

69681-6

9/18/2014

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

SEP 18 2014

Judy Eldem  
AllChem Performance Products, Inc.  
416 South Main Street  
Corsicana, TX 75110

Subject: Clor Mor Calcium Hypochlorite Granules  
EPA Reg. No. 69681-6  
Application Date: August 1, 2014  
Receipt Date: August 11, 2014

Dear Ms. Eldem:

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

**Proposed Notification:**

Add non-pesticidal optional marketing logos on pages 13 and 17 of the label

**General Comments:**

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

The notification application is acceptable and a copy has been inserted in your file for future reference.

Should you have any questions or comments concerning this letter, please contact me at [Henson.Wanda@epa.gov](mailto:Henson.Wanda@epa.gov) or call (703) 308-6345.

Sincerely,

Wanda Y. Henson  
Registration Risk Manager  
Regulatory Management Branch II  
Antimicrobials Division (7510P)

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United States  
Environmental Protection Agency  
Washington, DC 20460

Registration  
 Amendment  
 Other

OPP Identifier Number

### Application for Pesticide - Section I

1. Company/Product Number 69681-6	2. EPA Product Manager	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Clor Mor Calcium Hypochlorite Granules	PM# 32	
5. Name and Address of Applicant (Include ZIP Code) AllChem Performance Products, Inc 416 S. Main Street Corsicana, TX 75110 <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

Amendment - Explain below.  Final printed labels in response to Agency letter dated \_\_\_\_\_

Resubmission in response to Agency letter dated \_\_\_\_\_  "Me Too" Application.

Notification - Explain below.  Other - Explain below.

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

Notification to add non-pesticidal, optional marketing logos. This notification is consistent with the provisions of PR 98-10 and EPA regulations at 40 CFR 152.46, and no other changes were made to the labeling. Copy of certification is attached with this submission package.

### Section - III

1. Material This Product Will Be Packaged In:

Child-Resistant Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	2. Type of Container <input type="checkbox"/> Metal <input checked="" type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____
* Certification must be submitted		If "Yes" Unit Packaging wgt. No. per container	If "Yes" Package wgt. No. per container

3. Location of Net Contents Information  
 Label  Container

4. Size(s) Retail Container

5. Location of Label Directions  
 on label

6. Manner in Which Label is Affixed to Product  
 Lithograph Paper glued Stenciled  Other

### Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)

Name Judy Eldem	Title Regulatory Manager	Telephone No. (Include Area Code) (352) 333-7357
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#### 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 Regulatory Manager
4. Typed Name Judy Eldem	5. Date August 1, 2014



AllChem Performance Products  
6010 NW First Place, Gainesville, FL 32607  
Phone: 352.378.9696 Fax: 352.333.7436

\*\*\*Contains Confidential Business Information\*\*\*

Product Manager 32  
Antimicrobial Division (7504P)  
Office of Pesticide Products  
U.S. Environmental Protection Agency  
Room S-4900, One Potomac Yard  
2777 South Crystal Drive  
Arlington, VA 22202-4501  
Tel: 703-308-6264

August 1, 2014

RE: NOTIFICATION – CLOR MOR CALCIUM HYPOCHLORITE GRANULES – 69681-6

AllChem Performance Products is submitting the enclosed notification to the above referenced product. The purpose of this notification is to

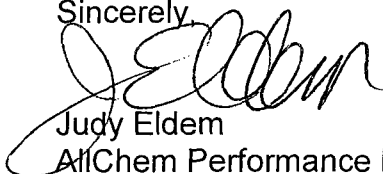
- Add additional non-pesticidal, optional marketing logos on page 13 and 17 accordingly.

You will find the following included with this submission:

- 1) EPA Application Form x 2 copies
- 2) Revised redlined copy showing added optional marketing statement
- 3) Copy of final printed label
- 4) Certification Statement

Please feel free to contact me by phone at (352) 333-7357 or by email at [judy.eldem@allchem.com](mailto:judy.eldem@allchem.com) if you have any questions.

Sincerely,

  
Judy Eldem  
AllChem Performance Products

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{Text in brackets [xxx] is optional and may or may not be included on any final label.}  
{Text in braces (xxx) is for administrative purposes and will not appear on any final label.}

# CLOR MOR CALCIUM HYPOCHLORITE GRANULES

**ACTIVE INGREDIENT:**

Calcium Hypochlorite..... 68%

**OTHER INGREDIENTS:** ..... 32%

**TOTAL** ..... 100%

Available Chlorine 65%

## KEEP OUT OF REACH OF CHILDREN DANGER

### 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 poison control center or doctor for treatment advice.

**IF SWALLOWED:** Call 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 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 poison control center or doctor for treatment advice.

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

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

**For emergency information on this product, call the National Pesticides Information Center at 1-800-858-7378, 6:30 AM to 4:30 PM Pacific time (PT), seven days a week. During other times, call the poison control center at 1-800-222-1222.**

SEE [BACK] [SIDE] PANEL FOR [FIRST AID AND] ADDITIONAL PRECAUTIONARY STATEMENTS. FIRE OR EXPLOSION COULD RESULT FROM IMPROPER USE. DO NOT USE THIS PRODUCT IN ANY FEEDER, SKIMMER OR OTHER CHLORINATING DEVICE IN WHICH ANY OTHER CHLORINATING COMPOUND HAS BEEN USED.

Net Weight:  
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### PRECAUTIONARY STATEMENTS: HAZARDS TO HUMANS AND DOMESTIC ANIMALS: DANGER

Highly corrosive. Causes skin and eye damage. May be fatal if swallowed. Do not get in eyes, on skin or on clothing. Do not handle with bare hands. Irritating to nose and throat. Wear rubber gloves and protective eyewear such as goggles, face shield, or safety glasses. Do not breathe dust and fumes. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

{Environmental hazards statement for end-use products in containers less than 5 gallons (liquid) or less than 50 pounds (solid, dry weight)}  
**ENVIRONMENTAL HAZARDS:** This pesticide is toxic to fish and aquatic organisms.

{Environmental hazards statement for end-use products in containers ≥ 5 gallons (liquid) or ≥ 50 pounds (solid, dry weight) or all container sizes of technical grade or manufacturing use products registered for industrial/commercial/institutional water treatment or processing uses}

**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.

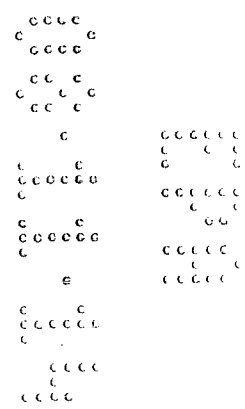
**PHYSICAL AND CHEMICAL HAZARDS: CONTAMINATION MAY CAUSE FIRE OR EXPLOSION! MIX ONLY INTO WATER**  
**DANGER: STRONG OXIDIZING AGENT:** Mix only with water. Use clean, dry utensils. Do not add this product to any dispensing device containing remnants of any other product. Such use may cause a violent reaction leading to fire or explosion. Contamination with

moisture, organic matter, or other chemicals will start a chemical reaction with generation of heat, chlorine gas and possible generation of fire and explosion. In case of contamination or decomposition, do not reseal container. If possible, isolate container in open air or well ventilated area. Flood with large volumes of water if necessary.

