



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

July 25, 2019

Joanna Holcombe  
Regulatory Specialist  
Arch Chemicals, Inc.  
1200 Bluegrass Lakes Parkway  
Alpharetta, GA 30004

Subject: Notification per PRN 98-10 – Corrected typos, removed optional language,  
reorganized optional marketing and added icons  
Product Name: Sodium Hypochlorite 10  
EPA Registration Number: 1258-1094  
Application Date: March 6, 2019  
Decision Number: 553521

Dear Ms. Holcombe:

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

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

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

The alternate brand name “90 Years of HTH Perfect Pools Liquid Chlorinator” has been added to the product record.

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EPA Reg. No.  
Decision No.

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

Sincerely,

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

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

Note to reviewer:

[All text in brackets [AAA] is optional and may/may not be included on all end-use labels]

{All text in braces {AAA} is for information purposes and will not appear on final label}

# Sodium Hypochlorite 10

ACTIVE INGREDIENT: SODIUM HYPOCHLORITE ..... 10%  
OTHER INGREDIENTS: ..... 90%  
TOTAL: ..... 100%

**KEEP OUT OF REACH OF CHILDREN**  
**[MANTÉNGASE FUERA DEL ALCANCE DE LOS NIÑOS]**

**DANGER [1] [PELIGRO]**

~~Contamination or improper use may cause fire or explosion or the release of toxic gases. Do not allow product to contact any foreign matter, including other water treatment products. Only add this product directly to your [swimming pool] [or] [spa].~~

{Note to reviewer: Although this product has a "Danger" signal word, as per the EPA label review manual "The Agency may permit reasonable variations in the placement of the First Aid statement as long as the reference statement, "See First Aid (or Statement of Practical Treatment) on (identify appropriate panel)" appears on the front panel." If the First Aid Statements are placed on the front panel of the final graphic label, the statement below will only reference Precautionary Statements:}

Read all Precautionary [and First Aid] Statements on [back][side][right][left] panel before use.

[Manufactured for][Sold by]:  
Arch Chemicals, Inc.  
1200 Bluegrass Lakes Parkway  
Alpharetta, GA 30004

EPA Reg. No. 1258-1094  
[Superscript Used in Lot Number]  
EPA Est. No. XXXX-YY-ZZZZ

NET CONTENTS:

## NOTIFICATION

1258-1094

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

07/25/2019

**PRECAUTIONARY STATEMENTS:**

**HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

**DANGER: Corrosive. May cause severe skin and eye irritation or chemical burns to broken skin. Causes eye damage.**

- [•] Do not get in eyes, on skin, or on clothing. Wear safety glasses or goggles and rubber gloves when handling this product.
- [•] Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.
- [•] Avoid breathing vapors. Vacate poorly ventilated areas as soon as possible. Do not return until strong odors have dissipated.
- [•] Remove and wash contaminated clothing before reuse.

**FIRST AID:**

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

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

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

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

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

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

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

**PHYSICAL AND CHEMICAL HAZARDS:**

**DANGER: Strong oxidizing agent.** Mix only with water according to label directions. Mixing this product with chemicals (e.g. ammonia, acids, detergents, etc.) or organic matter (e.g. urine, feces, etc.) will release chlorine gas that is irritating to eyes, lungs and mucous membranes.

*{First sentence of paragraph below for containers less than 5 gal. All others use full paragraph.}*

**ENVIRONMENTAL HAZARDS:** This pesticide is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, ponds, streams, estuaries, oceans or public waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

## **STORAGE & DISPOSAL:**

*{Nonrefillable container - household/residential use}*

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

*{Refillable container – household/residential use}*

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

*{Nonrefillable container - non-household/residential use}*

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

*{Refillable container – non-household/residential use}*

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

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

*{If the following Spanish statement is used, it must appear directly above DIRECTIONS FOR USE.} 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.)*

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

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

#### **READ ALL PRECAUTIONARY STATEMENTS BEFORE USE.**

**NOTE:** This product degrades with age. Use [brand] test [kit] [and] [strips] to test chlorine levels and increase dosage, as necessary, to obtain the required level of available chlorine.

#### **{Use 1} [SWIMMING POOLS]**

##### **{Sanitizer}**

#### **[WHY YOU SHOULD USE THIS PRODUCT:**

This is an effective, 2-in-1 sanitizer that kills bacteria and algae, and can also be used to shock pool water. [This product is convenient, easy to use, and won't over-stabilize your pool.]]

##### *{Optional statement for pool care program for the [Brand A]}*

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

##### *{Optional statement for pool care program with the [Brand B]}*

[For crystal clear pool water, follow our [Brand B] 3-Step Program: Step 1: Test and balance pool water, Step 2: Sanitize, and Step 3: Shock at least once a week.]

##### *{Optional statement for pool care program for the [Brand C]}*

[Take a pool water sample to your [authorized] [Brand C] retailer for a detailed water analysis.]

##### **{Shock}**

#### **[WHY YOU SHOULD USE THIS PRODUCT:**

This is an effective, 2-in-1 shock product that kills bacteria and algae, and can also be used to sanitize pool water. [This product is convenient, easy to use, and won't over-stabilize your pool.]]

