits and vegetables in a wash tank. Using a suitable chemical feed dispenser, dissolve and dose the chlorinated solution until a concentration of 25 ppm is achieved. 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.]

**[COMMODITY: WHOLE FRUIT AND VEGETABLE WASHING:** Wash fruits and vegetables to remove organic matter; then treat as noted below.

Table of Levels and Use Dilutions for Available Chlorine

Commodity	Usage Dilution Dry Oz. Added to 100 Gal. of Water	Available Chlorine (ppm)	Contact Time
Apples	3.1 - 4.1	150 to 200	45 - 90 sec. (dump tank) 5 - 15 sec. (spray)
Artichoke	2.1 - 3.1	100 - 150	5 - 15 sec. (spray)

Asparagus	2.6 – 3.1	125 – 150	5 -15 sec (spray) 20 -30 min (hydrocooler)
Brussels Sprouts	2.1 - 3.1	100 -150	5 -15 sec (spray)
Carrots	2.1 – 4.1	100 – 200	1 - 5 min (dump tank) 1 - 5 min (flume)
Cauliflower	6.2 – 8.2	300 – 400	5 – 15 sec. (spray)
Celery	2.1 – 2.3	100 – 110	5 – 15 sec. (spray)
Cabbage	1.6 – 2.1	80 – 100	5 -15 sec. (spray)
Lettuce	1.6 – 2.1	80 -100	5 -15 sec. (spray)
Citrus Fruits	0.8 – 1.5 0.6 – 1.0 2.1 – 4.1	40 – 75 30 – 50 100 – 200	5 - 15 sec. (dump tank) 2 – 3 min (spray) 3 – 5 min (drench)
Cucumber	6.2 – 7.2	300 – 350	5 – 15 sec (spray)
Green onions	1.5 – 2.5	75 – 120	5 – 15 sec (spray)
Melons	2.1 – 3.1 0.6 – 1.5	100 – 150 30 -75	5 -15 sec (spray) 20 -30 min (hydrocooler)
Pears	6.2 – 8.2	300 – 400	2 – 3 min (dump tank)
Peppers	6.2 – 8.2 2.1 – 2.8	300 – 400 100 – 135	5 - 15 sec. (spray) 2 - 5 min (dump tank)
Potatoes	06 – 2.1 4.1 – 6.2 2.1 – 10.5	30 – 100 200 – 300 100 – 500	2 - 5 min (dump tank) 2 - 5 min (flume) 5 – 30 sec. (spray)
Radishes	2.1 – 3.1	100 – 150	5 – 15 sec. (spray)
Stonefruits (Cherries, Peaches, Nectarines, and Plums)	0.6 – 1.5 1.0 – 2.1	30 – 75 50 – 100	Hydrocooler 5 – 15 sec (spray)
Sweet Potatoes ( <i>Ipomoea batatas</i> ) – to control & reduce spread of post- harvest soft rot organisms	3.1 – 4.1	150 – 500	2 – 5 min (spray or dip; change the solution after one hour, or as needed)
Tomatoes	6.2 – 7.2 2.1 – 3.1	300 – 350 100 – 150	2 – min (tank) 5 – 15 sec (spray)

**[SEEDS** - To control bacterial spot (*Xanthomonas vesticatoria*) on Pimento seeds, initially remove moist seeds from ripe fruits. To control surface fungi and bacteria on tomato seeds initially wash seeds. Using a suitable chemical feed dispenser and test kit, dissolve and dose the chlorinated solution until a concentration of 39,000 ppm is achieved. Immediately soak seeds in 39,000 ppm solution for 15 minutes with continuous agitation. After treatment rinse seeds in potable water for 15 minutes. Dry seeds to normal moisture.]

**[MUSHROOMS** - To control bacterial blotch (*Pseudomonas tolaasii*), use a 100 to 200 ppm solution prior to watering mushroom production surfaces. Using a suitable chemical feed dispenser and test kit, dissolve and dose the chlorinated solution until a concentration of 100 to 200 ppm is achieved. Begin the first application when pins form, and thereafter, between breaks on a need basis depending on the occurrence of bacterial blotch. This product may be applied directly to pins to control small infection foci. Apply 1.5 to 2.0 oz. per square foot of growing space.]