- {Optional marketing statements – statements available to all labels}
- [Kills Bacteria, Controls Algae, and Destroys Organic Contaminants]
- [No Need to pre-dissolve]
- [Dry, free-flowing form]
- [Kills Bacteria] [Controls Algae] and [Destroys Organic Contaminants in [pools] [spas & hot tubs]]
- [Concentrated Chlorinating Agent]
- [68% Available Chlorine]
- [Fast Acting]
- [Quick Dissolving]
- [Destroys Bacteria]
- [Get Bacteria-free Water]
- [Provides Steady Source of Chlorine]
- [REPEL/SANITIZE/INHIBIT]
- [CONTINUOUS]
- [Oxidizer]
- [Shock]
- [Multi Purpose Shock]
- [BRAND] SYSTEM
- [See Collateral Booklet] [For additional listing of end-uses]

- {Optional statements for use only with swimming pool sanitization directions}
- [Sanitizes Pool Water]
- [Swimming Pool Sanitizer]
- [Chlorinating Granules for multi-purpose uses]
- [Chlorinating Granules for multiple pool and spa uses]
- [Will not cause over stabilization]
- [Contains No Cyanuric Acid]
- [Good for all pool surfaces]
- [Lasts up to 3 weeks]
- [Treats up to 30,000 gallons]
- [Convenient one time use]
- [STEP 2] [STEP B] {Oxidizers are marketed as step two of a three step program to treat swimming pool water}
- [Broadcast over the water surface at the deep end of pool]
- [Once a week application\*\*]
- [Broadcast] [and] [Skimmer] Application]
- [Once-a-Week\*\* Shock] {Application frequency per swimming pool/shock oxidizer treatment directions}
- [Maintain] {Designates that this product is part of maintenance line of products}
- [Once-a-Week\*\*] {Application frequency per swimming pool/shock oxidizer treatment directions}
- [\*\* Approximate addition rate. Please refer to directions for use]
- {Optional statements or use only with spa sanitization directions}
- [Chlorinating granules for multiple pool and spa uses]

- {Other Optional statements}
- [For Sewage and Waste Water Applications]
- [For Industrial Use Applications]
- [For Industrial and Institutional Uses]
- [Disinfectant]
- [For potable water treatment systems]
- [For Emergency Potable Water Disinfection]
- [For Use on Farm Premises]
- [For Irrigation Systems]



**DIRECTIONS FOR USE**

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

**SWIMMING POOL WATER DISINFECTION**

[This product, with a 65% available chlorine, is designed to dissolve quickly and provide a ready source of available chlorine in swimming pools. Used according to directions Cal Hypo Granules kills algae, kills bacteria and destroys organic contaminants. If any chlorine residual is present, adding 2 oz. per 10,000 gallons will increase the residual by approximately 1 part per million (ppm). Follow the dosages and procedures below. Always adjust pH between 7.2 and 7.6 prior to Cal Hypo Granules. Additional shocking to keep water clean and clear is needed after rain and heavy winds; high number of swimmers; increased water temperature; and/or increased frequency of pool usage.]

**[HOW TO USE:** [Do not pre-mix this product before adding it to your pool. Only add this product directly to your pool or skimmer. {When contents are in a resealable container} [Use a clean, dry [scoop] [lid] to measure this product]. [Do not use the [scoop] [lid] for any other purpose.] {When contents are in a single use bag for use as a shock for pools 10,000 gallons or larger} [Use entire contents when opened.] If any granules settle to the bottom of the pool use brush to disperse.]

[Method for dosing directly into pool:

Add the required dosage of this product during evening hours while the filter pump is running. When adding this product to your pool, broadcast the product evenly over a wide area in the deepest part of the pool. If any granules settle to the bottom of the pool, use a brush to disperse.

[Method for skimmer addition:

Use this method to avoid bleaching vinyl liner or paint. Make sure the filter pump is on and properly recirculating through skimmer. Empty skimmer of all chemicals and/or debris. Contamination may cause an explosion or the release of toxic gases. Do not use this method when an automatic chemical dispensing device (e.g. feeder) is present. Pour this product slowly into skimmer, making sure the material is drawn into the system at the same rate; do not allow this material to accumulate as toxic gases may be generated.]

**[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). Maintain calcium hardness above 200 ppm. Use a reliable test kit that measures all these ranges. [Use {brand name} to make adjustments.] Follow label directions for each product.]

Reentry into treated pools is prohibited above levels of 4 ppm due to risk of bodily harm.

**[OPENING YOUR POOL:** For best results, see the "WATER BALANCE" section above before treatment. Always adjust and maintain pH in the 7.2 to 7.6 range. Follow "SHOCK TREATMENT" directions on this package. Allow 30 minutes for product to disperse. Test free available chlorine with a pool test kit. Repeat treatment as needed.]

**[ROUTINE CHLORINATION:** For best results, see "WATER BALANCE" section above before treatment. Throughout the pool season, adjust and maintain pH at 7.2-7.6. Check available chlorine with a suitable test kit.]

{For small pools 500 gallons to less than 10,000 gallons}

[Each 0.2-0.4 oz. of this product will provide approximately 1-4 ppm available chlorine in 500 gallons of water. Maintain these conditions for proper operations by frequent testing with a test kit. Follow "HOW TO USE" directions on this package.]

{For pools 10,000 gallons and larger}

**[FOR UNSTABILIZED POOLS:** Add 6-8 oz. of this product per 10,000 gallons of pool water daily or as often as needed to maintain the free available chlorine residual at 1-4 ppm. Follow "HOW TO USE" directions on this package. **FOR POOLS STABILIZED USING {brand name} STABILIZER AND CONDITIONER:** Add 3-4 oz. 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.]

{For pools 10,000 gallons and larger}

**[SHOCK TREATMENT / SUPERCHLORINATION:** For best results, see "WATER BALANCE" and "HOW TO USE" section above before treatment. Every 7 days, or as necessary to prevent pool problems, shock treat / super chlorinate the pool by adding 10-20 oz. [one bag {for 16 oz containers}] of this product per 10,000 gallons of water to provide 5-10 ppm available chlorine. Additional shock treatments is required to correct problems which are caused by visible algae, high bathing loads, heavy wind and rainstorms. Additional shock treatment is required to correct problems such as unpleasant odors and eye irritation. Check the available chlorine with a suitable test kit.]

{For pools 10,000 gallons and larger}

**[ALGAE CONTROL:** Follow "SHOCK TREATMENT" directions on this label. Add this product as close as possible to any algae on the sides or bottom of the pool. If necessary, repeat the treatment. To prevent possible staining or bleaching, take the following steps immediately after treatment: Thoroughly clean pool by brushing surface of algae growth, vacuum and cycle through filter.]

[For preventative algae control, use your preferred (brand name) algacide product regularly. Follow label directions on the algacide.]

Labels of resealable containers {2 lbs or more} used to treat pools 10,000 gallons and larger}

**[WINTERIZING:** For best results, see "WATER BALANCE" section above before treatment. Gradually add 30 oz. of this product per 10,000 gallons of pool water that is clear and clean. This provides 15 ppm free available chlorine. Follow "HOW TO USE" directions on this

package. Run the filter until granules are completely dissolved. Cover the pool with cover. Prepare the heater, pump and filter components for winterizing by following manufacturer's directions.]

{The following is not essential information and may or may not appear on swimming pool use directions, at AllChem's discretion.}

**HOW TO CALCULATE POOL CAPACITY**

<u>SHAPE OF POOL</u>	<u>GAL. OF WATER (Dimensions in ft.)</u>
Rectangular. . . . .	Length x width x avg. depth x 7.5
Circular. . . . .	Diameter x diameter x avg. depth x 5.9
Oval with straight sides . .	Long diameter x short diameter x avg. depth x 6.7

**SPA & HOT TUBS**

[**HOW TO USE:** For best results see "WATER BALANCE" section below before treatment. Maintain these conditions for proper operations by frequent testing with a test kit. Do not allow Cyanuric acid level to exceed 100 ppm. Spas and hot tubs must be drained every 30-90 days, more often under heavy use. Consult manufacturer's recommendations concerning the compatibility of chlorine sanitizers with their equipment. Some oils, lotions, fragrances, cleansers, etc cause foaming or cloudy water and react with chlorine sanitizers to reduce their efficacy. If circulation is low, stir water after addition of chlorine or other chemicals.]

[**WATER BALANCE:** For best product performance, comfort and crystal clear water: Maintain pH in the range of 7.2 to 7.6. Maintain total alkalinity in the range of 60 to 120 parts per million (ppm). Maintain calcium hardness above 200 ppm. Use a reliable test kit that measures all these ranges. Use {brand name} [Spa] [Care] products to make adjustments. Follow label directions for each product.]

Reentry into treated pools is prohibited above levels of 4 ppm due to risk of bodily harm.

[**OPENING YOUR SPA] STARTUP (Freshly Filled):** For best results, see "WATER BALANCE" section above before treatment. Turn on circulation system and ensure that it is operating properly. Add one (1) oz. of this product to provide approximately 10 ppm available chlorine for each 500 gallons of water. Check the free available chlorine (FAC) and if less than 4-5 ppm, repeat as needed.

[**ROUTINE CHLORINATION FOR] REGULAR USE:** For best results, see "WATER BALANCE" section above before treatment. Turn on circulation system and ensure that it is operating properly. Scatter 0.3-0.5 oz. of this product per 500 gallons over the surface of the water. Test for free available chlorine and add additional product if necessary to maintain 3-5 ppm FAC while unit is in use.

[**SHOCK TREATMENT:** After each use, shock treat with one (1) oz. of this product to provide approximately 10 ppm available chlorine per 500 gallons of water, to control odors and algae. Repeat as needed.]

