



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

May 14, 2021

Cristina Griffin  
Agent, Bio-Lab, Inc.  
c/o Delta Analytical Corp.  
12510 Prosperity Drive, Suite 160  
Silver Spring, MD 20904

Subject: Label and CSF Amendment – Label amendment to correct ingredient percentage, add claims, add alternate directions, and make other minor changes  
Product Name: BioGuard Master Calcium Hypochlorite  
EPA Registration Number: 5185-238  
Application Date: 07/23/2020  
Decision Number: 569072

Dear Ms. Griffin:

The amended label referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act, as amended, is acceptable. This approval does not affect any conditions that were previously imposed on this registration. You continue to be subject to existing conditions on your registration and any deadlines connected with them.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. In accordance with 40 CFR 152.130(c), you may distribute or sell this product under the previously approved labeling for 18 months from the date of this letter. After 18 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR 152.3.

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

Your release for shipment of the product constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance

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with FIFRA section 6. If you have any questions, please contact Jack Hall by phone at 703-347-8647, or via email at [hall.john.j@epa.gov](mailto:hall.john.j@epa.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "D. Fuller", with a long horizontal stroke extending to the right.

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

Enclosure

*{All text in brackets [xxx] is optional and may or may not be included on a final label.}*

*{All text in braces {xxx} is administrative and will not appear on a final label.}*

BIOGUARD  
MASTER CALCIUM HYPOCHLORITE

ACTIVE INGREDIENT:  
Calcium Hypochlorite 68.0%  
OTHER INGREDIENTS: 32.0%  
TOTAL 100.0%  
Minimum 65% Available Chlorine

**KEEP OUT OF REACH OF CHILDREN**  
**DANGER**

**Do not mix with any other chemicals, including any other pool chemicals of any kind.**  
**Mixing with other chemicals could cause a fire or explosion.**  
**Always add product to large quantities of water to fully dissolve product.**  
**Do not pour water into product, always add product to water.**

See [back] [side] panel for additional precautionary statements.

**FIRST AID: IF IN EYES:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice. **IF ON SKIN OR CLOTHING:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. **IF 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. **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 the poison control center or doctor. Do not give anything by mouth to an unconscious person.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. [IN CASE OF MEDICAL EMERGENCY, CALL [1-303-623-5716] [1-877-800-5553] [telephone number supplied by supplemental registrant].]

**Note to Physician:** Probable mucosal damage may contraindicate the use of gastric lavage.

BIOLAB, INC.  
PO BOX 300002  
LAWRENCEVILLE, GEORGIA 30049

EPA Reg. No. 5185-238  
EPA Est. No. 5185-GA-1<sup>(Z)</sup>, 52270-GA-1<sup>(YY)</sup>

Letter designation in lot code printed above or below on container identifies actual establishment.

NET CONTENTS:

*{Optional marketing statements that may be used with swimming pool superchlorination.}*

[For periodic superchlorination]

[Superchlorinator for swimming pools]

[Step 2] *{Superchlorinators are marketed as step two of a three step program to treat swimming pool water.}*

[Pre-measured granular chlorinating shock] [The claim “Pre-measured granular chlorinating shock” will only be used on the label when the product is sold as a shock treatment in one pound bags made of child resistant film.]

[IDEAL FOR WHITE PLASTER POOLS. Pre-dissolve for other pool types.]

[Destroys organic contaminants during shock treatment]

[Do Not Mix With Other Products]

[Restores a crystal clarity to pool water]

[Shock Treatment]

[Calcium hypochlorite granules for swimming pools]

[Restores sparkle and clarity to pool water]

[Buffered sanitizer, oxidizer]

[Does not contain stabilizer]

[NOT FOR RETAIL SALE]

[Bactericide]

[Algaecide]

[Kills Bacteria]

[Controls Algae]

[Algaecide]

[Does not lower pH or destroy total alkalinity.]

*{Optional marketing statements that may be used with swimming pool sanitization.}*

[Disinfectant & sanitizer for the treatment of swimming pool waters]

[Chlorinating granular for multi-purpose use]

[IDEAL FOR WHITE PLASTER POOLS. Pre-dissolve for other pool types.]

[Kills bacteria]

[Do Not Mix With Other Products]

[Controls algae]

[For Multi-Purpose Use]

[Disinfectant]

[Sanitizer]

[Restores a crystal clarity to pool water]

[Shock Treatment]

[Calcium hypochlorite granules for swimming pools]

[Restores sparkle and clarity to pool water]

[Buffered sanitizer, oxidizer]

[Does not contain stabilizer]

[NOT FOR RETAIL SALE]

[Bactericide]

[Algaecide]

[Kills Bacteria]

[Controls Algae]

[Algaecide]

[Does not lower pH or destroy total alkalinity.]

*{Optional marketing statements that may be used with winter swimming pool treatment.}*

[Restores a crystal clarity to pool water]

[Kills bacteria]

[Controls algae]

[Winter Shock Treatment]

*{Optional marketing statements that may be used with spa and hot tub treatment.}*

[For Spas and Hot Tubs]

[Restores inviting sparkle]

[Destroys organic contaminants during shock treatment]

[Restores a crystal clarity to spa water]

[Kills bacteria]

[Controls algae]

*{Optional marketing statements that may be used with any of the industrial and institutional applications.}*

[Kills bacteria]

[Controls algae]

*{Directions for use on this label are divided into two sections on this label (a) recreational water treatment and (b) industrial and institutional applications.}*

*{The following sets of directions are for recreational water treatment.}*

*{Directions to be used for swimming pool superchlorination, Option A.}*

## **FOR SWIMMING POOL SUPERCHLORINATION**

This product restores water sparkle and comfort by destroying harmful bacteria and non-filterable swimmer wastes such as perspiration and suntan oils. These wastes can cause cloudy, dull water, eye irritation and strong odors. Regular use of this product destroys bacteria and swimmer wastes maintaining sparkling, clean, clear water. It may be used in pools sanitized with chlorinating or brominating products

### **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 directions.

Ensure all pool equipment is working properly. Backwash the filter system following manufacturer's directions. Adjust pH to between 7.2-7.6. In chlorinated pools, add stabilizer to establish a minimum stabilizer level of 30-40 ppm to reduce the degradative effects of sunlight upon the chlorine residual. Do not add stabilizer to bromine treated pools. Before using this product check for metals and if present, add a stain and scale inhibitor to prevent staining of pool surface due to metals. When using other products as outlined in the directions for this product, always follow directions on those products.

