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Sodium Hypochlorite Solution
Circular No. K587A

ACTIVE INGREDIENT	
SODIUM HYPOCHLORITE	14%*
OTHER INGREDIENT	86%
TOTAL	100%

*Available Chlorine: 13.33%

SANITIZATION OF HARD NONPOROUS SURFACES *Directions for Use*

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 ensure that the available chlorine does not drop below 50 ppm. Prepare a sanitizing solution of approximately 100 ppm by thoroughly mixing 1 oz. of this product with 10 gallons of water. If no test kit is available, prepare a sanitizing solution by thoroughly mixing 2 oz. of this product with 10 gallons of water to provide approximately 200 ppm available chlorine by weight.

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

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

Immersion Method

A solution of 100 ppm available chlorine may be used in the sanitizing solution if a chlorine test kit is available. Solutions containing an initial concentration of 100 ppm available chlorine must be tested and adjusted periodically to ensure that the available chlorine does not drop below 50 ppm. Prepare a sanitizing solution of approximately 100 ppm by thoroughly mixing 1 oz. of this product with 10 gallons of water. If no test kit is available, prepare a sanitizing solution by thoroughly mixing 2 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 approximately 200 ppm available chlorine sanitizing solution equal to 110% of volume capacity of the equipment by mixing the product in a ratio of 2 oz. product with 10 gallons of water. Pump solution through the system until full flow is obtained at all extremities, the system is completely filled with the sanitizer and all air is removed from the system. Close drain valves and hold under pressure for at least 2 minutes to ensure contact with all internal surfaces. Remove some cleaning solution from drain valve and test with a chlorine test kit. Repeat entire cleaning/sanitizing process if effluent contains less than 50 ppm available chlorine.

Clean-In-Place Method

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

Spray / Fog Method

Pre-clean all surfaces prior to use of the product. Use a 200-ppm available chlorine solution to control bacteria, mold or fungi and a 600-ppm solution to control bacteriophage. Prepare a sanitizing solution of approximately 200 ppm of sufficient size by thoroughly mixing the product in a ratio of 2 oz. product with 10 gallons of water. Prepare a sanitizing solution of approximately 600 ppm by thoroughly mixing

the product in a ratio of 6 oz. product with 10 gallons water. Use spray/fogging equipment which can resist hypochlorite solutions. Always empty and rinse spray/fog equipment with potable water after use. Thoroughly spray or fog 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.

SANITIZATION OF NONPOROUS NON-FOOD CONTACT SURFACES *Directions for Use*

Rinse Method

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

Immersion Method

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

Spray / Fog Method

Pre-clean all surfaces after use. Prepare a sanitizing solution of approximately 200 ppm available chlorine of sufficient size by thoroughly mixing the product in a ratio of 2 oz. of product with 10 gallons of water. Use spray or fogging equipment which can resist hypochlorite solutions. Prior to using equipment, thoroughly spray or fog all surfaces until wet, allowing excess sanitizer to drain. Vacate area for at least 2 hours.

Circular No. K587B

COMMERCIAL LAUNDRY SANITIZERS *Directions for Use*

Wet fabrics or clothes should be spun dry prior to sanitization. Thoroughly mix 2 oz. of this product with 10 gallons of water to yield approximately 200 ppm available chlorine. Promptly after mixing the sanitizer, add the solution into the pre-wash prior to washing fabrics/clothes in the regular wash cycle

with a good detergent. Test the level of available chlorine if solution has been allowed to stand. Add more of this product if the available chlorine has dropped below 200 ppm.

Circular No. K587C

AGRICULTURAL USES *Directions for Use*

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 ton of potatoes. Thoroughly mix 1 oz. of this product to 2 gallons of water to obtain approximately 500 ppm available chlorine.

Food Egg Sanitization

Thoroughly clean all eggs. Thoroughly mix 2 oz. of this product with 10 gallons of warm water to produce a solution containing approximately 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 oz. of this product in 200 gallons of water to make a sanitizing solution of approximately 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.

Circular No. K587D

DISINFECTION OF DRINKING WATER (EMERGENCY / PUBLIC / INDIVIDUAL SYSTEMS)
Directions for Use

Public Systems

Mix a ratio of 1 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 solution containing approximately 100 ppm available chlorine using a stiff brush. This solution can be made by thoroughly mixing 1 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. Consult 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 sanitizing solution containing approximately 100 ppm available chlorine solution into the well. This solution can be made by thoroughly mixing 1 oz. of this product into 10 gallons of water. Add 5 to 10 gallons of clean, chlorinated water to the well in order to force the sanitizer into the rock formation. Wash the exterior of 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 to 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 several times.