[**ALGAE CONTROL:** For preventative algae control, use your preferred {brand name} [spa] algacide product regularly. Follow the label directions on the algacide.]

[**EXTENDED NON-USE PERIOD:** For best results, see "WATER BALANCE" section above before treatment. During extended non-use periods when the unit is not being used add 1.1 oz. of this product per 500 gallons twice a week with the circulation system running or as needed to maintain 3-5 ppm free available chlorine.]

**HUBBARD AND IMMERSION TANKS**

[Add 0.5 oz. of this product per 100 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 0.5 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 approved for use in the State of California.]

[**HYDROTHERAPY TANKS:** Add 1 oz. of this product per 1,000 gallons of water to obtain a minimum chlorine residual of 1 ppm, as determined by a suitable chlorine test kit, after satisfying any chlorine demand. 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 must 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 1 oz. of this product with 40 gallons of water. If no test kit is available, prepare a sanitizing solution by thoroughly mixing 1 oz. of this product with 20 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 must be used for general cleaning but must not be reused for sanitizing purposes.]

**[IMMERSION METHOD:** A solution of 100 ppm available chlorine must 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 1 oz. of this product with 40 gallons of water. If no test kit is available, prepare a sanitizing solution by thoroughly mixing 1 oz. of this product with 20 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.]

**[FLOW/PRESSURE METHOD:** Disassemble equipment and thoroughly clean after use. Assemble equipment in operating position prior to use. Prepare a volume of 200 ppm available chlorine sanitizing solution equal to 110% of volume capacity of the equipment by mixing the product in a ratio of 1 oz. product with 20 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 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 200 ppm available chlorine sanitizing solution equal to 110% of volume capacity of the equipment by mixing the product in a ratio of 1 oz. product with 20 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 chlorine test kit. Repeat entire cleaning/sanitizing process if effluent contains less than 50 ppm available chlorine.]

**[COARSE SPRAY METHOD:** Pre-clean 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. Prepare a 200 ppm sanitizing solution of sufficient size by thoroughly mixing the product in a ratio of 1 oz. product with 20 gallons of water. Prepare a 600 ppm solution by thoroughly mixing the product in a ratio of 3 oz. product with 20 gallons of water. 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 600 ppm solution with a 200 ppm solution.]

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**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, if 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, 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 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 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 of contact time.

**SEWAGE & WASTEWATER EFFLUENT TREATMENT**

**EFFLUENT SLIME CONTROL:** Apply a 100 to 1,000 ppm available chlorine solution at a location which will allow complete mixing. Prepare this solution by mixing 2 to 20 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 0.3 oz. of this product with 100 gallons of water.

**FILTER BEDS: SLIME CONTROL:** Remove filter from service, drain to a depth of 1 ft. above filter sand, and add 10 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:** Add this product at the rate of 1 oz. of this product to 6000 gallons of water to be treated using 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 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 100 ppm available chlorine solution using a stiff brush. This solution can be made by thoroughly mixing 1 oz. of this product into 40 gallons of water. 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. This solution can be made by thoroughly mixing 1 oz. of this product into 40 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 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 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 several times.]

**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 point of entry into the reservoir. Apply this product at a rate of 10 to 20 ounces per 10,000 gallons of water volume to provide 5 to 10 ppm available chlorine. In irrigation canals or other high stream flow areas, apply at a continuous rate of 4.5 oz. to 9 oz. per minute per 10 cu. ft. per second flow rate until 5 to 10 ppm available chlorine is achieved at the downstream end of the intended treatment section. ]

**[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. Place 4 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 return to surface.]

**[NEW FILTER SAND:** Apply 16 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 1 oz. of this product for each 100 gallons of water. 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 must 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. Sanitize by placing 4 oz. of this product for each 5 cubic feet capacity (approximately 500 ppm available chlorine). Fill to working capacity and let stand for at least 4 hours. Drain and place in service. If previous treatment is not practical, surfaces must be sprayed with a solution containing 1 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 1 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.]

**[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 apply 4 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 1 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.]

**[FILTERS:** When the sand filter needs replacement, apply 16 oz. of this product for each 150 to 200 cubic feet of sand. When the filter is severely contaminated, additional product must be distributed over the surface at the rate of 16 oz. per 20 sq. ft. 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 backwashed of mud and silt, apply 16 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 a 24 hour retention time. Use a chlorine test kit.]

**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.

**EMERGENCY DISINFECTION AFTER DROUGHTS**

[**SUPPLEMENTARY WATER SUPPLIES:** Gravity or mechanical hypochlorite feeders must 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.]

[**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 1 oz. of this product for each 5 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. [Not approved for use in the State of California.]

**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.

**COOLING TOWER/EVAPORATIVE CONDENSER WATER**

**SLUG FEED METHOD** - Initial dose: When system is noticeably fouled, apply 10 to 20 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 2 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 is begun.

**INTERMITTENT FEED METHOD** - Initial Dose: When system is noticeably fouled, apply 10 to 20 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 blow down.  
Subsequent Dose: When microbial control is evident, add 2 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. 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, apply 10 to 20 oz. of this product per 10,000 gallons of water in the system to obtain from 5 to 10 ppm available chlorine.  
[Subsequent Dose: Maintain this treatment level by starting a continuous feed of 1 oz. of this product per 3,000 gallons of water lost by blow down to maintain a 1 ppm residual. Badly fouled systems must be cleaned before treatment is begun.]

**LAUNDRY SANITIZERS: HOUSEHOLD LAUNDRY SANITIZERS**

**IN SOAKING SUDS:** Thoroughly mix 1 Tbs. 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.

**IN WASHING SUDS:** Thoroughly mix 1 Tbs. 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 must be spun dry prior to sanitization. Thoroughly mix 1 oz. of this product with 20 gallons of water to yield 200 ppm available chlorine. Promptly after mixing the sanitizer, add the solution into the pre-wash 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 the 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 oz. of this product with 20 gallons of water to yield 200 ppm available chlorine. Promptly after mixing the sanitizer, add the solution into the pre-wash 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.]

**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. A 1000 ppm solution can be made by thoroughly mixing 2 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 10 to 20 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 2 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 is begun.]

[**INTERMITTENT FEED METHOD** - Initial Dose: When system is noticeably fouled, apply 10 to 20 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 blow down.  
Subsequent Dose: When microbial control is evident, add 2 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. 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, apply 10 to 20 oz. of this product per 10,000 gallons of water in the system to obtain from 5 to 10 ppm available chlorine.  
Subsequent Dose: Maintain this treatment level by starting a continuous feed of 1 oz. of this product per 1,000 gallons of water lost by blow down 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 cleaning and prior to storage by spraying with a sanitizing solution at a level of 1 gallon of sanitizing solution per 1 ton of potatoes. Thoroughly mix 1 oz. of this product to 10 gallons of water to obtain 500 ppm available chlorine.]

[**DISINFECT LEAF CUTTING BEE CELLS AND BEE BOARDS:** Immerse 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 thoroughly mixing 1/4 Tsp. of this product to 200 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.]

[**FRUIT AND VEGETABLE WASHING:** Thoroughly clean all fruits and vegetables in a wash tank. Thoroughly mix 1 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.]

[**FOOD EGG SANITIZATION:** Thoroughly clean all eggs. Thoroughly mix 1 oz. of this product with 20 gallons of warm water to produce a 200 ppm available chlorine solution. The sanitizer temperature must 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 must not be reused to sanitize eggs.]

[**SEEDS:** To control bacterial spot (*Xanthomonas vesicatoris*) on Pimento seeds, initially remove moist seeds from ripe fruits. To control surface fungi and bacteria on Tomato seeds initially wash seeds. 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. The solution must be made by mixing 8 oz. of this product with 1 gallon of water.]

[**MUSHROOMS:** to control bacterial blotch (*Pseudomonas tolaasii*), use a 100 to 200 ppm solution prior to watering mushroom production surfaces. This solution must be made by mixing 0.2 to 0.4 oz. of this product with 10 gallons of water. First application must begin when pins form, and thereafter, between breaks on a need basis depending on the occurrence of bacterial blotch. This product must be applied directly to pins to control small infection foci. Apply 1.5 to 2.0 oz. per square foot of growing space.]

**AQUACULTURE USES**

**[FISH PONDS:** Remove fish from ponds prior to treatment. Thoroughly mix 20 oz. of this product into 10,000 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.]

**[FISH POND EQUIPMENT:** Thoroughly clean all equipment prior to treatment. Thoroughly mix 1 oz. of this product to 20 gallons of water to obtain 200 ppm available chlorine. Porous equipment must soak for one hour.]