### **Application Methods**

With the pool pump in operation, broadcast the product evenly into the deep end of the pool. In potentially bleachable surface pools such as vinyl, paint, fiberglass, or colored plaster, brush the pool after application to ensure dissolving of the product's active ingredient. **NEVER ALLOW UNDISSOLVED PRODUCT TO REST IN CONTACT WITH BLEACHABLE POOL SURFACES.** An alternate application procedure is to predissolve this product prior to applying evenly into the deep end of the pool. Dissolve this product outdoors, in a clean plastic bucket stirring with a clean plastic or wooden spoon. Add this product to water; **NEVER** add water to product. **NEVER** add more than 1 pound of this product to less than 3 gallons of cool water.

### **Product Application**

Apply this product at a rate of 1 pound (see Application Methods) per 10,000 gallons of water every other week (alternatively 1 pound per 20,000 gallons every week) into the deep end of the pool when the pool is not in use (preferably at night). Reapply after heavy rain showers or following heavy bather loads.

**Reentry into treated swimming pool is prohibited above levels of 4 ppm chlorine [(or 8 ppm bromine if a brominated product is the primary sanitizer)] due to risk of bodily injury.**

*{Directions to be used for swimming pool superchlorination, Option B}*

## **FOR SWIMMING POOL SUPERCHLORINATION**

Water sparkle and swimmer comfort is restored when harmful bacteria and non-filterable swimmer wastes such as perspiration and suntan oils are destroyed. Swimmer wastes can cause dull cloudy water, strong chlorine-like smells, plus skin and eye irritation. Bacteria and these swimmer wastes are destroyed by regular application of this product to maintain a clear, clean pool. This product may be used in pools using either chlorinating or brominating products.

### **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 directions.

Check all pool equipment and be sure it is working properly.

First, backwash the filter following manufacturer's directions.

Next, test pH and adjust to between 7.2-7.6

Third, if this is a chlorinated pool, add stabilizer to establish a minimum of 30 ppm stabilizer in the pool. This will help to prevent sunlight from destroying the chlorine residual in the pool. NOTE: Do not add stabilizer to brominated pools.

Finally, prior to use of this product, test pool water for the presence of metals. If any metals are present, add a stain inhibiting product to prevent the deposition of metal stains on pool surfaces.

When using other products as outlined in the directions for this product, always follow label directions of those products.

### **Application Methods**

1. Be sure pool pump is operating.
2. Broadcast the appropriate dosage of this product across the surface of the pool in the deep end of the pool.

NOTE: IN POOLS WITH POTENTIALLY BLEACHABLE SURFACES, SUCH AS VINYL, PAINT, FIBERGLASS OR COLORED PLASTER, USE A POOL BRUSH FOLLOWING APPLICATION. BRUSH THE SURFACES TO ENSURE DISSOLVING OF THE ACTIVE INGREDIENT. NEVER ALLOW UNDISSOLVED PRODUCT TO REST IN CONTACT WITH BLEACHABLE POOL SURFACES.

### **ALTERNATE APPLICATION METHOD:**

1. Be sure pool pump is operating.
2. Predissolve this product and pour the resulting solution into the deep end of the pool.

NOTE: DISSOLVE THIS PRODUCT OUTDOORS. USE A CLEAN PLASTIC BUCKET AND PLACE WATER INTO THE BUCKET. THEN ADD PRODUCT TO WATER IN BUCKET. USE A CLEAN PLASTIC OR WOODEN SPOON TO STIR. NEVER ADD MORE THAN 1 POUND OF THIS PRODUCT TO LESS THAN 3 GALLONS OF COOL WATER.

### **Product Application**

This product should be used at a rate of 1 pound per 10,000 gallons of water at a frequency of every other week. An alternative is to use 1 pound per 20,000 gallons of water at a frequency of every week. Product should always be applied at the deep end of the pool when the pool is not in use (preferably at night). Following heavy rain showers or heavy bather loads, reapply.

To determine how long to wait before using the pool after application of this product, it is necessary to test the chlorine (or bromine) residual. Swimming may resume when the chlorine residual is between 1 and 4 ppm or the bromine residual is between 2 and 8 ppm, if a brominated product is the primary sanitizer.

**Reentry into treated swimming pool is prohibited above levels of 4 ppm chlorine [(or 8 ppm bromine if a brominated product is the primary sanitizer)] due to risk of bodily injury.**

*{Directions to be used for swimming pool sanitization, Option A.}*

## **SWIMMING POOL SANITIZER**

When used as directed, this product will control the growth of algae and bacteria.

### **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 directions.

Ensure all pool equipment is working properly. Backwash the filter system following manufacturer's directions. Adjust pH to between 7.2-7.6. Add stabilizer to establish a minimum stabilizer level of 30-40 ppm to reduce the degradative effects of sunlight upon the chlorine residual. Check for metals before using this product and if present, add a stain and scale inhibitor to prevent staining of pool surface due to metals. When using other products as outlined in the directions for this product, always follow directions on those products.