**{Use 20} [AQUACULTURAL USES**

**FISH PONDS** - Remove fish from containerized ponds prior to treatment. Using a suitable chemical feed dispenser, dissolve and dose the chlorinated solution until a concentration of 10 ppm is achieved. 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.

**[FISH POND EQUIPMENT** - Thoroughly clean all equipment prior to treatment. Using a suitable chemical feed dispenser and test kit, dissolve and dose the chlorinated solution until a concentration of 200 ppm is achieved. Porous equipment must soak for one hour.]

**[MAINE LOBSTER PONDS** (Not approved for use in the state of California) - Remove lobsters, seaweed etc. from ponds prior to treatment. Drain the pond. Using a suitable chemical feed dispenser and test kit, dissolve and dose the chlorinated solution until a concentration of 600 ppm is achieved. Apply so that all barrows, gates, rock and dam are treated with product. Permit high tide to fill the pond and then close gates. Allow water to stand for 2 to 3 days until the available chlorine level reaches zero. Open gates and allow 2 tidal cycles to flush the pond before returning lobsters to pond.]

**[CONDITIONING LIVE OYSTERS** (Not approved for use in the state of California) - Using a suitable chemical feed dispenser and test kit, dissolve and dose the chlorinated solution until a concentration of 0.5 ppm is obtained. Maintain the temperature at 50°C to 70°C. 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°F.]

**[CONTROL OF SCAVENGERS IN FISH HATCHERY PONDS** - Using a suitable chemical feed dispenser and test kit, dissolve and dose the chlorinated solution until a concentration of 200 ppm is achieved. 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.]

**{Use 21} [SANITIZATION OF DIALYSIS MACHINES**

Flush equipment thoroughly with water prior to using this product. Using a suitable chemical feed dispenser and test kit, dissolve and dose the chlorinated solution until a concentration of 600 ppm is achieved. Immediately use this product in the hemodialysate system allowing for a minimum contact time of 15 minutes at 20°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 insure that no available chlorine remains in the system.

This product is recommended for decontaminating single and multipatient 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 must 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 available from the Hepatitis Laboratories, CDC, Phoenix, AZ 85021.]

**{Use 22} [Toilet Bowl Sanitizers**

These products are marketed as individual packages for placement in the toilet. Therefore, use directions are not appropriate.]

**{Use 23} [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 using a suitable chemical feed dispenser and test kit. Brush or spray roof or siding with this solution. After 30 minutes, rinse by hosing with clean water.]

**{Use 24} [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 must contain approximately 500 gallons of water for a 14 foot boat. Using a suitable chemical feed dispenser and test kit, dissolve and dose the chlorinated solution until a concentration of 35 ppm is achieved. 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.]

**{Use 25} [ARTIFICIAL SAND BEACHES**

To sanitize the sand, spray a 500 ppm available chlorine solution at frequent intervals. Using a suitable chemical feed dispenser and test kit, dissolve and dose the chlorinated solution until a concentration of 500 ppm is achieved. Small areas can be sprinkled with a watering can.]

**{Use 26} [FOOD PROCESSING PLANTS**

**Treatment of Federally Inspected Meat & Poultry Plant Potable Water Supplies-** Solutions of this product containing 1% available chlorine will effectively disinfect the water supply in Federally Inspected Meat & Poultry Plants. Feed the solutions into the water supply by a hypochlorinator on the intake side of the pump. An available chlorine residual of 0.2 to 0.6 ppm must be maintained throughout the water distribution system to assure adequate disinfection. Initiate a regular testing program to make sure that the proper chlorine residuals are present at all times. To make a 1% solution use a suitable chemical feed dispenser to dissolve and dose the chlorinated solution until a concentration of 10,000 ppm (1%) is achieved.]