**[MAINE LOBSTER PONDS:** Remove lobsters, seaweed, etc. from ponds prior to treatment. Drain the pond. Thoroughly mix 1,200 oz. of this product to 10,000 gallons of water to obtain at least 600 ppm available chlorine. 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. Not approved for use in the State of California.]

**[CONDITIONING LIVE OYSTERS:** Thoroughly mix 1 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 the 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 approved for use in the State of California.]

**[CONTROL OF SCAVENGERS IN FISH HATCHERY PONDS:** Prepare a solution containing 200 ppm of available chlorine by mixing 0.5 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 zero ppm, as determined by a test kit.]

**SANITIZATION OF DIALYSIS MACHINES**

Flush equipment thoroughly with water prior to using this product. Thoroughly mix 7 oz. of this product to 60 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 insure that no available chlorine remains in the system.

This product is 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 must 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 for use in hemodialysate or reverse osmosis (RO) membranes. Consult the guidelines for hemodialysates systems available from the Hepatitis Laboratories, CDC, Phoenix, AZ 85021)

**TOILET BOWL SANITIZERS**

These products are marketed as individual packages for placement in the toilet. Therefore, use directions are not appropriate. {Claims are limited to sanitization. No claims for disinfection are permitted}

**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 5,000 ppm available chlorine solution. Mix 1 oz. of this product per gallon of water and brush or spray roof or siding. After 30 minutes, rinse by hosing with clean water.

**BOAT BOTTOMS**

To control slime on boat buttons, 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. Add 35 oz. of this product to this water to obtain a 35ppm 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 zero ppm as determined by a swimming pool test kit.

**ARTIFICIAL SAND BEACHES**

To sanitize sand, spray a 500 ppm available chlorine solution containing 0.1 oz of this product per gallon of water at frequent intervals. Small areas can be sprinkled with a watering can.

**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. The solutions must be fed 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. A regular testing program must be initiated to make sure that the proper chlorine residuals are present at all times. To make a 1% solution, mix 10 oz of this product into 5 gallons of water.]

**[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. The solution must be fed 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, mix 10 oz. of this product into 5 gallons of water.]

**[POULTRY DRINKING WATER:** Spray or flush with a solution containing 1 oz. of this product for every gallon of water. Treat poultry drinking water to a dosage of 1 to 5 oz. of this product per 5,000 gallons of water. Not approved for use in the State of California.]

**[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. 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:** Prepare a 1,000 ppm available chlorine soaking solution by adding 1 oz. of this product for each 5 gallons of water to obtain a 1,000 ppm available chlorine content. 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% sulfuric acid bath at 80 to 90°F for 1 minute. Transfer to a solution containing 100 oz. of this product for each 100 gallons of water (5,000 ppm). 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.]

**CONTROL OF BACTERIA, ALGAE, SLIME BUILD-UP AND CLOGGING IN SPECIFIED IRRIGATION SYSTEMS:**

[This product is] {or} [brand name are] is mixed with water to product a chlorine solution. Always add this product to water, never add water to this product. To product a 0.5% available chlorine solution, add 1.0 dry oz. of this product to one (1) gallon of water. This solution is fed by gravity or a metering pump to the irrigation system water to achieve the desired available chlorine strength in the water. The Application Rates section provides the levels of free residual chlorine needed to prevent or address bio-fouling occurring in drip, trickle irrigation systems. When utilizing a metering pump, refer to the instruction manual for varying the output of the pump. This product is to be applied through drip/trickle and sprinkler irrigation systems only for agricultural crops only 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 is necessary. The level of free residual 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 chlorine (also called "free residual" or "free available" chlorine)."

Periodic shock treatments at a higher available chlorine rate of up to 20 ppm free residual is 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 available chlorine, is for reclaiming low-volume irrigation systems if clogged by algae and bacterial slimes. Set the metering pump to deliver 100 ppm in the drip system and monitor the free chlorine residual at the end of the farthest lateral. As soon as it is established that the free residual reading is between 10-20 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/rinse scale or inorganic sediment fouling. "Note: To correctly establish the dose setting required, it is necessary to measure the free chlorine concentration (ppm) at the end of the treated increment in the field and adjust the dose setting until the desired free chlorine concentration is obtained. This is because contaminants in the water consume available chlorine resulting in a concentration that is less than the concentration desired as specific above. Only experience can establish the actual metering pump settings required to provide the amount of free 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 1-2 ppm free chlorine.]

**[GENERAL APPLICATION INSTRUCTIONS**

Chlorination must be started during irrigation, near the end of the irrigation sequence, but early enough to establish the desired free chlorine concentration throughout the system being treated.

Apply this product upstream of the filter to help keep filter clean.

Determine the level of free chlorine as described above, using a free 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 available chlorine and 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 metering pump use instructions as needed.]

**STORAGE AND DISPOSAL**{For pesticides with only household/residential uses in nonrefillable containers.}

**Storage:** Keep this product dry in tightly closed container when not in use. Store in 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.

**Container Handling and Disposal:**

Nonrefillable container. Do not reuse or refill this container. **If empty:** Offer for recycling if available or discard in a sanitary landfill.

**If partly filled:** Call your local solid waste agency for disposal instructions. Never place unused product down any indoor or outdoor drain.

**[STORAGE AND DISPOSAL – {For all pesticides except products with only household/residential uses in nonrefillable containers}. Do not contaminate water, food, or feed by storage and disposal.**

**PESTICIDE STORAGE:** Keep this product dry in tightly closed container when not in use. Store in 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. Do not reuse empty container but place in trash collection.

**PESTICIDE 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 EPA Regional Office for guidance.

**CONTAINER HANDLING :** Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying.

{Rigid nonrefillable containers small enough to shake with capacities equal to or less than 5 gallons.}

[Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a 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 if available or reconditioning if appropriate or puncture and dispose of in trash or in sanitary landfill, or incinerations, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.]

{Rigid nonrefillable containers too large to shake with capacities equal to or greater than 5 gallons or 50 lbs}

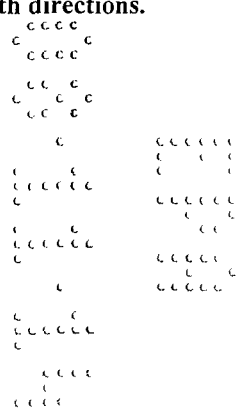
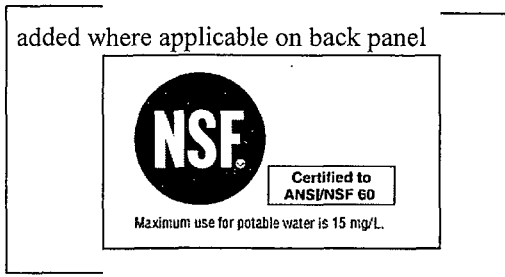
[Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on 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 if available or reconditioning if appropriate or puncture and dispose of in trash or in sanitary landfill, or incinerations, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.]]

**[CONTAINER HANDLING AND DISPOSAL (FIBERBOARD):** Nonrefillable container. Do not reuse or refill this container. Completely empty liner by shaking and tapping sides or bottom to loosen clinging particles. Empty residue into application equipment. Offer for recycling if available or dispose of in a sanitary landfill or by incineration. If drum is contaminated and cannot be reused, dispose of it in the manner required for its liner]

**WARRANTY STATEMENT: Buyer assumes all responsibility for safety and use not in accordance with directions.**

EPA REG. NO. 69681-6  
EPA EST. NO. 69681-TX-001

AllChem Performance Products, Inc.  
416 S. Main Street  
Corsicana, TX 75110





17/31

{Supplemental labeling for Agricultural Use}

“Agricultural Use Requirements: Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. Refer to supplemental labeling under “Agricultural Use Requirements” in the Directions for use section for information about this standard.”

Directions for Use: It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers must be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulations.

AGRICULTURAL USE REQUIREMENTS

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

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours. PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water is:

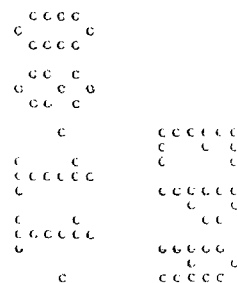
- Coveralls over long-sleeved shirt and long pants
- Waterproof gloves
- Chemical-resistant footwear plus socks
- Protective eyewear
- Chemical-resistant headgear for overhead exposure

MUSHROOMS: To control bacterial blotch, use a 100 to 200 ppm solution prior to watering mushroom surfaces. This solution must be made by mixing 0.2 to 0.4 oz. of this product with 10 gallons of water. First application must begin when pins form, and thereafter, between breaks on a need basis depending on the occurrence of bacterial blotch. This product must be applied directly to pins to controls small infection foci. Apply 1.5 to 2.0 oz. per square foot of growing space.