### **Application Methods**

With the pool pump in operation, broadcast the product evenly into the deep end of the pool. In potentially bleachable surface pools such as vinyl, paint, fiberglass, or colored plaster, brush the pool after application to ensure dissolving of the product's active ingredient. **NEVER ALLOW UNDISSOLVED PRODUCT TO REST IN CONTACT WITH BLEACHABLE POOL SURFACES.** An alternate application procedure is to predissolve this product prior to applying the solution evenly into the deep end of the pool. Dissolve this product outdoors, in a clean plastic bucket stirring with a clean plastic or wooden spoon. Add this product to water; **NEVER** add water to product. **NEVER** add more than 1 pound of this product to less than 3 gallons of cool water.

**INITIAL CHLORINATION:** When starting a new pool or opening a pool at the beginning of the swimming season, add 1 oz. (see Application Methods) of this product for each 1,000 gallons of water directly into the pool in the deep end of the pool. Check chlorine or bromine residual with a test kit or test strips. If this residual is below 1 ppm, repeat this dosage until a chlorine (or bromine), residual is 1-4 ppm (when read as chlorine).

**REGULAR USE DOSAGE:** Subsequently, add 4-6 oz. (see Application Methods) of this product per 10,000 gallons directly into the water in the deep end of the pool, daily, or as often as needed as determined by the use of a test kit or test strips to maintain a chlorine residual of 1-4 ppm.

After use of this product add [a quaternary or polyquaternary type] algicide to provide additional algae control.

**SUPERCHLORINATION:** When algae are seen, add 1 lb. (see Application Methods) per 10,000 gallons of water into the deep end of the pool preferably at night when pool is not in use. Repeat treatment if necessary.

**Reentry into treated swimming pool is prohibited above levels of 4 ppm chlorine due to risk of bodily injury.**



*{Directions to be used for swimming pool sanitization, Option B.}*

## **SWIMMING POOL SANITIZER**

When used as directed, this product will control the growth of algae and bacteria.

### **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 directions.

Check all pool equipment and be sure it is working properly.

First, backwash the filter following manufacturer's directions.

Next, test pH and adjust to between 7.2-7.6

Third, add stabilizer to establish a minimum of 30 ppm stabilizer in the pool. This will help to prevent sunlight from destroying the chlorine residual in the pool.

Finally, prior to use of this product, test pool water for the presence of metals. If any metals are present, add a stain inhibiting product to prevent the deposition of metal stains on pool surfaces.

When using other products as outlined in the directions for this product, always follow label directions of those products.

### **Application Methods**

1. Be sure pool pump is operating.
2. Broadcast the appropriate dosage of this product across the surface of the pool in the deep end of the pool.

**NOTE: IN POOLS WITH POTENTIALLY BLEACHABLE SURFACES, SUCH AS VINYL, PAINT, FIBERGLASS OR COLORED PLASTER, USE A POOL BRUSH FOLLOWING APPLICATION. BRUSH THE SURFACES TO ENSURE DISSOLVING OF THE ACTIVE INGREDIENT. NEVER ALLOW UNDISSOLVED PRODUCT TO REST IN CONTACT WITH BLEACHABLE POOL SURFACES.**

### **ALTERNATE APPLICATION METHOD:**

1. Be sure pool pump is operating.
2. Predissolve this product and pour the resulting solution into the deep end of the pool.

**NOTE: DISSOLVE THIS PRODUCT OUTDOORS. USE A CLEAN PLASTIC BUCKET AND PLACE WATER INTO THE BUCKET. THEN ADD PRODUCT TO WATER IN BUCKET. USE A CLEAN PLASTIC OR WOODEN SPOON TO STIR. NEVER ADD MORE THAN 1 POUND OF THIS PRODUCT TO LESS THAN 3 GALLONS OF COOL WATER.**

### **INITIAL CHLORINATION:**

To start a new pool or open a pool at the beginning of the swimming season.

1. Be sure pool pump is operating.
2. Add 1 oz. of this product for each 1,000 gallons of water. Follow Application Methods above. Be sure to add product into deep end of the pool.
3. Wait for ½ hour, then check the chlorine residual with a test kit or test strips.
4. If the chlorine or bromine residual is less than 1 ppm, repeat steps 2 and 3 until a chlorine residual is 1-4 ppm.

### **REGULAR USE DOSAGE:**

1. Be sure pool pump is operating.
2. Check the chlorine residual frequently and add product as often as needed to maintain a chlorine residual of 1-4 ppm.
3. Each time product is added, use 4 –6 oz of this product per 10,000 gallons of water. Follow the Application Methods above. Be sure to add product into deep end of pool.

After use of this product add [a quaternary or polyquaternary type] algicide to provide additional algae control.

**SUPERCHLORINATION:**

If you experience visible algae in your pool, follow the Application Methods above.

1. Be sure pool pump is operating.
2. Add 1 lb. of this product per 10,000 gallons. Always add product into deep end of the pool when the pool is not in use (preferably at night).
3. If necessary, repeat treatment.

**Reentry into treated swimming pool is prohibited above levels of 4 ppm chlorine due to risk of bodily injury.**

*{Directions to be used for swimming pool sanitization, Option C.}*

### **Directions for Use**

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

### **SWIMMING POOL**

This calcium hypochlorite product is a dry granular free flowing material that contains a minimum of 65% available chlorine. It provides a rapid source of a chlorine-containing disinfectant that protects the pool against the growth of bacteria and algae to help keep the pool in a sanitary condition.

Pool water is subject to a build-up of a wide variety of organic contaminants including swimmer wastes, such as perspiration, ammonia compounds, and natural and synthetic oils and lotions. If left untreated, the build-up of these contaminants can lead to the development of noxious odors, irritating water, and unsightly water clarity problems. These organic wastes serve as nutrients for bacteria, algae, and other organisms, and should be removed from the pool on a regular basis to prevent their build up. This product will effectively reduce organic contamination in swimming pool water resulting in increased water clarity.