#### **[WATER BALANCE:**

[Adjust and maintain total alkalinity from 60 to 100 parts per million (ppm), pH from 7.2 to 7.6, and calcium hardness above 200 ppm. [Always check and adjust total alkalinity before adjusting pH levels.] Test frequently using [a brand] [test kit] {or} [test strips] that measure[s] all of the above ranges. [Follow label directions for each product and allow each product to dissolve and disperse before adding additional products to the pool.]]

[[Download the [FREE] [Test to Swim™] [application name] app from your smartphone] [for expert water analysis, product recommendations, and dosage instructions].]

[Visit a [Test to Swim™ Station] [device/station name], at participating retailers, for expert water analysis, product recommendations and dosage instructions. [To find a participating retailer near you, visit [www.hthpools.com/XXX](http://www.hthpools.com/XXX)].]

[Use a [Test to Swim™ Station] [device/station name] (at participating retailers) or download the Test to Swim™ [application name] app from your smartphone] [for expert water analysis, product recommendations, and dosage instructions].]

{or}

[Adjust and maintain pool water to recommended ranges:

Acceptable Range for Balance	
Total Alkalinity	60-100 ppm
pH	7.2-7.6
Calcium Hardness	Above 200 ppm
Available Chlorine	1-4 ppm

NOTE: Follow label directions for each product and allow each product to dissolve and disperse before adding additional products to the pool. Always check and adjust total alkalinity before adjusting pH levels. [Use a test kit [or test strips] that measure[s] all these ranges.]]

**[METHOD OF APPLICATION:][HOW TO USE:]**

Add the recommended dosage of this product directly to your pool in the evening to minimize degradation by the sun. With the pump running, slowly pour this product as close to the surface of the water as possible, preferably near a return inlet.

Test free available chlorine residual with [a][brand] pool [test [kit] [or] [test strips]]. Do not enter pool until the free available chlorine residual is 1-4 ppm. **Re-entry into treated swimming pools is prohibited above levels of 4 ppm chlorine for risk of bodily injury.**

**[OPENING YOUR POOL:]**

Balance pool water per levels in "WATER BALANCE" section. Shock treat with [this product][a [brand] shock product] and stabilize your pool using [brand] stabilizer. Follow label directions for each of these products.]

**[ROUTINE CHLORINATION:]**

To maintain the pool, add this product according to the "[METHOD OF APPLICATION][HOW TO USE]" section. Frequency of product addition will depend on temperature and number of swimmers.

[For [Wading Pools], [Splasher Pools] [and] [Kiddie Pools]:]

[Throughout the pool season, add 0.8 fl. oz. [(5 teaspoons (tsp))] of this product per 200 gallons of pool water daily or as often as needed to maintain chlorine residual at 1-4 ppm.]

[For small pools less than 5,000 gallons:] [For pop-up pools:]

[FOR UNSTABILIZED POOLS: Add 2 fl. oz. [(4 tablespoons (Tbsp.))] of this product per 500 gallons of pool water daily or as often as needed to maintain the free available chlorine residual at 1-4 ppm.

FOR STABILIZED POOLS: Add 1 fl. oz. [(2 tablespoons (Tbsp.))] per 500 gallons every other day or as often as needed to maintain the free available chlorine residual at 1-4 ppm.]

[For pools up to 10,000 gallons:] [For pop-up, above ground and/or inground pools:]

[FOR UNSTABILIZED POOLS: Add 4 fl. oz. [(1/2 cup)] per 1,000 gallons of pool water daily or as often as needed to maintain the free available chlorine residual at 1-4 ppm.

FOR STABILIZED POOLS: Add 2 fl. oz. [(4 tablespoons (Tbsp.))] per 1,000 gallons every other day or as often as needed to maintain the free available chlorine residual at 1-4 ppm.]

[For pools 10,000 gallons and larger:]

[FOR UNSTABILIZED POOLS: Add 40 fl. oz. [(5 cups)] 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.

FOR STABILIZED POOLS: Add 20 fl. oz. [(2 1/2 cups)] per 10,000 gallons every other day or as often as needed to maintain the free available chlorine residual at 1-4 ppm.]

{charts are optional in whole or part based upon gallons for treatment}

[Use the following dosage recommendations based upon pool size.

Pool size, gallons	Dosage for unstabilized pools	Dosage for stabilized pools
500	2 fl. oz. [4 Tbsp.]	1 fl. oz. [(2 Tbsp.)]
1,000	4 fl. oz. [(1/2 cup)]	2 fl. oz. [4 Tbsp.]
2,500	10 fl. oz. [(1 1/4 cup)]	5 fl. oz. [(2/3 cup)]
5,000	20 fl. oz. [(2 1/2 cups)]	10 fl. oz. [(1 1/4 cup)]
7,500	30 fl. oz. [(3 3/4 cups)]	15 fl. oz. [(1 3/4 cups)]
10,000	40 fl. oz. [(5 cups)]	20 fl. oz. [(2 1/2 cups)]
15,000	60 fl. oz. [(7 1/2 cups)]	30 fl. oz. [(3 3/4 cups)]
20,000	80 fl. oz. [(10 cups)][(5 pints)]	40 fl. oz. [(5 cups)]
30,000	120 fl. oz. [(15 cups)][(7 1/2 pints)]	60 fl. oz. [(7 1/2 cups)]

]]

### **[SHOCK TREATMENT / SUPERCHLORINATION:]**

[As a preventative treatment, shock treat your pool once per week [with this product] [with [brand] shock treatment]. In addition to weekly shock treatment, shock treat to remedy problems which may occur when bathing loads are high, water appears hazy or dull, unpleasant odors or eye irritation occur, after heavy wind and rainstorms, or if algae does develop with resulting green color and slimy feeling.] [Add this product according to the directions in the [METHOD OF APPLICATION][HOW TO USE] section.]