Precautionary Statement: Hazards to Humans and Domestic Animals: Danger. PELIGRO. Highly Corrosive. Causes irreversible eye damage. Do not get in eyes or on clothing. May be fatal if swallowed. Wear rubber gloves and protective eyewear such as goggles, face shield, or safety glasses. Do not breathe dust and fumes. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse. Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

Personal Protective Equipment: Mixers and Loaders of the concentrate product must wear:

- Coveralls over long-sleeved shirt and long pants
- Waterproof gloves
- Chemical-resistant footwear plus socks
- Protective eyewear
- Chemical-resistant headgear for overhead exposure
- Chemical-resistant apron when cleaning equipment, mixing or loading
- Dust/mist filtering respirator (MSHA/NIOSH...D/M approval # prefix TC-21C).



Applicators and other handlers of the diluted (100 – 200 ppm Solution) must wear:

- Coveralls over long-sleeved shirt and long pants
- Waterproof gloves
- Chemical-resistant footwear plus socks
- Protective eyewear
- Chemical-resistant headgear for overhead exposure



Follow manufacturer’s instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate.]

[{Supplemental labeling for Agricultural Use}

**FOR USE ON SEEDS FOR SPROUTING AS FOOD FOR HUMAN CONSUMPTION.**

While this treatment reduces populations of (food poisoning) on seeds intended for sprout production, it must not eliminate these organisms on the seeds. Additionally, treatment must not reduce or eliminate these organisms on the final sprouts. In addition to these direction, follow the Food & Drug Administration "Guidance for Industry: Reducing Microbial Food Safety Hazards for Sprouted Seeds" and "Guidance for Industry: Sampling and Microbial Testing of Spent Irrigation Water During Sprout Production."

**Dosage: Preparation of Calcium Hypochlorite Solution**

In a well-ventilated area, prepare a 2% (20,000 ppm available chlorine) solution by dissolving 4.1 oz. of product that contains 65% available chlorine into 1 gallon of potable water (see table below for preparing various amount of treatment solution).

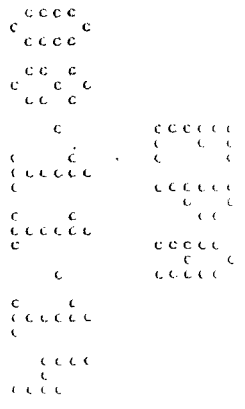
Available Chlorine	Gallons of water						
	ppm	1	5	15	30	50	100
2.0	20,000	4.1 oz	1 lb 5 oz	3 lbs 13 oz	7 lbs 11 oz	12 lbs 13 oz	25 lbs 10 oz

**Frequency/Timing of Application:**

Pre-wash seeds with potable water for at least 5 minutes. Treat pre-washed seeds once by soaking 5 pounds of seeds in 1 gallon of 2% (20,000 ppm available chlorine) calcium hypochlorite solution for 15 minutes at room temperature with continuous agitation. After treatment, drain solution and rinse treated seeds thoroughly with potable water for 10 minutes (changing the water several times, as necessary). Prepare fresh solution for each batch of seeds.

**Restricted Entry Interval (REI): 12 Hours**

[The US EPA has determined that the REI applies when the calcium hypochlorite is sprayed on the benches or areas around the soaking containers. Note: The REI is not applicable when the disinfectant is applied directly to the raw commodity (seeds) by soaking in a container/bin. There are no re-entry interval concerns when treating pests in this manner (soaking).]



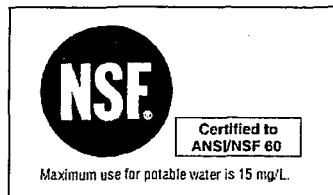
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{Collateral Booklet – this information will be provided in a separate booklet when not all end-uses can be printed on the finished product label}

[CLOR MOR CALCIUM HYPOCHLORITE GRANULES] [Product Name]

**ACTIVE INGREDIENT:**

Calcium Hypochlorite . . . . .	68%
<b>OTHER INGREDIENTS:</b> . . . . .	32%
<b>TOTAL</b> . . . . .	100%
<b>Available Chlorine 65%</b>	



**KEEP OUT OF REACH OF CHILDREN  
DANGER**

**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 poison control center or doctor for treatment advice.

**IF SWALLOWED:** Call 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 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 poison control center or doctor for treatment advice.

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

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

**For emergency information on this product, call the National Pesticides Information Center at 1-800-858-7378, 6:30 AM to 4:30 PM Pacific time (PT), seven days a week. During other times, call the poison control center at 1-800-222-1222.**

**FIRE OR EXPLOSION COULD RESULT FROM IMPROPER USE. DO NOT USE THIS PRODUCT IN ANY FEEDER, SKIMMER OR OTHER CHLORINATING DEVICE IN WHICH ANY OTHER CHLORINATING COMPOUND HAS BEEN USED.**

Net Weight:

**READ ENTIRE LABEL BEFORE USING THIS PRODUCT.**

**PRECAUTIONARY STATEMENTS: HAZARDS TO HUMANS AND DOMESTIC ANIMALS: DANGER.** Highly corrosive. Causes skin and eye damage. May be fatal if swallowed. Do not get in eyes, on skin or on clothing. Do not handle with bare hands. Irritating to nose and throat. Wear rubber gloves and protective eyewear such as goggles, face shield, or safety glasses. Do not breathe dust and fumes. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

**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.

**PHYSICAL AND CHEMICAL HAZARDS: CONTAMINATION MAY CAUSE FIRE OR EXPLOSION! MIX ONLY INTO WATER. DANGER: STRONG OXIDIZING AGENT:** Mix only with water. Use clean, dry utensils. Do not add this product to any dispensing device containing remnants of any other product. Such use may cause a violent reaction leading to fire or explosion. Contamination with moisture, organic matter, or other chemicals will start a chemical reaction with generation of heat, chlorine gas and possible generation of fire and explosion. In case of contamination or decomposition, do not reseal container. If possible, isolate container in open air or well ventilated area. Flood with large volumes of water if necessary.

**STORAGE AND DISPOSAL –** Do not contaminate water, food, or feed by storage and disposal.

**PESTICIDE STORAGE:** Keep this product dry in tightly closed container when not in use. Store in 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. Do not reuse empty container but place in trash collection.

**PESTICIDE 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 EPA Regional Office for guidance.

**CONTAINER HANDLING :** Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 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 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 if available or reconditioning if appropriate or puncture and dispose of in trash or in sanitary landfill, or incinerations, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

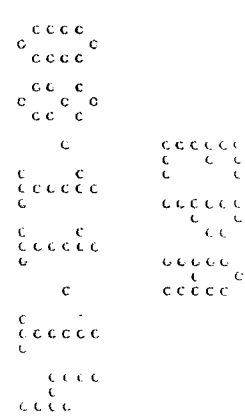
**CONTAINER HANDLING AND DISPOSAL (FIBERBOARD):** Nonrefillable container. Do not reuse or refill this container. Completely empty liner by shaking and tapping sides or bottom to loosen clinging particles. Empty residue into application equipment. Offer for recycling if available or dispose of in a sanitary landfill or by incineration. If drum is contaminated and cannot be reused, dispose of it in the manner required for its liner.

**WARRANTY STATEMENT: Buyer assumes all responsibility for safety and use not in accordance with directions.**

EPA REG. NO. 69681-6

EPA EST. NO. 69681-TX-001

AllChem Performance Products, Inc.  
416 South Main Street / Corsicana, TX 75110



**DIRECTIONS FOR USE**

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

**SWIMMING POOL WATER DISINFECTION**

This product, with a 65% available chlorine, is designed to dissolve quickly and provide a ready source of available chlorine in swimming pools. Used according to directions Cal Hypo Granules kills algae, kills bacteria and destroys organic contaminants. If any chlorine residual is present, adding 2 oz. per 10,000 gallons will increase the residual by approximately 1 part per million (ppm). Follow the dosages and procedures below. Always adjust pH between 7.2 and 7.6 prior to Cal Hypo Granules. Additional shocking to keep water clean and clear is needed after rain and heavy winds; high number of swimmers; increased water temperature; and/or increased frequency of pool usage.