### **USE DIRECTIONS:**

For any application method you choose: No one can be in the pool when chemicals are being added directly to the pool. **Do not mix this product with other chemicals, including any other pool chemicals of any kind, such as other disinfection or “shock” products. Mixing could cause a fire or explosion. Always add this product into large quantities of water to fully dissolve. Never add water into product.** Make sure to keep the pump and filter running during application and for at least 6 to 8 hours after application to allow for the best product dispersion. For best results, test your pool water prior to addition of this product and maintain pool water parameters in the ranges noted below.

This product will raise the pH of pool water. For best results, test your pool water prior to addition of this product. If your pH measures 7.4 or higher, adjust it downward so that it is between 7.2 to 7.4. This will help avoid clouding of water and allow for faster dispersion of the product.

### **APPLICATION METHOD:**

This product can be added by broadcasting the dry granules over the pool water surface at the deepest end of the pool while the pump is running. Should any granules settle at the bottom of the pool, use a pool brush to disperse them. Take care to not tear the liner in above ground pools (or any pool with a liner) while brushing.

This product can be directly added into the skimmer while the pump is running. Make sure that all other chemicals or debris have been removed from the skimmer before adding product.

### **HOW TO APPLY TO POOLS:**

**REMINDER: Never add water to product. Always add product to large quantities of water to fully dissolve.** Maintain operation of your pump and filter. Treatment should be done at night or during a period when the pool is not in use.

**Opening Pool/Initial Chlorination:** Begin operation of your recirculation equipment. Balance the water by making certain the pool water parameters for pH, total alkalinity and water hardness are in their proper ranges, provided in Table 1. Follow “Shock Treatment/Superchlorination” application directions to superchlorinate the pool. Allow 30 minutes for the product to disperse, then determine the free chlorine residual using a pool test kit. If no residual is found, superchlorinate again. Repeat treatment, as needed, until the chlorine residual is 1.0 ppm. If a stabilizer is used, check and adjust stabilizer to proper level (10-20 ppm). Do not enter the water until the free chlorine residual is 4.0 ppm or less. Wait at least 4 hours, preferably overnight; then vacuum the pool bottom. Begin routine chlorination.

**Routine Chlorination:** The pH, total alkalinity, water hardness, and stabilizer concentration should be maintained at values recommended in Table 1 under “Regular Treatment for Pools in Use.” Actual dosages of this product required to maintain the desired free chlorine residual will vary with sunlight, water temperature, bathing load, stabilizer concentration, water balance, and other factors. Use a test kit frequently to determine and maintain the proper free chlorine residual. Do not enter the pool until the free chlorine residual has dropped to 4.0 ppm or less as measured using your test kit.

Add 3 - 4 ounces of this product (1 - 2 ounces in stabilized pools) per 5,000 gallons of water daily or as often as needed to maintain the desired free chlorine residual whether the pool is in use or not.

For small changes in free chlorine residual once a free chlorine residual is detected, the addition of 1 ounce of this product to 5,000 gallons of water will raise the free chlorine residual approximately 1.0 ppm.

**Shock Treatment / Superchlorination:** Adjust pH between 7.2 and 7.4 prior to shocking or superchlorination. Add this product at night or when the pool is not in use. To prevent pool water problems, shock at least once per week during periods of heavy use or when water temperatures are above 80°F and once every two weeks in residential pools receiving normal usage. Maintain operation of the pump and filter. Do not enter the pool until the free chlorine residual has dropped to 4.0 ppm or less as measured using a suitable test kit. Between treatments with this product, continue to maintain the proper water balance and sanitizer level in your pool as recommended on the label of your normal pool sanitizer.

Add 10 ounces of this product to every 5,000 gallons of water to yield 5-10 ppm available chlorine.

**ADDITIONAL INFORMATION FOR SWIMMING POOL CARE:**

Regular Treatment for Pools in Use: Maintain pool water parameters in the ranges in Table 1 or at levels required by local regulations. This product will raise the pH of pool water. If your pH measures 7.4 or higher, adjust it downward to between 7.2 to 7.4. This will help avoid clouding of water and allow for faster dispersion of the product. Obtain and make use of a pool test kit to measure pH, free chlorine residual, total alkalinity, water hardness, and cyanuric acid concentration.

**Table 1. Parameters for Water in Pools**

Parameter	Test Frequency	Level
pH	Daily	7.2 to 7.4
Free Chlorine Residual	Daily	1 to 3 ppm in unstabilized pools. 2 to 4 ppm minimum in stabilized pools.
Total Alkalinity as CaCO <sub>3</sub>	Weekly	80-100 ppm
Stabilizer (Cyanuric Acid)	Monthly	10-20 ppm
Water Hardness as CaCO <sub>3</sub>	Monthly	200 ppm minimum

*[NOTE TO EPA: For smaller packages, the following statement in paragraph form can be used instead of the above paragraph and table]*

Regular Treatment for Pools in Use: Maintain pool water parameters as follows: adjust pH to 7.2-7.4, free chlorine residual 1-4 ppm, total alkalinity 80-100ppm, stabilizer 10-20ppm, and water hardness at 200 ppm minimum. Obtain and make use of a pool test kit to measure the levels.

*{Directions to be used for winter swimming pool treatment, Option A.}*

## **WINTER SWIMMING POOL TREATMENT**

### **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 directions.

### **Application Methods**

With the pool pump in operation, broadcast the product evenly into the deep end of the pool. In potentially bleachable surface pools such as vinyl, paint, fiberglass, or colored plaster, brush the pool after application to ensure dissolving of the product's active ingredient. **NEVER ALLOW UNDISSOLVED PRODUCT TO REST IN CONTACT WITH BLEACHABLE POOL SURFACES.** An alternate application procedure is to predissolve this product prior to applying the solution evenly into the deep end of the pool. Dissolve this product outdoors, in a clean plastic bucket stirring with a clean plastic or wooden spoon. Add this product to water; **NEVER** add water to product. **NEVER** add more than 1 pound of this product to less than 3 gallons of cool water.