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 to 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 any physical soil from surface. Place 20 oz. of this product for each 5 cubic feet of working capacity (approximately 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 80 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 5 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 21 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 5 oz. of this product for each 5 gallons of water (approximately 1000 ppm available chlorine). After drying, flush with water and return to service.

EMERGENCY DISINFECTION AFTER FLOODS

Wells

Thoroughly flush contaminated casing with a solution containing approximately 500 ppm available chlorine. Prepare this solution by mixing 5 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 20 oz. of product per 5 cubic feet 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 5 oz. of this product for each 5 gallons of water (approximately 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 80 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 80 oz. per 20 square feet. 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 80 oz. of this product per each 50 sq. ft., allowing the water to stand at a depth of 1 foot above the filter sand. After 30 minutes, drain water to the level of the filter. After 4 to 6 hours, drain and proceed with normal backwashing.

Distribution System

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

EMERGENCY DISINFECTION AFTER FIRES

Cross Connections or Emergency Connections

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

EMERGENCY DISINFECTION AFTER DROUGHTS

Supplementary Water Supplies

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

Water Shipped in by Tanks, Tank Cars, Trucks, Etc.

Thoroughly clean all containers and equipment. Spray a solution containing approximately 500 ppm available chlorine and rinse with potable water after 5 minutes. This solution is made by mixing 5 oz. of this product for each 10 gallons of water. During the filling of the containers, dose with sufficient amounts of this product to provide at least a 0.2 ppm chlorine residual. Use a chlorine test kit.

EMERGENCY DISINFECTION AFTER MAIN BREAKS

Mains

Before assembly of the repaired section, flush out mud and soil. Permit a water flow of at least 2.5 feet per minute to continue under pressure while injecting this product by means of a hypochlorinator. Stop water flow when a chlorine residual 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.

Circular No. K587E

DISINFECTION OF NONPOROUS NON-FOOD CONTACT SURFACES *Directions for Use*

Rinse Method

Prepare a disinfecting solution by thoroughly mixing 6 oz. of this product with 10 gallons of water to provide approximately 600 ppm available chlorine by weight. Clean equipment surfaces in the normal manner. Prior to use, rinse all surfaces thoroughly with the disinfecting solution, maintaining contact with the solution for at least 10 minutes. Do not rinse equipment with water after treatment and do not soak equipment overnight.

Immersion Method

Prepare a disinfecting solution by thoroughly mixing in an immersion tank, 6 oz. of this product with 10 gallons of water to provide approximately 600 ppm available chlorine by weight. Clean equipment in the normal manner. Prior to use, immerse equipment in the disinfecting solution for at least 10 minutes and allow the disinfectant to drain. Do not rinse equipment with water after treatment.

Circular No. K587F

SEWAGE & WASTEWATER EFFLUENT TREATMENT *Directions for Use*

Disinfection of Sewage Effluent

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, and confirming that the MPN 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 a 15 minute contact time. 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:

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.

Contacting

Upon flash mixing, the flow through the system must be maintained.

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 a 15 minute contact time.

SEWAGE AND 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 10 to 100 oz. of this product with 100 gallons of water. Once control is evident, apply a solution containing approximately 15 ppm available chlorine. Prepare this solution by mixing 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 80 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.

PULP AND PAPER MILL PROCESS WATER SYSTEMS

Slug Feed Method

Initial Dose: When system is noticeably fouled, apply 52 to 104 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 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 52 to 104 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 11 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 52 to 104 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 1 oz. of this product per 1,000 gallons of water lost by blowdown to maintain a residual of approximately 1 ppm. Badly fouled systems must be cleaned before treatment is begun.

Circular No. K587G

COOLING TOWER & EVAPORATIVE CONDENSER WATER *Directions for Use*

Slug Feed Method

Initial Dose: When system is noticeably fouled, apply 52 to 104 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 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 52 to 104 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 11 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 52 to 104 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 1 oz. of this product per 1,000 gallons of water lost by blowdown to maintain a residual of approximately 1 ppm. Badly fouled systems must be cleaned before treatment is begun.