{Chlorine potable water treatment compounds.}

[Chlorine must be present in the processing water of meat and poultry plants at concentrations up to 5 parts per million calculated as free available chlorine. Also, chlorine may be present in poultry chiller intake water, and in carcass wash water at concentrations up to 50 parts per million calculated as free available chlorine. Chlorine must be dispersed at a constant and uniform level and the method or system must be such that a controlled rate is maintained.]

**[Cooling Water In Canneries -** Solutions of this product containing 1% available chlorine will sanitize cooling water, protect canned goods from contamination and spoilage and prevent staining of cans. Feed the solution into cooling tanks or channels to reach a concentration of 2 ppm available chlorine. Check every two or three hours to be sure that an available chlorine residual of 2 ppm is maintained throughout the cooling system. To make a 1% solution use a suitable chemical feed dispenser to dissolve and dose the chlorinated solution until a concentration of 10,000 ppm (1%) is achieved.

**[POULTRY DRINKING WATER** (not approved for use in the state of California) - Spray or flush with a chlorinated solution using a suitable chemical feed dispenser and test kit to dissolve and dose the chlorinated solution until a concentration of 5,000 ppm (0.5%) is achieved] Treat poultry drinking water to a dosage of 1 to 5 ppm available chlorine. Use a suitable chemical feed dispenser to dissolve and dose the chlorinated solution until a concentration of 1 to 5 is achieved.]

**[FISH FILLETING** - Eviscerated and degilled fish removed from the fishing vessel are placed in a wash tank of seawater or fresh water which has been treated with enough product to produce a chlorine residual of 25 ppm, as determined by a test kit. Use a suitable chemical feed dispenser and test kit to dissolve and dose the chlorinated solution until a concentration of 25 is achieved]. Remove fish from treated water 24 to 48 hours before filleting. After scaling, the fish are again washed in a 25 ppm solution, and are ready for filleting.]

**[PECAN CRACKING AND DYEING-** Using a suitable chemical feed dispenser, dissolve and dose the chlorinated solution until a concentration of 1000 ppm is achieved. Soak for a minimum of 10 minutes. After removal, age pecans for 24 hours. Before bleaching, pecans are placed in a rotary cleaner where they are washed, drained, and soaked in a 2% sulphuric acid bath at 80 to 90°F for 1 minute. Transfer to a 5000 ppm solution. Use a suitable chemical feed dispenser to dissolve and dose the chlorinated solution until a concentration of 5000 ppm is achieved. After 4 to 8 minutes, they are drained and washed in a 1% sulfuric acid bath at 80 to 90°F. They are then dried.]

### **{Use 27} CONTROL OF BACTERIA, ALGAE, SLIME BUILD-UP AND CLOGGING IN SPECIFIED IRRIGATION SYSTEMS**

[brand name] {or} [This product] is/are designed to be used in tablet chlorinator systems designed for this chemical. The [tablets] provide a minimum of 65% free available chlorine. The [tablets] are placed in the chlorinator where they are contacted by a controlled amount of water.

[For erosion feeders: The inlet water flow controls the rate of chlorination; higher flows result in higher delivery of free available chlorine.]

[For Spray Technology Feeders: the [tablets] are contacted by a controlled amount of water through spray nozzles to make intermediate free available chlorine solutions of fixed, consistent strength which is then dosed into process water by conventional means.] The application rates section provides the levels of available chlorine needed to prevent or address bio-fouling occurring in irrigation systems.

Consult the instruction manual for the chlorinator system to determine how to achieve this level with the tablet chlorinator in use.

This product is to be applied through drip/trickle and sprinkler irrigation systems only for agricultural crops where this manner of use will not cause crop damage.

### **APPLICATION RATES-**

If the irrigation water has high levels of nutrients causing bacterial, algal, or other bio-fouling that reduces system performance, continuous use of this product may be necessary. The level of free available chlorine for continuous feed is 1 to 2 ppm, measured at the end of the farthest lateral using a good quality test kit for free available chlorine.