### **Product Application**

While water is still clear & clean, apply 6 oz. of product per 10,000 gallons (see Application Methods), while filter is running, to obtain a 4 ppm available chlorine residual, as determined by a suitable test kit. Cover pool, prepare heater, filter and heater components for winter by following manufacturers' instructions.

**Reentry into treated swimming pool is prohibited above levels of 4 ppm chlorine due to risk of bodily injury.**

*{Directions to be used for winter swimming pool treatment, Option B.}*

## **WINTER SWIMMING POOL TREATMENT**

### **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 directions.

### **Application Methods**

1. Be sure pool pump is operating.
2. Broadcast the appropriate dosage of this product across the surface of the pool in the deep end of the pool.

**NOTE: IN POOLS WITH POTENTIALLY BLEACHABLE SURFACES, SUCH AS VINYL, PAINT, FIBERGLASS OR COLORED PLASTER, USE A POOL BRUSH FOLLOWING APPLICATION. BRUSH THE SURFACES TO ENSURE DISSOLVING OF THE ACTIVE INGREDIENT. NEVER ALLOW UNDISSOLVED PRODUCT TO REST IN CONTACT WITH BLEACHABLE POOL SURFACES.**

### **ALTERNATE APPLICATION METHOD:**

1. Be sure pool pump is operating.
2. Predissolve this product and pour the resulting solution into the deep end of the pool.

**NOTE: DISSOLVE THIS PRODUCT OUTDOORS. USE A CLEAN PLASTIC BUCKET AND PLACE WATER INTO THE BUCKET. THEN ADD PRODUCT TO WATER IN BUCKET. USE A CLEAN PLASTIC OR WOODEN SPOON TO STIR. NEVER ADD MORE THAN 1 POUND OF THIS PRODUCT TO LESS THAN 3 GALLONS OF COOL WATER.**

### **Product Application**

Begin application while water is still clear and clean.

1. Be sure pool pump is operating.
2. Apply 6 oz. of product for each 10,000 gallons of pool water.
3. Allow pool to circulate for 1 hour following application.
4. Test available chlorine residual.
5. If chlorine residual is 4 ppm or more, proceed to step 6. If less than 4 ppm, repeat steps 1 – 5.
6. Follow manufacturer's instructions for winterization of pool and pool equipment.

**Reentry into treated swimming pool is prohibited above levels of 4 ppm chlorine due to risk of bodily injury.**

*{Directions to be used for spa and hot tub treatment, Option A.}*

## **SPA & HOT TUB TREATMENT**

### **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 directions.

Apply 0.5 oz. of product per 500 gallons of water to obtain a free available chlorine concentration of 5 ppm, as determined by a suitable test kit or test strips. Adjust and maintain pool water pH to between 7.2 and 7.6. Some oils, lotions, fragrances, cleaners, etc. may cause temporary foaming or cloudy water as well as reduce the efficiency of the product.

To maintain the water, apply 0.5 oz. of product per 500 gallons of water over the surface to maintain a chlorine concentration of 3-5 ppm.

After each use, shock treat with 1.5 oz. of this product per 500 gallons of water to control odor and algae.

During extended periods of disuse, add 1.5 oz. of product daily per 500 gallons of water to maintain a 3 ppm chlorine concentration.

**Reentry into treated spa/hot tub is prohibited above levels of 5 ppm chlorine due to risk of bodily injury.**

*{Directions to be used for spa and hot tub treatment, Option B.}*

## **SPA & HOT TUB TREATMENT**

### **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 directions.

1. Be sure circulation pump is operating.
2. Apply 0.5 oz. of product for each 500 gallons of water.
3. Allow pump to operate for 10 minutes.
4. Test free available chlorine residual.
5. If chlorine residual is less than 3 ppm, repeat steps 1-5. If the chlorine residual is at least 3 ppm but no more than 5 ppm, proceed to step 6.
6. Test the pH of the water and adjust as necessary to maintain a pH of 7.2 – 7.6.
7. The spa may now be used.

To maintain the water:

1. Be sure circulation pump is operating.
2. Apply 0.5 oz. of product for each 500 gallons of water.
3. Allow pump to operate for 10 minutes.
4. Test free available chlorine residual.
5. If chlorine residual is less than 3 ppm, repeat steps 1-5. If the chlorine residual is at least 3 ppm but no more than 5 ppm, proceed to step 6.
6. Test the pH of the water and adjust as necessary to maintain a pH of 7.2 – 7.6.

To control odor and algae, after each use:

1. Be sure the circulation pump is operating.
2. Shock treat spa by applying 1.5 oz of product for each 500 gallons of water.
3. Allow pump to operate for at least 10 minutes following application of product.

During extended periods of disuse:

1. Be sure the circulation pump is operating.
2. At least once each week, apply 1.5 oz of product for each 500 gallons of water.
3. Allow pump to operate for at least 10 minutes following product application.

**Reentry into treated spa/hot tub is prohibited above levels of 5 ppm chlorine due to risk of bodily injury.**



*{The following directions are for use on industrial and institutional products. One or more use patterns may appear on a single end use label.}*

*{This Directions for Use statement will be used when directions for industrial and institutional uses appear on the label.}*

#### **DIRECTIONS FOR USE:**

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

#### **HUBBARD AND IMMERSION TANKS**

##### **Product Application**

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.