[For [Wading Pools], [Splasher Pools] [and] [Kiddie Pools]:]

[Every 7 days, or as necessary to prevent pool problems, shock treat / superchlorinate the pool by adding 1.2 fl. oz. [(7 teaspoons (tsp))] of this product per 200 gallons of water.]

[For small pools less than 5,000 gallons:] [For pop-up pools:]

[Every 7 days, or as necessary to prevent pool problems, shock treat / superchlorinate the pool by adding 3 fl. oz. [(6 tablespoons (Tbsp.))] of this product per 500 gallons of water.]

[For pools up to 10,000 gallons:] [For pop-up, above ground and/or inground pools:]

[Every 7 days, or as necessary to prevent pool problems, shock treat / superchlorinate the pool by adding 6 fl. oz. [(3/4 cup)] of this product per 1,000 gallons of water.]

[For pools 10,000 gallons and larger:] [For above ground and/or inground pools:]

[Every 7 days, or as necessary to prevent pool problems, shock treat / superchlorinate the pool by adding 60 fl. oz. [(7 1/2 cups)] of this product per 10,000 gallons of water.]

[Additional shock treatments may be required to correct problems such as unpleasant odors, eye irritation and visible algae, as well as problems caused by high bathing loads, heavy wind and rainstorms.]



{Chart may be used in whole or part based upon gallons for treatment.}

[Use the following dosage recommendations based upon pool size.

<b>Pool size, gallons</b>	<b>Dosage[, fluid ounces]</b>
500	3 fl. oz. [(6 Tbsp.)] [(1/3 cup)]
1,000	6 fl. oz. [(3/4 cup)]
2,000	12 fl. oz. [(1 1/2 cup)]
2,500	15 fl. oz. [(1 2/3 cups)]
3,000	18 fl. oz. [(2 1/4 cups)]
4,000	24 fl. oz. [(3 cups)]
5,000	30 fl. oz. [(3 3/4 cups)]
6,000	36 fl. oz. [(4 1/2 cups)]
7,000	42 fl. oz. [(5 1/4 cups)]
7,500	45 fl. oz. [(5 2/3 cups)]
8,000	48 fl. oz. [(6 cups)] [(3 pints)]
9,000	54 fl. oz. [(6 3/4 cups)]
10,000	60 fl. oz. [(7 1/2 cups)]
12,500	75 fl. oz. [(9 1/3 cups)]
15,000	90 fl. oz. [(11 1/4 cups)]
17,500	105 fl. oz. [(13 1/4 cups)]
20,000	120 fl. oz. [(15 cups)]
30,000	180 fl. oz. [(22 1/2 cups)]

]

**[WINTERIZING:**

While water is still clear and clean, apply 20 fl. oz. of product per 1,000 gallons, while filter is running. Cover pool, prepare heater, pump and filter components for winter by following manufacturer's directions.]

**{Use 2} [SPAS & HOT TUBS]**

**[WHY YOU SHOULD USE THIS PRODUCT:**

This is an effective, 2-in-1 shock product that kills bacteria and algae, and can also be used to sanitize spa water. [This product is convenient, easy to use, and won't over-stabilize your spa.]

**HOW TO USE:**

[Do not pre-mix this product before adding it to your spa. Only add this product directly to your spa.] Carefully pour this product as close to the surface of the water as possible with the blowers off and the pump running.

Test free available chlorine residual with a spa test kit. Do not enter spa until the free available chlorine residual is 3-5 ppm. **Re-entry Into treated spas is prohibited above levels of 5 ppm for risk of bodily injury.**

**[WATER BALANCE:]**

[For best product performance, comfort, and [crystal] [clear] [clean] water: Maintain total alkalinity in the range of 60 to 100 parts per million (ppm). Maintain pH in the range of 7.2 to 7.8. Maintain calcium hardness above 200 ppm. Always check and adjust total alkalinity before adjusting pH levels.] [Use a test kit that measures all these ranges.] Use [brand] Spa Care Products to make adjustments. Follow label directions for each product and allow each product to dissolve and disperse before adding additional products to the spa.]

[[Download the [FREE] [Test to Swim™] [application name] app from your smartphone] [for expert water analysis, product recommendations, and dosage instructions].]

[Visit a [Test to Swim™ Station] [device/station name], at participating retailers, for expert water analysis, product recommendations and dosage instructions. [To find a participating retailer near you, visit [www.hthpools.com/XXX](http://www.hthpools.com/XXX)].]

[Use a [Test to Swim™ Station] [device/station name] (at participating retailers) or download the Test to Swim™ [application name] app from your smartphone] [for expert water analysis, product recommendations, and dosage instructions].]