Periodic shock treatments at a higher free available chlorine rate of up to 20 ppm free available chlorine may be appropriate where bacteria and/or algae clogging and build-up are not managed by maintaining a continuous residual. The frequency of the shock application depends upon the frequency and extent of bio-clogging.

Superchlorination, bringing concentrations to as much as 100 ppm total free available chlorine, is recommended for reclaiming low-volume irrigation systems if clogged by algae and bacterial slimes. Set the chlorinator to deliver 100 ppm in the drip system and monitor the free available chlorine residual at the end of the farthest lateral. As soon as it is established that the free available chlorine reading is between 10 and 20 ppm, shut the system down and leave it undisturbed for up to 24 hours. Then flush all submains and laterals with fresh water. Superchlorination will not dissolve/remove scale or inorganic sediment fouling.

**\*Note:** To correctly establish the dose setting required, it is necessary to measure the free available chlorine concentration (ppm) at the end of the treated increment in the field and adjust the dose setting until the desired free available chlorine concentration is obtained. This is because contaminants in the water may consume available chlorine resulting in a concentration that is less than the concentration desired as specified above. Only experience can establish the actual chlorinator settings required to provide the amount of free available chlorine at the end of the farthest lateral (and consequent treatment of the irrigation system). Normally the treatment level at the end of the farthest lateral will be 0.2 - 2 ppm free available chlorine.

**GENERAL APPLICATION INSTRUCTIONS-**

Start chlorination during irrigation early enough to establish the desired free available chlorine concentration throughout the system being treated. Apply this product upstream of the filter to help keep the filter clean. Determine the level of free available chlorine as described above, using a free available chlorine test kit. Allow sufficient time to achieve a steady reading.

DO NOT apply this product when fertilizers, herbicides, and insecticides are being injected since they will consume the free available chlorine and may produce toxic reaction products.

Shut down the product feed as soon as the irrigation water is switched to the next irrigation sector. Leave the treated water residing in the section that has been shut down.

Refer to the chlorinator use instructions as needed.

**SENSITIVE PLANT SPECIES-**

Certain plants, including various species of trees, flowers, shrubs, agronomic crops, fruits and vegetables are adversely affected by chlorinated irrigation. The use of this product can impact the growth, appearance and health of the plants.

Begonias, geraniums and other ornamental plant species are known to be sensitive to continuous chlorination at levels of 1-2 ppm free available chlorine. Plant species such as tomato, lettuce, broccoli, and petunia are sensitive to periodic chlorination levels of 10-20 ppm free available chlorine.

If uncertain of a plant's tolerance, consult an agronomist or a support agency or use an alternate method to remove bio-fouling from the irrigation system.

**{Use 28} [SEEDS FOR SPROUTING AS FOOD FOR HUMAN CONSUMPTION:**

While this treatment may reduce causes of food poisoning on seeds intended for sprout production, it may not eliminate organisms on the seeds. Additionally, treatment may not reduce or eliminate organisms on the final sprouts.

Dosage: In a well-ventilated area, prepare a 2% calcium hypochlorite solution (20,000 ppm available chlorine) by dissolving 4.1 ounces of product per gallon of potable water. Below is a table for preparing various amounts of calcium hypochlorite treatment solutions.

Available Chlorine		Gallons of Water					
%	ppm	1	5	15	30	50	100
2.0	20,000	4.1 ozs.	1 lb & 5 ozs.	3 lbs. & 13 ozs.	7 lbs. & 11 ozs.	12 lbs. & 13 ozs.	25 lbs. & 10 ozs.

Frequency/Timing of Application: Prewash seeds with potable water for at least 5 minutes. Treat pre-washed seeds once by soaking 5 pounds of seeds per gallon of the 2% calcium hypochlorite solution for 15 minutes at room temperature with continuous agitation. After treatment, drain the solution and rinse the treated seeds thoroughly with potable water for 10 minutes (changing the water several times as necessary). Prepare fresh solution for each batch of seeds.]

{Note to reviewer. The following may be used only if an NSF listing has obtained. Allowed on back or side panel only.}



{or}



{or}



[NSF Listed]

(Insert 6-Digit NSF Listing Number here)