#### **HYDROTHERAPY TANKS**

##### **Product Application**

Add 1 oz. of this product per 1,000 gallons of water to obtain a chlorine residual of 1 ppm, as determined by a suitable chlorine test kit. Pool should not be entered until the chlorine residual is below 3 ppm. Adjust and maintain the water pH to between 7.2 and 7.6. Operate pool filter continuously. Drain pool weekly, and clean before refilling.

#### **RECIRCULATING COOLING WATER SYSTEMS**

When used as directed, this product effectively controls algal, bacterial, and fungal slime in commercial and industrial cooling towers.

##### **Product Application**

Treatment of Algal or Bacterial Slime: With tower operating, but with bleed value cut off, add directly to the sump 2 to 4 ounces of this product per 1,000 gallons of water in the system. Wait 10 minutes and measure available chlorine residual. If less than 3 ppm, repeat treatment. Repeat this process until the tower has achieved the desired state of cleanliness. Then, discontinue the treatment and let the chlorine residual drop below 1.0 ppm. Clean sump and screens. If necessary, drain the water from the system and replace it with fresh water. Open blow-down valve and return system to normal operation.

Superchlorination of Systems Receiving Continuous Chlorination: Recirculating cooling systems on continuous chlorination at low chlorine levels may function better if they are periodically superchlorinated to remove chloramines and other organic wastes that are not removed by low level chlorination. Superchlorination with this product is recommended at least once a month. More frequent treatment may be desirable in towers subject to higher levels of organic contamination. With the tower operating, but with blow-down valve closed, add 2 ounces of this product per each 1,000 gallons of water in the system. Wait 2 hours and measure residual. When chlorine residual is 1.0 ppm or less, open blow-down valve and resume normal operation.

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

### **Product Application**

**RINSE METHOD** - A solution of 100 ppm available chlorine may be used in the sanitizing solution if a chlorine test kit is available. Solutions containing an initial concentration of 100 ppm available chlorine must be tested and adjusted periodically to insure that the available chlorine does not drop below 50 ppm. 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 may be used for general cleaning but may not be re-used for sanitizing purposes.

**IMMERSION METHOD** - A solution of 100 ppm available chlorine may be used in the sanitizing solution if a chlorine test kit is available. Solutions containing an initial concentration of 100 ppm available chlorine must be tested and adjusted periodically to insure that the available chlorine does not drop below 50 ppm. 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.

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

**FLOW/PRESSURE METHOD** - Disassemble equipment and thoroughly clean after use. Assemble equipment in operating position prior to use. Prepare a volume of a 200 ppm available chlorine sanitizing solution equal to 110% of volume capacity of the equipment 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 insure contact with all internal surfaces. Remove some cleaning solution from drain valve and test with a chlorine test kit. Repeat entire cleaning/sanitizing process if effluent contains less than 50 ppm available chlorine.

**CLEAN-IN-PLACE METHOD** - Thoroughly clean equipment after use. Prepare a volume of a 200 ppm available chlorine sanitizing solution equal to 110% of volume capacity of the equipment 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 10 minutes to insure contact with all internal surfaces. Remove some cleaning solution from drain valve and test with a chlorine test kit. Repeat entire cleaning/sanitizing process if effluent contains less than 50 ppm available chlorine.

This product may be applied only by the methods specified on the labeling.

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

### **Product Application**

**RINSE METHOD** - 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. Prepare a 200 ppm sanitizing solution by thoroughly mixing 1 oz. of this product with 20 gallons of water. Prior to using the equipment, rinse all surfaces with a 200 ppm available chlorine solution. Do not rinse equipment with water after treatment and do not soak equipment overnight.

**IMMERSION METHOD** - Clean equipment in the normal manner. Prepare a 200 ppm sanitizing solution by thoroughly mixing 1 oz. of this product with 20 gallons of water. Prior to use, immerse equipment in the 200 ppm sanitizing solution for at least 2 minutes and allow the sanitizer to drain. Do not rinse equipment with water after treatment.

This product may be applied only by the methods specified on the labeling.

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

### **Product Application**

**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 treatment.

This product may be applied only by the methods specified on the labeling.

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

### **Product Application**

**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**

### **Product Application**

**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 treatment.

This product may be applied only by the methods specified on the labeling.

## **SEWAGE & WASTEWATER EFFLUENT TREATMENT**

### **Product Application**

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

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

The following are critical factors affecting wastewater disinfection.

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

## **SEWAGE AND WASTEWATER TREATMENT**

### **Product Application**

**EFFLUENT SLIME CONTROL** - Apply a 100 to 1000 ppm available chlorine solution at a location which will allow complete mixing. Prepare this solution by mixing 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 16 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)**

### **Product Application**

**PUBLIC SYSTEMS:** Mix a ratio of 1 oz. of this product to 6,000 gallons of water. Begin feeding this solution with a hypochlorinator until a free available chlorine residual of at least 0.2 ppm and no more than 0.6 ppm is attained throughout the distribution system. Check water frequently with a chlorine test kit. Bacteriological sampling must be conducted at a frequency no less than that prescribed by the National Primary Drinking Water Regulations. Contact your local Health Department for further details.

**INDIVIDUAL SYSTEMS: - DUG WELLS -** Upon completion of the casing (lining) wash the interior of the casing (lining) with a 100 ppm available chlorine solution using a stiff brush. 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 may necessitate the use of special methods for introduction of the sanitizer into the well. Consult your local Health Department for further details.

**INDIVIDUAL WATER SYSTEMS: FLOWING ARTESIAN WELLS: -** Artesian wells generally do not require disinfection. If analyses indicate persistent contamination, the well should 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 should have a slight chlorine odor, if not, repeat dosage and allow the water to stand an additional 15 minutes. The treated water can then be made palatable by pouring it between clean containers for several times.

## **PUBLIC WATER SYSTEMS**

### **Product Application**

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

**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 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 should be pumped or fed by gravity into the well after thorough mixing with agitation. The well should stand for several hours or overnight under chlorination. It may then be pumped until a representative raw water sample is obtained. Bacterial examination of the water will indicate whether further treatment is necessary.