**HOW TO USE:** Do not pre-mix this product before adding it to your pool. Only add this product directly to your pool or skimmer. {When contents are in a resealable container} Use a clean, dry scoop to measure this product. Do not use the scoop for any other purpose. {When contents are in a single use bag for use as a shock for pools 10,000 gallons or larger} Use entire contents when opened. If any granules settle to the bottom of the pool use brush to disperse.

Method for dosing directly into pool: Add the required dosage of this product during evening hours while the filter pump is running. When adding this product to your pool, broadcast the product evenly over a wide area in the deepest part of the pool. If any granules settle to the bottom of the pool, use a brush to disperse.

Method for skimmer addition: Use this method to avoid bleaching vinyl liner or paint. Make sure the filter pump is on and properly recirculating through skimmer. Empty skimmer of all chemicals and/or debris. Contamination may cause an explosion or the release of toxic gases. Do not use this method when an automatic chemical dispensing device (e.g. feeder) is present. Pour this product slowly into skimmer, making sure the material is drawn into the system at the same rate; do not allow this material to accumulate as toxic gases may be generated.

**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). Maintain calcium hardness above 200 ppm. Use a reliable test kit that measures all these ranges. Follow label directions for each product.

Reentry into treated pools is prohibited above levels of 4 ppm due to risk of bodily harm.

**OPENING YOUR POOL:** For best results, see the "WATER BALANCE" section above before treatment. Always adjust and maintain pH in the 7.2 to 7.6 range. Follow "SHOCK TREATMENT" directions on this package. Allow 30 minutes for product to disperse. Test free available chlorine with a pool test kit. Repeat treatment as needed.

**ROUTINE CHLORINATION:** For best results, see "WATER BALANCE" section above before treatment. Throughout the pool season, adjust and maintain pH at 7.2-7.6. Check available chlorine with a suitable test kit.

Each 0.2-0.4 oz. of this product will provide approximately 1-4 ppm available chlorine in 500 gallons of water. Maintain these conditions for proper operations by frequent testing with a test kit. Follow "HOW TO USE" directions on this package.

**FOR UNSTABILIZED POOLS:** Add 6-8 oz. of this product per 10,000 gallons of pool water daily or as often as needed to maintain the free available chlorine residual at 1-4 ppm. Follow "HOW TO USE" directions on this package.

**FOR POOLS STABILIZED USING STABILIZER AND CONDITIONER:** Add 3-4 oz. 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" and "HOW TO USE" section above before treatment. Every 7 days, or as necessary to prevent pool problems, shock treat / super chlorinate the pool by adding 10-20 oz. one bag {for 16 oz containers} of this product per 10,000 gallons of water to provide 5-10 ppm available chlorine. Additional shock treatments is required to correct problems which are caused by visible algae, high bathing loads, heavy wind and rainstorms. Additional shock treatment is required to correct problems such as unpleasant odors and eye irritation. Check the available chlorine with a suitable test kit.

**ALGAE CONTROL:** Follow "SHOCK TREATMENT" directions on this label. Add this product as close as possible to any algae on the sides or bottom of the pool. If necessary, repeat the treatment. To prevent possible staining or bleaching, take the following steps immediately after treatment: Thoroughly clean pool by brushing surface of algae growth, vacuum and cycle through filter. For preventative algae control, use your preferred algacide product regularly. Follow label directions on the algacide.

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

**HOW TO CALCULATE POOL CAPACITY**

<u>SHAPE OF POOL</u>	<u>GAL. OF WATER (Dimensions in ft.)</u>
Rectangular. . . . .	Length x width x avg. depth x 7.5
Circular. . . . .	Diameter x diameter x avg. depth x 5.9
Oval with straight sides . .	Long diameter x short diameter x avg. depth x 6.7

**SPA & HOT TUBS**

**HOW TO USE:** For best results see "WATER BALANCE" section below before treatment. Maintain these conditions for proper operations by frequent testing with a test kit. Do not allow Cyanuric acid level to exceed 100 ppm. Spas and hot tubs must be drained every 30-90 days, more often under heavy use. Consult manufacturer's recommendations concerning the compatibility of chlorine sanitizers with their equipment. Some oils, lotions, fragrances, cleansers, etc cause foaming or cloudy water and react with chlorine sanitizers to reduce their efficacy. If circulation is low, stir water after addition of chlorine or other chemicals.

**WATER BALANCE:** For best product performance, comfort and crystal clear water: Maintain pH in the range of 7.2 to 7.6. Maintain total alkalinity in the range of 60 to 120 parts per million (ppm). Maintain calcium hardness above 200 ppm. Use a reliable test kit that measures all these ranges. Use Spa Care products to make adjustments. Follow label directions for each product.

Reentry into treated pools is prohibited above levels of 4 ppm due to risk of bodily harm.

**OPENING YOUR SPA STARTUP (Freshly Filled):** For best results, see "WATER BALANCE" section above before treatment. Turn on circulation system and ensure that it is operating properly. Add one (1) oz. of this product to provide approximately 10 ppm available chlorine for each 500 gallons of water. Check the free available chlorine (FAC) and if less than 4-5 ppm, repeat as needed.

**ROUTINE CHLORINATION FOR REGULAR USE:** For best results, see "WATER BALANCE" section above before treatment. Turn on circulation system and ensure that it is operating properly. Scatter 0.3-0.5 oz. of this product per 500 gallons over the surface of the water. Test for free available chlorine and add additional product if necessary to maintain 3-5 ppm FAC while unit is in use.

**SHOCK TREATMENT:** After each use, shock treat with one (1) oz. of this product to provide approximately 10 ppm available chlorine per 500 gallons of water, to control odors and algae. Repeat as needed.

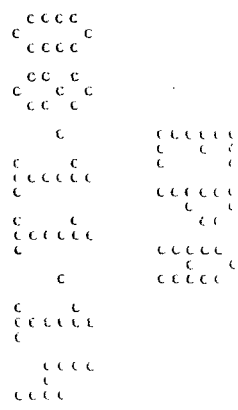
**ALGAE CONTROL:** For preventative algae control, use your preferred algaecide product regularly. Follow the label directions on the algaecide.

**EXTENDED NON-USE PERIOD:** For best results, see "WATER BALANCE" section above before treatment. During extended non-use periods when the unit is not being used add 1.1 oz. of this product per 500 gallons twice a week with the circulation system running or as needed to maintain 3-5 ppm free available chlorine.

**HUBBARD AND IMMERSION TANKS**

Add 0.5 oz. of this product per 100 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 0.5 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 approved for use in the State of California.

**HYDROTHERAPY TANKS:** Add 1 oz. of this product per 1,000 gallons of water to obtain a minimum chlorine residual of 1 ppm, as determined by a suitable chlorine test kit, after satisfying any chlorine demand. 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 must 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 1 oz. of this product with 40 gallons of water. If no test kit is available, prepare a sanitizing solution by thoroughly mixing 1 oz. of this product with 20 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 must be used for general cleaning but must not be reused for sanitizing purposes.

**IMMERSION METHOD:** A solution of 100 ppm available chlorine must 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 1 oz. of this product with 40 gallons of water. If no test kit is available, prepare a sanitizing solution by thoroughly mixing 1 oz. of this product with 20 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.

**FLOW/PRESSURE METHOD:** Disassemble equipment and thoroughly clean after use. Assemble equipment in operating position prior to use. Prepare a volume of 200 ppm available chlorine sanitizing solution equal to 110% of volume capacity of the equipment by mixing the product in a ratio of 1 oz. product with 20 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 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 200 ppm available chlorine sanitizing solution equal to 110% of volume capacity of the equipment by mixing the product in a ratio of 1 oz. product with 20 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 chlorine test kit. Repeat entire cleaning/sanitizing process if effluent contains less than 50 ppm available chlorine.

**COARSE SPRAY METHOD:** Pre-clean 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. Prepare a 200 ppm sanitizing solution of sufficient size by thoroughly mixing the product in a ratio of 1 oz. product with 20 gallons of water. Prepare a 600 ppm solution by thoroughly mixing the product in a ratio of 3 oz. product with 20 gallons of water. 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 600 ppm solution with a 200 ppm solution.