{or}

**[WATER BALANCE:** For best product performance, comfort and crystal clear water, use [brand] spa care products to maintain the following water balance:

Acceptable Range for Balance	
Total Alkalinity	60 - 100 ppm
pH	7.2 - 7.8
Calcium Hardness	Above 200 ppm
Available Chlorine	3 - 5 ppm

NOTE: Follow label directions for each product and allow each product to dissolve and disperse before adding additional products to the spa. Always check and adjust total alkalinity before adjusting pH levels. [Use a test kit [or test strips] that measure[s] all these ranges.]

**[[OPENING YOUR SPA [OR HOT TUB]][(Freshly Filled)]]:**

Apply 5.8 fl. oz. of this product per 1,000 gallons of water to obtain a free available chlorine level of 5 ppm. Some oils, lotions, fragrances, cleaners, or other contaminants may cause foaming or cloudy water as well as reduce the efficiency of the product.]

**[ROUTINE CHLORINATION:**

To maintain the water apply 5.8 fl. oz. of this product per 1,000 gallons of water over the surface to maintain a chlorine concentration of 3 to 5 ppm.]

**[[SHOCK TREATMENT]][/] [SUPERCHLORINATION]:**

After each use, shock treat with 11.6 fl. oz. of this product per 1,000 gallons of water to control odor and algae. [Repeat as needed.] [Water soluble, non-filterable wastes can accumulate in spa or hot tub water and cause dull or cloudy water and can stimulate algal growth.] [Superchlorination][Shock treatment] must be done on a regular basis to remove these wastes and maintain clear sparkling water.]

**[FOR PREVENTATIVE ALGAE CONTROL:**

Add a shock dosage weekly. However, if problems persist use your preferred [brand] [spa] algaecide product regularly. Follow label directions on that product.]

**[EXTENDED NON-USE PERIOD:**

During extended periods of disuse, add 3.5 fl. oz. of this product daily per 1,000 gallons to maintain 3 ppm chlorine concentration.]

[It is recommended that spas and hot tubs 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, or other contaminants may cause foaming or cloudy water and may react with chlorine sanitizers to reduce their efficacy.]

[The following formula can be used to determine the volume of this product (in fluid ounces or "fl. oz.") needed per quantity of water (in gallons) to provide a solution with the desired available chlorine concentration in parts per million.

Volume of product in fluid ounces =

$$\frac{(\text{gallons of water to be treated})(\text{desired available chlorine in ppm})(128)}{(\% \text{ concentration of sodium hypochlorite})(\text{specific gravity})(10,000)}$$

Specific gravity of 10% sodium hypochlorite = 1.158

Conversion of sodium hypochlorite to available chlorine is 0.953.]

$$\frac{(\text{gallons of water to be treated})(\text{desired available chlorine in ppm})(128)}{(10)(1.158)(0.953)(10,000)}$$

**[Chart of Calculations to Make Various Strength (ppm Available Chlorine)**

**Solutions Using [Sodium Hypochlorite 10] [this product]**

Volume of Product (fl. oz.)	Volume of Water (gal.)	Desired Available Chlorine (ppm)
1.2	2	500
0.6	5	100
1.2	5	200
3.5	5	600
1.2	10	100
2.3	10	200
5.8	10	500
7.0	10	600
11.6	10	1000
1.2	20	50
4.6	20	200
13.9	20	600
1.7	100	15
5.8	100	50
11.6	100	100
116	100	1000
5.8	200	25
1.2	1000	1
3.5	1000	3
5.8	1000	5
11.6	1000	10
0.5	2000	0.2
1.4	2000	0.6
11.6	10000	1
58	10000	5
116	10000	10

**{Use 3}**

**[HUBBARD AND IMMERSION TANKS** - Add 5.8 fl. oz. of this product per 200 gallons of water before patient use to obtain a chlorine residual of 25 ppm, as determined by a suitable test kit. Adjust and maintain the water pH to between 7.2 and 7.6. After each use drain the tank. Add 5.8 fl. 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** - Add 1.2 fl. oz. of this product per 1000 gallons of water to obtain a chlorine residual of 1 ppm, as determined by a suitable chlorine test kit. Pool should not be entered until the chlorine residual is below 3 ppm. Adjust and maintain the water pH to between 7.2 and 7.6. Operate pool filter continuously. Drain pool weekly, and clean before refilling.]

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

**RINSE METHOD** - A solution of 100 ppm available chlorine may be used in the sanitizing solution if a chlorine test kit is available. Solutions containing an initial concentration of 100 ppm available chlorine must be tested and adjusted periodically to insure that the available chlorine does not drop below 50 ppm. Prepare a 100 ppm sanitizing solution by thoroughly mixing 1.2 fl. oz. of this product with 10 gallons of water. If no test kit is available, prepare a sanitizing solution by thoroughly mixing 2.3 fl. oz. of this product with 10 gallons of water to provide approximately 200 ppm available chlorine by weight.

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

**IMMERSION METHOD** - A solution of 100 ppm available chlorine may be used in the sanitizing solution if a chlorine test kit is available. Solutions containing an initial concentration of 100 ppm available chlorine must be tested and adjusted periodically to insure that the available chlorine does not drop below 50 ppm. Prepare a 100 ppm sanitizing solution by thoroughly mixing 1.2 fl. oz. of this product with 10 gallons of water. If no test kit is available, prepare a sanitizing solution by thoroughly mixing 2.3 fl. oz. of this product with 10 gallons of water to provide approximately 200 ppm available chlorine by weight.