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 at least 4 hours. Drain and place in service. If the previous treatment is not practical, surfaces may 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**

### **Product Application**

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 should be distributed over the surface at the rate of 16 oz. per 20 sq. ft.. Water should stand at a depth of 1 foot above the surface of the filter bed for 4 to 24 hours. When filter beds can be backwashed of mud and silt, apply 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**

### **Product Application**

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

## **EMERGENCY DISINFECTION AFTER DROUGHTS**

### **Product Application**

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

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.

## **EMERGENCY DISINFECTION AFTER MAIN BREAKS**

### **Product Application**

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.

## **HOUSEHOLD LAUNDRY SANITIZER**

### **Product Application**

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 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 adding soap or detergent and start the wash/rinse cycle.

## **COMMERCIAL LAUNDRY SANITIZER**

### **Product Application**

Wet fabrics or clothes should 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 prewash prior to washing fabrics/clothes in the regular wash cycle with a good detergent. Test the level of available chlorine, if solution has been allowed to stand. Add more of this product if the available chlorine level has dropped below 200 ppm.

## **FARM PREMISES**

### **Product Application**

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 transverse 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**

### **Product Application**

**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 blowdown.

Subsequent Dose: When microbial control is evident, add 2 oz. of this product per 10,000 gallons of water in the system to obtain a 1 ppm residual. Apply half (or 1/3, 1/4, or 1/5) of this initial dose when half (or 1/3, 1/4, or 1/5) of the water in the system has been lost by blowdown. Badly fouled systems must be cleaned before treatment 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 5 to 10 ppm available chlorine.

Subsequent Dose: Maintain this treatment level by entering a continuous feed of 2 oz. of this product per 1,000 gallons of water lost by blowdown to maintain a 1 ppm residual. Badly fouled systems must be cleaned before treatment is begun.

**BRIQUETTES OR TABLETS** - Initially slug dose the system with 10 oz. of this product per 10,000 gallons of water in the system. Badly fouled systems must be cleaned before treatment is begun.

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.



## AGRICULTURAL USES

### Product Application

**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 tons of potatoes. Thoroughly mix 1 oz. of this product to 10 gallons of water to obtain 500 ppm available chlorine.

Disinfect leafcutting bee cells and bee boards by immersion in a solution containing 1 ppm available chlorine for 3 minutes. Allow cells to drain for 2 minutes and dry for 4 to 5 hours or until no chlorine odor can be detected. This solution is made by thoroughly mixing 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.

**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 should not exceed 130°F. Spray the warm sanitizer so that the eggs are thoroughly wetted. Allow the eggs to thoroughly dry before casing or breaking. Do not apply a potable water rinse. The solution should not be re-used to sanitize eggs.

**FRUIT & VEGETABLE WASHING** - Thoroughly clean all fruits and vegetables in a wash tank. Thoroughly mix 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.

**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 may 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 may be made by mixing 0.2 to 0.4 oz. of this product with 10 gallons of water. First application should begin when pins form, and thereafter, between breaks on a need basis depending on the occurrence of bacterial blotch. This product may be applied directly to pins to control small infection foci. Apply 1.5 to 2.0 oz. per square foot of growing space.

**POST-HARVEST ROOTS** - To control and reduce the spread of soft rot causing organisms in water and on sweet potatoes (*Ipomoea batatas*), spray or dip the potatoes with a 150 to 500 ppm solution for 2 to 5 minutes. Thoroughly mix 0.3 to 1.0 oz. of this product per 10 gallons of water to obtain this solution. Monitor the chlorine concentration and change the solution after one hour or as needed.

## AQUACULTURAL USES

### Product Application

**FISH PONDS** - Remove fish from ponds prior to treatment. Thoroughly mix 20 oz. of this product to 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 should soak for one hour.

MAINE LOBSTER PONDS - Remove lobsters, seaweed etc. from ponds prior to treatment. Drain the pond. Thoroughly mix 1200 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.

CONDITIONING LIVE OYSTERS - Thoroughly mix 1 oz. of this product to 10,000 gallons of water at 50 to 70°F to obtain 0.5 ppm available chlorine. Expose oysters to this solution for at least 15 minutes, monitoring the available chlorine level so that it does not fall below 0.05 ppm. Repeat entire process if the available chlorine level drops below 0.05 ppm or the temperature falls below 50°F.

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 0 ppm, as determined by a test kit.

## **SANITIZATION OF DIALYSIS MACHINES**

### **Product Application**

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 one available chlorine. Immediately use this product in the hemodialysate system allowing for a minimum contact time of 15 minutes at 20°C. Drain system of the sanitizing solution and thoroughly rinse with water. Discard and DO NOT reuse the spent sanitizer. Rinsate must be monitored with a suitable test kit to insure that no available chlorine remains in the system.

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

## **TOILET BOWL WATER SANITIZERS**

Keeps bowl fresh and clean. Fights stain build-up. Consistent release formula. Kills 99.9% of all odor causing germs in the bowl water. Continuous real bleach cleaning and deodorizing. Suitable for use around children and pets. Tablet wrapped for skin protection. Child Resistant Package. Harmless to plumbing or septic tanks. Phosphate Free. Contains No Dyes. Safe for Colored Toilets.

### **Product Application**

1. For best results, start with a clean bowl.
2. Remove toilet tank top. Peel blister from card OR using scissors cut open blister. **DO NOT** remove protective wrapper from tablet -- it will dissolve in tank.
3. Flush toilet. When water level is low and valve is closed, drop tablet in tank near the right sidewall and not near the water inlet. (See diagram).
4. No removal necessary. When tablet is gone, add a new tablet to your tank.