**SANITIZATION OF POROUS FOOD CONTACT SURFACES**

**RINSE METHOD:** Prepare a 600 ppm solution by thoroughly mixing 3 oz. of this product with 20 gallons of water. Clean surfaces in the normal manner. Rinse all surfaces thoroughly with the 600 ppm solution, maintaining contact for at least 2 minutes. Prepare a 200 ppm sanitizing solution by thoroughly mixing 1 oz. of this product with 20 gallons of water. 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:** Prepare a 600 ppm solution by thoroughly mixing, in an immersion tank, 3 oz. of this product with 20 gallons of water. Clean equipment in the normal manner. Prepare a 200 ppm sanitizing solution by thoroughly mixing 2 oz. of this product with 10 gallons of water. 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:** Pre-clean all surfaces after use. Prepare a 600 ppm available chlorine sanitizing solution of sufficient size by thoroughly mixing the product in a ratio of 3 oz. product with 20 gallons of water. 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 with 200 ppm available chlorine solution. Prepare a 200 ppm sanitizing solution thoroughly mixing 1 oz. of this product with 20 gallons of water.

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

**RINSE METHOD:** Prepare a sanitizing solution by thoroughly mixing 1 oz. of this product with 20 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.

**IMMERSION METHOD:** Prepare a sanitizing solution by thoroughly mixing, in an immersion tank, 1 oz. of this product with 20 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 use.

**COARSE SPRAY METHOD:** Pre-clean all surfaces after use. Prepare a 200 ppm available chlorine sanitizing solution of sufficient size by thoroughly mixing the product in a ratio of 1 oz. product with 20 gallons of water. 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.

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

**RINSE METHOD:** Prepare a disinfecting solution by thoroughly mixing 3 oz. of this product with 20 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, 3 oz. of this product with 20 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 sanitizer 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 3 oz. of this product with 20 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.

**IMMERSION METHOD:** Prepare a sanitizing solution by thoroughly mixing, in an immersion tank, 3 oz. of this product with 20 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 use.

**COARSE SPRAY METHOD:** After cleaning, sanitize non-food contact surfaces with 600 ppm available chlorine by thoroughly mixing the product in a ratio of 3 oz. of this product with 20 gallons of water. 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.

**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, if 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, 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 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 residual and 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 of contact time.



**SEWAGE & WASTEWATER EFFLUENT TREATMENT**

**EFFLUENT SLIME CONTROL:** Apply a 100 to 1,000 ppm available chlorine solution at a location which will allow complete mixing. Prepare this solution by mixing 2 to 20 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 0.3 oz. of this product with 100 gallons of water.

**FILTER BEDS: SLIME CONTROL:** Remove filter from service, drain to a depth of 1 ft. above filter sand, and add 10 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:** Add this product at the rate of 1 oz. of this product to 6000 gallons of water to be treated using 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 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 100 ppm available chlorine solution using a stiff brush. This solution can be made by thoroughly mixing 1 oz. of this product into 40 gallons of water. 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. This solution can be made by thoroughly mixing 1 oz. of this product into 40 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 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 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 several times.

**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 point of entry into the reservoir. Apply this product at a rate of 10 to 20 ounces per 10,000 gallons of water volume to provide 5 to 10 ppm available chlorine. In irrigation canals or other high stream flow areas, apply at a continuous rate of 4.5 oz. to 9 oz. per minute per 10 cu. ft. per second flow rate until 5 to 10 ppm available chlorine is achieved at the downstream end of the intended treatment section. Not approved for use in the State of New York.

**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. Place 4 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 return to surface.

**NEW FILTER SAND:** Apply 16 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 1 oz. of this product for each 100 gallons of water. 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 must 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. Sanitize by placing 4 oz. of this product for each 5 cubic feet capacity (approximately 500 ppm available chlorine). Fill to working capacity and let stand for at least 4 hours. Drain and place in service. If previous treatment is not practical, surfaces must be sprayed with a solution containing 1 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 1 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.

**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. Not approved for use in the State of New York.

**BASINS, TANKS, FLUMES, ETC.:** Thoroughly clean all equipment, then apply 4 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 1 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.

**FILTERS:** When the sand filter needs replacement, apply 16 oz. of this product for each 150 to 200 cubic feet of sand. When the filter is severely contaminated, additional product must be distributed over the surface at the rate of 16 oz. per 20 sq. ft. 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 backwashed of mud and silt, apply 16 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 a 24 hour retention time. Use a chlorine test kit.

**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.

**EMERGENCY DISINFECTION AFTER DROUGHTS**

**SUPPLEMENTARY WATER SUPPLIES:** Gravity or mechanical hypochlorite feeders must 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.

**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 1 oz. of this product for each 5 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. Not approved for use in the State of California.

**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.

**COOLING TOWER/EVAPORATIVE CONDENSER WATER**

**SLUG FEED METHOD** - Initial dose: When system is noticeably fouled, apply 10 to 20 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 2 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 is begun.

**INTERMITTENT FEED METHOD** - Initial Dose: When system is noticeably fouled, apply 10 to 20 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 blow down.

Subsequent Dose: When microbial control is evident, add 2 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. 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, apply 10 to 20 oz. of this product per 10,000 gallons of water in the system to obtain from 5 to 10 ppm available chlorine.

Subsequent Dose: Maintain this treatment level by starting a continuous feed of 1 oz. of this product per 3,000 gallons of water lost by blow down to maintain a 1 ppm residual. Badly fouled systems must be cleaned before treatment is begun.

**LAUNDRY SANITIZERS: HOUSEHOLD LAUNDRY SANITIZERS**

**IN SOAKING SUDS:** Thoroughly mix 1 Tbs. 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.

**IN WASHING SUDS:** Thoroughly mix 1 Tbs. 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 must be spun dry prior to sanitization. Thoroughly mix 1 oz. of this product with 20 gallons of water to yield 200 ppm available chlorine. Promptly after mixing the sanitizer, add the solution in to the pre-wash 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 the 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 oz. of this product with 20 gallons of water to yield 200 ppm available chlorine. Promptly after mixing the sanitizer, add the solution into the pre-wash 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.

**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. A 1000 ppm solution can be made by thoroughly mixing 2 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 10 to 20 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 2 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 is begun.

**INTERMITTENT FEED METHOD** - Initial Dose: When system is noticeably fouled, apply 10 to 20 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 blow down.

Subsequent Dose: When microbial control is evident, add 2 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. 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, apply 10 to 20 oz. of this product per 10,000 gallons of water in the system to obtain from 5 to 10 ppm available chlorine.

Subsequent Dose: Maintain this treatment level by starting a continuous feed of 1 oz. of this product per 1,000 gallons of water lost by blow down 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 cleaning and prior to storage by spraying with a sanitizing solution at a level of 1 gallon of sanitizing solution per 1 ton of potatoes. Thoroughly mix 1 oz. of this product to 10 gallons of water to obtain 500 ppm available chlorine.

**DISINFECT LEAF CUTTING BEE CELLS AND BEE BOARDS:** Immerse 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 thoroughly mixing ¼ Tsp. of this product to 200 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.

**FRUIT AND VEGETABLE WASHING:** Thoroughly clean all fruits and vegetables in a wash tank. Thoroughly mix 1 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.

**FOOD EGG SANITIZATION:** Thoroughly clean all eggs. Thoroughly mix 1 oz. of this product with 20 gallons of warm water to produce a 200 ppm available chlorine solution. The sanitizer temperature must 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 must not be reused to sanitize eggs.

**SEEDS:** To control bacterial spot (*Xanthomonas vesticatoris*) on Pimento seeds, initially remove moist seeds from ripe fruits. To control surface fungi and bacteria on Tomato seeds initially wash seeds. 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. The solution must be made by mixing 8 oz. of this product with 1 gallon of water.

**MUSHROOMS:** to control bacterial blotch (*Pseudomonas tolaasii*), use a 100 to 200 ppm solution prior to watering mushroom production surfaces. This solution must be made by mixing 0.2 to 0.4 oz. of this product with 10 gallons of water. First application must begin when pins form, and thereafter, between breaks on a need basis depending on the occurrence of bacterial blotch. This product must be applied directly to pins to controls small infection foci. Apply 1.5 to 2.0 oz. per square foot of growing space.

**AQUACULTURE USES**

**FISH PONDS:** Remove fish from ponds prior to treatment. Thoroughly mix 20 oz. of this product into 10,000 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.

**FISH POND EQUIPMENT:** Thoroughly clean all equipment prior to treatment. Thoroughly mix 1 oz. of this product to 20 gallons of water to obtain 200 ppm available chlorine. Porous equipment must soak for one hour.

**MAINE LOBSTER PONDS:** Remove lobsters, seaweed, etc. from ponds prior to treatment. Drain the pond. Thoroughly mix 1,200 oz. of this product to 10,000 gallons of water to obtain at least 600 ppm available chlorine. 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. Not approved for use in the State of California.