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

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

**FLOW/PRESSURE METHOD** - Disassemble equipment and thoroughly clean after use. Assemble equipment in operating position prior to use. Prepare a volume of a 200 ppm available chlorine sanitizing solution equal to 110 % of volume capacity of the equipment by mixing the product in a ratio of 4.6 fl. 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 4.6 fl. 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.

**[COARSE] SPRAY METHOD** - Preclean all surfaces after use. Use a 200 ppm available chlorine solution to control bacteria, mold or fungi and a 600 ppm solution to control bacteriophage. Prepare a 200 ppm sanitizing solution of sufficient size by thoroughly mixing the product in a ratio of 4.6 fl. oz. product with 20 gallons of water. Prepare a 600 ppm solution by thoroughly mixing the product in a ratio of 7 fl. oz. product with 10 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 a 600 ppm solution with a 200 ppm solution.]

**{Use 5} [SANITIZATION OF POROUS FOOD CONTACT SURFACES**

**RINSE METHOD** - Prepare a 600 solution by thoroughly mixing 13.9 fl. 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 4.6 fl. 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, 13.9 fl. oz. of this product with 20 gallons of water. Clean equipment in the normal manner. Prepare a 200 ppm sanitizing solution by thoroughly mixing 4.6 fl. oz. of this product with 20 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** - Preclean all surfaces after use. Prepare a 600 ppm available chlorine sanitizing solution of sufficient size by thoroughly mixing the product in a ratio of 13.9 fl. 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 a 200 ppm available chlorine solution. Prepare a 200 ppm sanitizing solution by thoroughly mixing 2.3 fl. oz. of this product with 10 gallons of water.]

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

**RINSE METHOD** - Prepare a sanitizing solution by thoroughly mixing 5 fl. 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, 5 fl. 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.

**[COARSE] SPRAY METHOD** - Preclean all surfaces after use. Prepare a 200 ppm available chlorine sanitizing solution of sufficient size by thoroughly mixing the product in a ratio of 5 fl. 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.]

**{Use 7} [DISINFECTION OF NONPOROUS NON-FOOD CONTACT SURFACES**

**RINSE METHOD** - Prepare a disinfecting solution by thoroughly mixing 13.9 fl. 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, 13.9 fl. 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.]

**{Use 8} [SANITIZATION OF POROUS NON-FOOD CONTACT SURFACES**

**RINSE METHOD** - Prepare a sanitizing solution by thoroughly mixing 13.9 fl. 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, 13.9 fl. 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.

**[COARSE] SPRAY METHOD** - After cleaning, sanitize non-food contact surfaces with 600 ppm available chlorine by thoroughly mixing the product in a ratio of 13.9 fl. 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.]

**{Use 9} [SEWAGE & WASTEWATER EFFLUENT TREATMENT**

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

On the average, satisfactory disinfection of secondary waste water effluent can be obtained when the chlorine residual is 0.5 ppm after 15 minutes contact. Although the chlorine residual is the critical factor in disinfection, the importance of correlating chlorine residual with bacterial kill must be emphasized. The MPN of the effluent, which is directly related to the water quality standards requirements, 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 waste water disinfection.

1. Mixing: It is imperative that the product and the waste water be instantaneously and completely flash mixed to assure reaction with every chemically active soluble and particulate component of the waste water.
2. Contacting: Upon flash mixing, the flow through the system must be maintained.
3. Dosage/Residual Control: Successful disinfection is extremely dependent on response to fluctuating chlorine demand to maintain a predetermined, desirable chlorine level. Secondary effluent 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.]

**{Use 10} [SEWAGE & WASTEWATER TREATMENT**

**EFFLUENT SLIME CONTROL** - Apply a 100 to 1000 ppm available chlorine solution at a location which will allow complete mixing. Prepare this solution by mixing 11.6 to 116 fl. 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 1.7 fl. 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 100 fl. 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.]

**{Use 11} [DISINFECTION OF DRINKING WATER EMERGENCY/PUBLIC/INDIVIDUAL SYSTEMS**

**PUBLIC SYSTEMS:** Mix a ratio of 1.4 fl. oz. of this product to 100 gallons of water. Begin feeding this solution with a hypochlorinator until a free available chlorine residual of at least 0.2 ppm and no more than 0.6 ppm is attained throughout the distribution system. Check water frequently with a chlorine test kit. Bacteriological sampling must be conducted at a frequency no less than that prescribed by the National Interim Primary Drinking Water Regulations. Contact your local Health Department for further details.

**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 1.2 fl. oz. of this product into 10 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 1.2 fl. oz. of this product into 10 gallons of water. Add 5 to 10 gallons of clean, chlorinated water to the well in order to force the sanitizer into the rock formation. Wash the exterior of 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 drop of this product to 20 gallons of water. Allow the treated water to stand for 30 minutes. Properly treated water should have a slight chlorine odor, if not, repeat dosage and allow the water to stand an additional 15 minutes. The treated water can then be made palatable by pouring it between clean containers for several times.]



**{Use 12} [PUBLIC WATER SYSTEMS**

**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 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 22 fl. 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 100 fl. 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 6.4 fl. 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 25 fl. 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 6 fl. oz. of this product for each 5 gallons of water (approximately 1000 ppm available chlorine). After drying, flush with water and return to service.]