This product should be used in toilets that are flushed daily.

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

### **Product Application**

To control fungus and mildew, first remove all physical soil by brushing and hosing with clean water, and apply a 5000 ppm available chlorine solution. Mix 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**

### **Product Application**

To control slime on boat bottoms, sling a plastic tarp under boat, retaining enough water to cover the fouled bottom area, but not allowing water to enter enclosed area. This envelope should contain approximately 500 gallons of water for a 14 foot boat. Add 3.5 oz. of this product to this water to obtain a 35 ppm available chlorine concentration. Leave immersed for 8 to 12 hours. Repeat if necessary. Do not discharge the solution until the free chlorine level has dropped to 0 ppm, as determined by a swimming pool test kit.

## **ARTIFICIAL SAND BEACHES**

### **Product Application**

To sanitize the 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**

### **Product Application**

**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 ppm available chlorine by adding 1 to 5 oz. of this product per 1000 gallons of water.

**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 1000 ppm available chlorine soaking solution by adding 1 oz. of this product for each 5 gallons of water to obtain a 1000 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% sulphuric 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 (5000 ppm). After 4 to 8 minutes, they are drained and washed in a 1% sulphuric acid bath at 80 to 90°F. They are then dried.

**BACTERIAL CONTROL IN SUGAR REFINERIES** - To reduce dust-collecting bacteria, apply a solution containing 16 oz. of this product for each gallon of water (8000 ppm available chlorine) continuously by gravity into the recirculating low concentration syrup in the dust collector. Adjust the feed to give a chlorine residual of about 10 ppm in the syrup leaving the dust collector system. To reduce gum-forming bacteria, coat raw sugar with a solution of low concentration of product to control bacteria. To obtain control of thermophilic bacteria in vacuum pans, feed a solution containing 1 pound of this product for each ton of sugar (dry weight) in the vacuum pans.

*{Storage and Disposal instructions for products with recreational use patterns, e.g. swimming pool & spa products when sold in other than bags.}*

**[STORAGE AND DISPOSAL:** Keep this product dry in original tightly closed container when not in use. Store in a cool, dry, well ventilated area away from heat or open flame. Moisture may decompose this product and cause a violent reaction leading to fire and explosion. In case of decomposition, isolate container if possible and flood area with large amounts of water to dissolve all material before discarding this container. Do not contaminate food or feed by storage or disposal. **CONTAINER DISPOSAL:** Non-refillable container. Do not reuse or refill this container. Offer for recycling, if available. Triple rinse container (or equivalent) promptly after emptying.]

*{Storage and Disposal instructions for products with recreational use patterns, e.g. swimming pool & spa products when product is sold in bags.}*

**[STORAGE AND DISPOSAL** Keep this product dry in its original unopened bag until use. For partially used bags, fold over top of bag and secure with adhesive tape. Store unopened and partially used bags in a secure location away from children. Store in a cool, dry, well ventilated area away from heat or open flame. Moisture may decompose this product and cause a violent reaction leading to fire and explosion. In case of decomposition, isolate bag if possible and flood area with large amounts of water to dissolve all material before discarding this bag. Do not contaminate food or feed by storage or disposal. **CONTAINER DISPOSAL:** Non-refillable container. Do not reuse or refill this container. Offer for recycling, if available. Triple rinse container (or equivalent) promptly after emptying.]

*{Storage and Disposal instructions for institutional and industrial applications}*

**[STORAGE:** Keep this product dry in original tightly closed container when not in use. Store in a cool, dry well ventilated area away from heat or open flame. Moisture may decompose this product and cause a violent reaction leading to fire and explosion. In case of decomposition, isolate container if possible and flood area with large amounts of water to dissolve all material before discarding this container. Do not contaminate food or feed by storage or disposal.]

**CONTAINER DISPOSAL:** *{Use Super Sack, Fiber Drum or Pail section as appropriate for container.}*

**[SUPER SACK:** Completely empty bag into application equipment. Non-refillable container. Do not reuse or refill this container. Offer for recycling, if available.]

**[FIBER DRUM:** Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application equipment. Non-refillable container. Do not reuse or refill this container. Offer for recycling, if available. 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 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.]

**[PAIL:** Non-refillable container. Do not reuse or refill this container. Offer for recycling, if available. 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 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.

## **PRECAUTIONARY STATEMENTS**

**HAZARDS TO HUMANS AND DOMESTIC ANIMALS: DANGER:** Corrosive. Causes irreversible eye damage and skin burns. May be fatal if swallowed. Do not get in eyes, on skin or on clothing. Wear goggles or safety glasses and rubber gloves when handling this product. Irritating to nose and throat. Avoid breathing dust and fumes. Wash thoroughly with soap and water after handling. Remove and wash contaminated clothing before reuse.

**PHYSICAL OR CHEMICAL HAZARDS: STRONG OXIDIZING AGENT:** Do not mix with other chemicals. Mix only with water. Never add water to product. Always add product to large quantities of 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 and generate heat, hazardous gas, possible 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 area with large volumes of water.

*{Environmental hazards statement for end-use products in containers of 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 of equal to or greater than 5 gallons (liquid) or equal to or greater than 50 pounds (solid, dry weight).}*

**[ENVIRONMENTAL HAZARDS:** This pesticide is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product 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.]

[NOTE: User assumes all responsibility for safety and use not in accordance with directions.]

*{The following is optional text to be used at BioLab's discretion with swimming pool use directions. This information is non-essential and will be provided only as a courtesy. Will not appear on all swimming pool products.}*

### **TO DETERMINE POOL CAPACITY**

Rectangular Pools-Length times width times average depth (in feet) times 7.5 equals gallons.

Round and Oval Pools-Long diameter times short diameter times average depth (in feet) time 5.9 equals gallons.



[DOT symbols]  
[DOT Oxidizer Label]



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