Circular No. K587H

SANITIZATION OF POROUS FOOD CONTACT SURFACES *Directions for Use*

Rinse Method

Prepare a sanitizing solution by thoroughly mixing 6 oz. of this product with 10 gallons of water to provide approximately 600 ppm available chlorine by weight. Clean surfaces in the normal manner. Prior to use, rinse all surfaces thoroughly with the sanitizing solution, maintaining contact with the sanitizer for at least 2 minutes. Rinse all surfaces with a solution containing approximately 200 ppm available chlorine, prepared by thoroughly mixing the product in a ratio of 2 oz. product with 10 gallons of water. Do not soak equipment overnight.

Immersion Method

Prepare a sanitizing solution by thoroughly mixing, in an immersion tank, 6 oz. of this product with 10 gallons of water to provide approximately 600 ppm available chlorine by weight. Clean equipment in the normal manner. Prior to use, immerse equipment in the sanitizing solution for at least 2 minutes and allow the sanitizer to drain. Immerse all surfaces in a solution containing approximately 200 ppm available chlorine, prepared by thoroughly mixing the product in a ratio of 2 oz. product with 10 gallons of water.

Spray / Fog Method

Pre-clean all surfaces after use. Prepare a sanitizing solution of approximately 600 ppm available chlorine of sufficient size by thoroughly mixing the product in a ratio of 6 oz. product with 10 gallons of water. Use spray or fogging equipment which can resist hypochlorite solutions. Always empty and rinse spray/fog equipment with potable water after use. Thoroughly spray or fog 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 sanitizing solution of approximately 200 ppm by thoroughly mixing 2 oz. of this product with 10 gallons of water.

Circular No. K587I

SANITIZATION OF POROUS NON-FOOD CONTACT SURFACES *Directions for Use*

Rinse Method

Prepare a sanitizing solution by thoroughly mixing 6 oz. of this product with 10 gallons of water to provide approximately 600 ppm available chlorine by weight. Clean surfaces in the normal manner. Prior to use, rinse all surfaces thoroughly with the sanitizing solution, maintaining contact with the sanitizer for at least 2 minutes. Do not rinse equipment with water after treatment and do not soak equipment overnight.

Immersion Method

Prepare a sanitizing solution by thoroughly mixing, in an immersion tank, 6 oz. of this product with 10 gallons of water to provide approximately 600 ppm available chlorine by weight. Clean equipment in the normal manner. Prior to use, immerse equipment in the sanitizing solution for at least 2 minutes and allow the sanitizer to drain. Do not rinse equipment with water after treatment.

Spray / Fog Method

After cleaning, sanitize non-food contact surfaces with a solution containing approximately 600 ppm available chlorine by thoroughly mixing the product in a ratio of 6 oz. of this product with 10 gallons of water. Use spray or fogging equipment which can resist hypochlorite solutions. Always empty and rinse spray/fog equipment with potable water after use. Prior to using equipment, thoroughly spray or fog all surfaces until wet, allowing excess sanitizer to drain. Vacate area for at least 2 hours.

DISINFECTION OF SWIMMING POOLS, SPAS / HOT TUBS, AND HYDROTHERAPY POOLS

Directions for Use

Swimming Pool Water Disinfection

For a new pool or spring start-up, superchlorinate with 52 to 104 oz. of product for each 10,000 gallons of water to yield 5 to 10 ppm available chlorine by weight. Check the level of available chlorine with a test kit. Adjust and maintain pool water pH to between 7.2 and 7.6. Adjust and maintain the alkalinity of the pool to between 50 and 100 ppm. To maintain the pool, add manually or by a feeder device 11 oz. of this product for each 10,000 gallons of water to yield an available chlorine residual between 0.6 and 1.0 ppm by weight. Stabilized pools should maintain a residual of 1.0 to 1.5 ppm available chlorine. Test the pH, available chlorine residual and alkalinity of the water frequently with appropriate test kits. Frequency of water treatment will depend upon temperature and number of swimmers.

Every 7 days, or as necessary, superchlorinate the pool with 52 to 104 oz. of product for each 10,000 gallons of water to yield 5 to 10 ppm available chlorine by weight. Check the level of available chlorine with a test kit. Do not reenter pool until the chlorine residual is between 1.0 and 3.0 ppm.

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

Winterizing Pools

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

Spas / Hot-Tubs

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

To maintain the water, apply 5 oz. of product per 1000 gallons of water over the surface to maintain a chlorine concentration of approximately 5 ppm.

After each use, shock treat with 8 oz. of this product per 500 gallons of water to control odor and algae.

During extended periods of disuse, add 3 oz. of product daily per 1000 gallons of water to maintain approximately 3 ppm chlorine concentration.

Hubbard and Immersion Tanks

Add 5 oz. of 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 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 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.