**{Use 13} [EMERGENCY DISINFECTION AFTER FLOODS**

**WELLS** - Thoroughly flush contaminated casing with a 500 ppm available chlorine solution. Prepare this solution by mixing 6.4 fl. 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 22 fl. 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 6.4 fl. 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 85 fl. 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 fl. 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 back washed of mud and silt, apply 85 fl. 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 back washing.

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

**{Use 14} [EMERGENCY DISINFECTION AFTER FIRES**

**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.]

**{Use 15} [EMERGENCY DISINFECTION AFTER DROUGHTS**

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

**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 5.8 fl. oz. of this product for each 10 gallons of water. During the filling of the containers, dose with sufficient amounts of this product to provide at least a 0.2 ppm chlorine residual. Use a chlorine test kit.

**{Use 16} [EMERGENCY DISINFECTION AFTER MAIN BREAKS**

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

**{Use 17} [COOLING TOWER/EVAPORATIVE CONDENSER WATER**

**SLUG FEED METHOD** - Initial dose: When system is noticeably fouled, apply 58 to 116 fl. 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 11.6 fl. 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 58 to 116 fl. 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 11.6 fl. oz. of this product per 10,000 gallons of water in the system to obtain a 1ppm 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 blow down. Badly fouled systems must be cleaned before treatment is begun.

**CONTINUOUS FEED METHOD** - Initial dose: when system is noticeably fouled, apply 58 to 116 fl. oz. of this product per 10,000 gallons of water in the system to obtain 5 to 10 ppm available chlorine.

Subsequent Dose: Maintain this treatment level by starting a continuous feed of 11.6 fl. oz. of this product per 10,000 gallons of water lost by blow down to maintain a 1 ppm residual. Badly fouled systems must be cleaned before treatment is begun.]

**{Use 18} [LAUNDRY SANITIZERS**

**Household Laundry Sanitizers**

**IN SOAKING SUDS** - Thoroughly mix 2.3 fl. oz. of this product to 10 gallons of wash water to provide 200 ppm available chlorine. Wait 5 minutes, then add soap or detergent. Immerse laundry for at least 11 minutes prior starting the wash/rinse cycle.

**IN WASHING SUDS** - Thoroughly mix 2.3 fl. oz. of this product to 10 gallons of wash water containing clothes to provide 200 ppm available chlorine. Wait 5 minutes, then add soap or detergent and start the wash/rinse cycle.

**Commercial Laundry Sanitizers**

Wet fabrics or clothes should be spun dry prior to sanitization. Thoroughly mix 2.3 fl. oz. of this product with 10 gallons of water to yield 200 ppm available chlorine. Promptly after mixing the sanitizer, add the solution into the prewash prior to washing fabrics/clothes in the regular wash cycle with a good detergent. Test the level of available chlorine if solution has been allowed to stand. Add more of this product if the available chlorine level has dropped below 200 ppm.]

**{Use 19} [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 11.6 fl. 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.]

**{Use 20} [PULP AND PAPER MILL PROCESS WATER SYSTEMS**

**SLUG FEED METHOD** - Initial Dose: When system is noticeably fouled, apply 58 to 116 fl. 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 11.6 fl. 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 58 to 116 fl. 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 11.6 fl. 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 blow down. Badly fouled systems must be cleaned before treatment is begun.

**CONTINUOUS FEED METHOD** - Initial dose: When system is noticeably fouled, apply 58 to 116 fl. oz. of this product per 10,000 gallons of water in the system to obtain 5 to 10 ppm available chlorine.

Subsequent Dose: Maintain this treatment level by starting a continuous feed of 11.6 fl. oz. of this product per 10,000 gallons of water lost by blow down to maintain a 1 ppm residual. Badly fouled systems must be cleaned before treatment is begun.]

**{Use 21} [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 tons of potatoes. Thoroughly mix 1.2 fl. oz. of this product to 2 gallons of water to obtain 500 ppm available chlorine.

**Disinfect leaf cutting bee cells and bee boards** by immersion in a solution containing 1 ppm available chlorine for 3 minutes. Allow cells to drain for 2 minutes and dry for 4 to 5 hours or until no chlorine odor can be detected. This solution is made by thoroughly mix 1.0 Tsp. of this product to 100 gallons of water. The bee domicile is disinfected by spraying with a 0.1 ppm solution until all surfaces are thoroughly wet. Allow the domicile to dry until all chlorine odor has dissipated.

**FOOD EGG SANITIZATION** - Thoroughly clean all eggs. Thoroughly mix 2.3 fl. oz. of this product with 10 gallons of warm water to produce a 200 ppm available chlorine solution. The sanitizer temperature should not exceed 130°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 reused to sanitize eggs.

**FRUIT & VEGETABLE WASHING** - Thoroughly clean all fruits and vegetables in a wash tank. Thoroughly mix 5.8 fl. 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.

**{Use 22} [AQUACULTURAL USES**

**FISH PONDS** - Remove fish from ponds prior to treatment. Thoroughly mix 116 fl. 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 2.3 fl. oz. of this product to 10 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 6960 fl. 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 5.8 fl. 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 2.3 fl. 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.]