**CONDITIONING LIVE OYSTERS:** Thoroughly mix 1 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 the 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 approved for use in the State of California.

**CONTROL OF SCAVENGERS IN FISH HATCHERY PONDS:** Prepare a solution containing 200 ppm of available chlorine by mixing 0.5 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 zero ppm, as determined by a test kit.

**SANITIZATION OF DIALYSIS MACHINES**

Flush equipment thoroughly with water prior to using this product. Thoroughly mix 7 oz. of this product to 60 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 insure that no available chlorine remains in the system.

This product is 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 must 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 for use in hemodialysate or reverse osmosis (RO) membranes. Consult the guidelines for hemodialysates systems available from the Hepatitis Laboratories, CDC, Phoenix, AZ 85021)

**TOILET BOWL SANITIZERS**

These products are marketed as individual packages for placement in the toilet. Therefore, use directions are not appropriate. {Claims are limited to sanitization. No claims for disinfection are permitted}

**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 5,000 ppm available chlorine solution. Mix 1 oz. of this product per gallon of water and brush or spray roof or siding. After 30 minutes, rinse by hosing with clean water.

**BOAT BOTTOMS**

To control slime on boat buttons, 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. Add 35 oz. of this product to this water to obtain a 35ppm 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 zero ppm as determined by a swimming pool test kit.

**ARTIFICIAL SAND BEACHES**

To sanitize sand, spray a 500 ppm available chlorine solution containing 0.1 oz of this product per gallon of water at frequent intervals. Small areas can be sprinkled with a watering can.

**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. The solutions must be fed 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. A regular testing program must be initiated to make sure that the proper chlorine residuals are present at all times. To make a 1% solution, mix 10 oz of this product into 5 gallons of water.

**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. The solution must be fed 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, mix 10 oz. of this product into 5 gallons of water.

**POULTRY DRINKING WATER:** Spray or flush with a solution containing 1 oz. of this product for every gallon of water. Treat poultry drinking water to a dosage of 1 to 5 oz. of this product per 5,000 gallons of water. Not approved for use in the State of California.

**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. 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:** Prepare a 1,000 ppm available chlorine soaking solution by adding 1 oz. of this product for each 5 gallons of water to obtain a 1,000 ppm available chlorine content. 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% sulfuric acid bath at 80 to 90°F for 1 minute. Transfer to a solution containing 100 oz. of this product for each 100 gallons of water (5,000 ppm). 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.

**CONTROL OF BACTERIA, ALGAE, SLIME BUILD-UP AND CLOGGING IN SPECIFIED IRRIGATION SYSTEMS:**

This product is mixed with water to product a chlorine solution. Always add this product to water, never add water to this product. To product a 0.5% available chlorine solution, add 1.0 dry oz. of this product to one (1) gallon of water. This solution is fed by gravity or a metering pump to the irrigation system water to achieve the desired available chlorine strength in the water. The Application Rates section provides the levels of free residual chlorine needed to prevent or address bio-fouling occurring in drip, trickle irrigation systems. When utilizing a metering pump, refer to the instruction manual for varying the output of the pump. This product is to be applied through drip/trickle and sprinkler irrigation systems only for agricultural crops only 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 is necessary. The level of free residual 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 chlorine (also called "free residual" or "free available" chlorine)."

Periodic shock treatments at a higher available chlorine rate of up to 20 ppm free residual is 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 available chlorine, is for reclaiming low-volume irrigation systems if clogged by algae and bacterial slimes. Set the metering pump to deliver 100 ppm in the drip system and monitor the free chlorine residual at the end of the farthest lateral. As soon as it is established that the free residual reading is between 10-20 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 chlorine concentration (ppm) at the end of the treated increment in the field and adjust the dose setting until the desired free chlorine concentration is obtained. This is because contaminants in the water consume available chlorine resulting in a concentration that is less than the concentration desired as specific above. Only experience can establish the actual metering pump settings required to provide the amount of free 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 1-2 ppm free chlorine.

**GENERAL APPLICATION INSTRUCTIONS**

Chlorination must be started during irrigation, near the end of the irrigation sequence, but early enough to establish the desired free chlorine concentration throughout the system being treated.

Apply this product upstream of the filter to help keep filter clean.

Determine the level of free chlorine as described above, using a free 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 available chlorine and 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 metering pump use instructions as needed.

**SUPPLEMENTAL LABELING FOR AGRICULTURAL USE**

"Agricultural Use Requirements: Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. Refer to supplemental labeling under "Agricultural Use Requirements" in the Directions for use section for information about this standard."

**DIRECTIONS FOR USE:** It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers must be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulations.

**AGRICULTURAL USE REQUIREMENTS**

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

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours. PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water is:

- Coveralls over long-sleeved shirt and long pants
- Waterproof gloves
- Chemical-resistant footwear plus socks
- Protective eyewear
- Chemical-resistant headgear for overhead exposure

**Precautionary Statement: Hazards to Humans and Domestic Animals: Danger. PELIGRO. Highly Corrosive.** Causes irreversible eye damage. Do not get in eyes or on clothing. May be fatal if swallowed. Wear rubber gloves and protective eyewear such as goggles, face shield, or safety glasses. Do not breathe dust and fumes. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse. Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

Personal Protective Equipment: Mixers and Loaders of the concentrate product must wear:

- Coveralls over long-sleeved shirt and long pants
- Waterproof gloves
- Chemical-resistant footwear plus socks
- Protective eyewear
- Chemical-resistant headgear for overhead exposure
- Chemical-resistant apron when cleaning equipment, mixing or loading
- Dust/mist filtering respirator (MSHA/NIOSH...D/M approval # prefix TC-21C).

Applicators and other handlers of the diluted (100 – 200 ppm Solution) must wear:

- Coveralls over long-sleeved shirt and long pants
- Waterproof gloves
- Chemical-resistant footwear plus socks
- Protective eyewear
- Chemical-resistant headgear for overhead exposure

Follow manufacturer’s instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product’s concentrate.

**MUSHROOMS:** To control bacterial blotch, use a 100 to 200 ppm solution prior to watering mushroom surfaces. This solution must be made by mixing 0.2 to 0.4 oz. of this product with 10 gallons of water. First application must begin when pins form, and thereafter, between breaks on a need basis depending on the occurrence of bacterial blotch. This product must be applied directly to pins to controls small infection foci. Apply 1.5 to 2.0 oz. per square foot of growing space.

**FOR USE ON SEEDS FOR SPROUTING AS FOOD FOR HUMAN CONSUMPTION**

While this treatment reduces populations of (food poisoning) on seeds intended for sprout production, it must not eliminate these organisms on the seeds. Additionally, treatment must not reduce or eliminate these organisms on the final sprouts. In addition to these direction, follow the Food & Drug Administration “Guidance for Industry: Reducing Microbial Food Safety Hazards for Sprouted Seeds” and “Guidance for Industry: Sampling and Microbial Testing of Spent Irrigation Water During Sprout Production.”

**Dosage: Preparation of Calcium Hypochlorite Solution**

In a well-ventilated area, prepare a 2% (20,000 ppm available chlorine) solution by dissolving 4.1 oz. of product that contains 65% available chlorine into 1 gallon of potable water (see table below for preparing various amount of treatment solution).

Available Chlorine	Gallons of water						
	ppm	1	5	15	30	50	100
2.0	20,000	4.1 oz	1 lb 5 oz	3 lbs 13 oz	7 lbs 11 oz	12 lbs 13 oz	25 lbs 10 oz

**Frequency/Timing of Application:**

Pre-wash seeds with potable water for at least 5 minutes. Treat pre-washed seeds once by soaking 5 pounds of seeds in 1 gallon of 2% (20,000 ppm available chlorine) calcium hypochlorite solution for 15 minutes at room temperature with continuous agitation. After treatment, drain solution and rinse treated seeds thoroughly with potable water for 10 minutes (changing the water several times, as necessary). Prepare fresh solution for each batch of seeds.

**Restricted Entry Interval (REI): 12 Hours**

The US EPA has determined that the REI applies when the calcium hypochlorite is sprayed on the benches or areas around the soaking containers. Note: The REI is not applicable when the disinfectant is applied directly to the raw commodity (seeds) by soaking in a container/bin. There are no re-entry interval concerns when treating pests in this manner (soaking).

**WARRANTY STATEMENT: Buyer assumes all responsibility for safety and use not in accordance with directions.**

{End of Collateral Booklet}