**{Use 23} [SANITIZATION OF DIALYSIS MACHINES**

Flush equipment thoroughly with water prior to using this product. Thoroughly mix 7.0 fl. oz. of this product to 10 gallons of water to obtain at least 600 ppm available chlorine. Immediately use this product in the hemodialysate system allowing for a minimum contact time of 15 minutes at 20°F 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, pseudomonocide) when tested by AOAC and EPA test methods. This product may not totally eliminate all vegetative microorganisms in hemodialysate delivery systems due to their construction and/or assembly, but can be relied upon to reduce the number of microorganisms to acceptable levels when used as directed. This product should be used in a disinfectant program which includes bacteriological monitoring of the hemodialysate delivery system. This product is NOT recommended for use in hemodialysate or reverse osmosis (RO) membranes. Consult the guidelines for hemodialysate systems which are available From the Hepatitis Laboratories, CDC, Phoenix, AZ 85021.]

**{Use 24} [ASPHALT OR WOOD ROOFS AND SIDINGS**

To control fungus and mildew, first remove all physical soil by brushing and hosing with clean water, and apply a 5000 ppm available chlorine solution. Mix 5.8 fl. oz. of this product per gallon of water and brush or spray roof or siding. After 30 minutes, rinse by hosing with clean water.]

**{Use 25} [BOAT BOTTOMS**

To control slime on boat bottoms, sling a plastic tarp under boat, retaining enough water to cover the fouled bottom area, but not allowing water to enter enclosed area. This envelope should contain approximately 500 gallons of water for a 14 foot boat. Add 20 fl. 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.]

**{Use 26} [ARTIFICIAL SAND BEACHES**

To sanitize the sand, spray a 500 ppm available chlorine solution containing 5.8 fl. oz. of this product per 10 gallons of water at frequent intervals. Small areas can be sprinkled with a watering can.]

**{BEGIN OPTIONAL MARKETING CONTENT}**

**{Algae}**

Algae [destroying][killing][fighting]  
Algaecide  
[Controls][Destroys][Kills][Inhibits][Prevents] algae  
[With][Contains] built-in algae [protection][fighter]

**{Bacteria & Algae}**

Bacteria [and][&] algae control  
[Controls][Destroys][Kills][Inhibits][Prevents] [Bacteria] [and][&] Algae  
Kills bacteria, destroys organic contaminants [and][&] controls algae  
Protects against bacteria [and][&] algae  
Routine use protects water from bacteria [and][&] algae

**{Bacteria Control}**

Bacteria [destroying][killing]  
Begins working [quickly] to destroy bacteria  
Destroys bacteria  
Destroys organic contaminants  
[Eliminates][Kills] bacteria

**{Clarifier}**

Clears cloudy water  
[Creates] [Produces] sparkling, crystal clear water  
Crystal clear results in 24 hours  
Delivers sparkling [pool] [spa] water  
For crystal clear, sparkling blue water  
Keeps [pool] [spa] water clean [and][&] crystal clear  
Maintains brilliantly clear water  
Produces crystal clear water in 24 hours  
Restore[s] crystal clarity to water

**{Compatibility with salt pools}**

Compatible with salt [water] [systems] [pools]  
Salt [water] [system] [pool] compatible

**{Easy to Use}**

Convenient  
Easy, economical, convenient to use  
Easy to use  
Economical

**{Eye Irritation}**

Reduces [chlorine odor] [and][&] [eye irritation]

**{Fast Acting}**

[Fast][Quick] [acting] [dissolving]  
Immediate results

**{Heritage Claims/Logos}**

90 Years of Perfect Pools

[Here to Help] [since 1928]

Pool [Care] Experts since 1928



**{Marketing Language}**

Bonus Pack

Concentrated Formula

Concentrated, Fast Acting Formula

Made in the USA

Made in the USA of US and imported content.



Value Pack

**{Multi-Benefit}**

4-in-1 [Action] [Sanitizer][Shock Treatment]

3-in-1 Action: Sanitizes, shocks, [and][&] prevents algae.

3-in-1 [Action] [Sanitizer][Shock Treatment]

2-in-1 Action: Sanitizer [and][&] shock treatment

2-in-1 Action: Sanitizes [and][&] prevents algae

2-in-1 [Action] [Sanitizer][Shock Treatment]

[All-in-One] sanitizer, shock [and][&] algaecide

[Dual action][Dual purpose]: Sanitizes [and][&] [shocks]

[Dual action][Dual purpose]: Sanitizes [and][&] prevents algae

[Multi-purpose][Multi-functional]

[Multi-purpose][Multi-functional] sanitizer

Multifunctional sanitizer [and][&] shock treatment

Multipurpose: sanitizer, shock [and][&] algaecide

**{Packaging}**

Leak resistant cap



**{Pool Measurement}**

HOW TO CALCULATE POOL CAPACITY IN U.S. GALLONS	
POOL SHAPE	FORMULA (Dimensions in feet)
Rectangular:	$L \times W \times AD \times 7.5 = \text{total gallons}$
Round:	$Di \times Di \times AD \times 5.9 = \text{total gallons}$
Oval:	$\text{Maximum L} \times \text{maximum W} \times AD \times 5.9 = \text{total gallons}$
Freeform:	$\text{Surface area (sq. feet)} \times AD \times 7.5 = \text{total gallons}$

L = Length, W = Width, AD = Average Depth, Di = Diameter

{or}

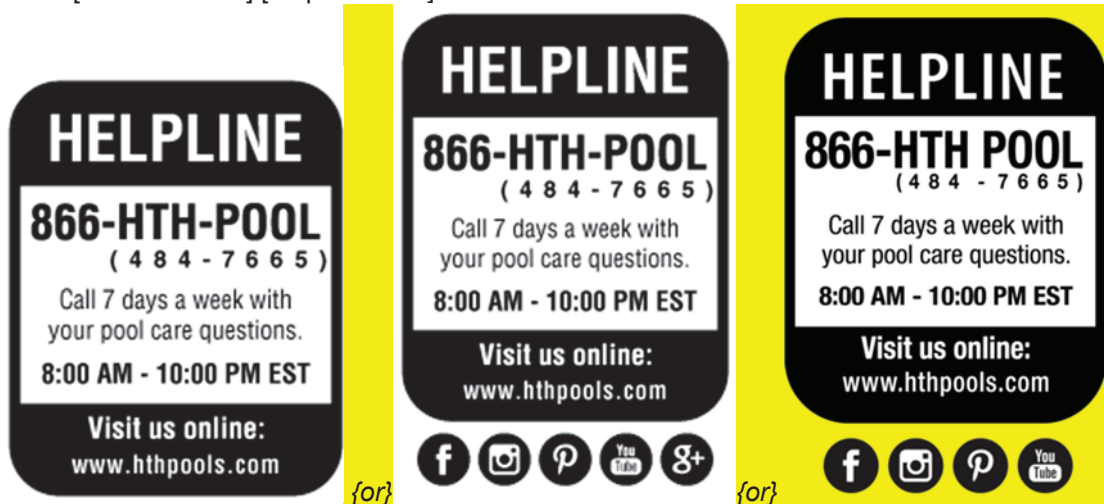
To calculate your pool's capacity, visit [hthpools.com/XXXX](http://hthpools.com/XXXX).

**{Pool Type}**

[Best used with][Ideal for][For] pop-up pools  
[For use][Ideal] [with][for] all pool types [including vinyl-liner pools]  
[For use][Ideal] [with][for] all pool [surfaces][types]  
[Good][Ideal] for all pool surfaces  
Ideal for in ground [and][&] [above ground pools]  
Ideal for [vinyl-lined pools] {or} [pools with vinyl liners] when used as directed  
Special pop-up pool size

**{Product Support}**

For product questions/support [from [brand] pool [[and][&] spa] care experts:  
Call: [brand number] [866-HTH-Pool]  
Chat online: [brand website] [hthpools.com]  
We're available 7 days a week from 8 AM to 10 PM EST.  
Visit: [brand website] [hthpools.com]



[Get social with us at:][Connect and Swim with us on Social [Media]:]

[www.youtube.com/brand](http://www.youtube.com/brand)  
[www.facebook.com/brand](http://www.facebook.com/brand)  
[www.instagram.com/brand](http://www.instagram.com/brand)  
[www.pinterest.com/brand](http://www.pinterest.com/brand)  
[www.google.com/+brand](http://www.google.com/+brand)  
{OR}  
(use social icons)

**{Sanitizer}**

10% sodium hypochlorite  
Concentrated chlorinator for routine use  
Convenient Routine Chlorinator  
Liquid Sanitizer  
Provides [chlorination][sanitization]  
Provides effective chlorination [at an economical price]  
[Routine] Sanitizer [for chlorine pools][and][&][[for]spas]  
[Sanitizer][Chlorinator]  
Sanitizes for [brilliantly] clear water  
Sanitizes [pool] [spa] water  
Spa sanitizer  
Swimming pool sanitizer

**{Scan Here Icons and Text}**



Scan here for all details

**{Shock}**

Effective shock  
Multi-functional shock treatment  
Shock  
Shock Treatment [[and][&]] [Superchlorinator] for [Swimming Pools] [and][&] [Spas]

**{Stabilization}**

[No risk of][Will not cause] over stabilization

**{Steps}**

For best results, follow the [brand] 3-Step Program:

For best results, follow the [brand] 4 step pool care program [I.I.]

[Step] [1] [Balance]

[Step] [2] [Sanitize]

[Step] [3] [Shock] [Weekly]

[Step] [4] [Prevent Algae]

*{Graphic renderings of the 4 steps:}*



*{for routine chlorination directions}*



*{for shock treatment directions}*

**{Trademark}**

[Brand name] and the [brand] logo are trademarks of Lonza or its affiliates.

[HTH®][brand] and the [HTH®][brand] logo are registered trademarks of Arch Chemicals, Inc.

**Approved Alternate Brand Names:**

HTH Fast Chlor Cleaning Liquid Chlorinator  
HTH Liquid Chlorinator  
HTH Poolife Quick 'N Clear Cleaning Liquid Chlorinator  
HTH Poolife Quick Chlor Cleaning Liquid Chlorinator  
HTH Quick 'N Clear Cleaning liquid Chlorinator

**Proposed Alternate Brand Name:**

90 Years of HTH Perfect Pools Liquid Chlorinator

**{END OPTIONAL MARKETING CONTENT}**