

8996-20001

7/24/2012

1/14



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON D C 20460

July 24, 2012

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

Ronald Espalin
Project Manager, Sierra Chemical Co
2302 Larkin Circle
Sparks, NV 89431

Subject Sierra Pure Chlor
EPA Reg # 8996-20001
Amendment Date April 26, 2012
Receipt Date May 01, 2012

Dear Mr Espalin

This acknowledges the receipt of your Amendment application dated April 26, 2012 in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended

Proposed Amendment

To amend the First Aid Statement and update the Storage & Disposal statement for the various container sizes (1, 5 and 15 gallons)

General Comment

This amendment is acceptable with the following comments

- 1 P 2- Under "**Hazards to Humans and Domestic Animals**", after the third sentence, insert to read "Remove and wash contaminated clothing before reuse "
- 2 P 2- Revise the "**Storage and Disposal**" instructions as per EPA regulations, 40 CFR 156 140, 40 CFR 156 144, 40 CFR 156 146, and 40 CFR 156 156 and summarized in PR Notice 2007-4 of October 29, 2007 (Revised April 29, 2008) as follows

"STORAGE AND DISPOSAL"

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

- a [Subheading] **Pesticide Storage** Keep this product in a tightly closed container when not in use Store in cool, dry, and well-ventilated area away from heat and open flame to avoid deterioration In case of spill, isolate container (if possible) and flood area with large amounts of water to dissolve all material before discarding in a sanitary sewer, then dispose the empty container in trash

b [Subheading] Pesticide Disposal

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

c [Subheading] Container Handling and Disposal

[Specify separate instructions for Household/Residential Products and for Commercial/Industrial/Institutional Products]

A [For Household/Residential Products]

[For rigid nonrefillable container less than 5 gallons]

Container Handling Nonrefillable rigid container. Do not re-use or refill this container. Rinse (or equivalent) promptly after emptying. Offer for recycling, if available, or throw empty container in trash.

B [For Commercial/Industrial/Institutional Products]

[For rigid nonrefillable container less than 5 gallons]

Container Handling Nonrefillable rigid container. Do not re-use or refill this container. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay of smoke.

C [For Commercial/Industrial/Institutional Products]

[For rigid nonrefillable container greater than 5 gallons]

Container Handling Nonrefillable rigid container. Do not re-use or refill this container. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay of smoke.

D [For Commercial/Industrial/Institutional Products]

[For rigid refillable container]

Container Handling Refillable rigid container Refill this container with this product only Do not reuse this container for any other purpose Cleaning before refilling is the responsibility of the re-filler Cleaning the container before final disposal is the responsibility of the person disposing of the container To clean the container before final disposal empty the remaining contents from the container into the application equipment or mix tank Fill the container ¼ full with water and recap Shake for 10 seconds Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal Drain for 10 seconds after the flow begins to drip Repeat this procedure two more times Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning If burned, stay of smoke

d The “**Storage and Disposal**” instructions should appear after the label “**Directions for Use**” instructions

3 Change “**should**” to “**must**” as per PR Notice 2000-5 in the following

P 6 – Under “**Individual Water Systems-Flowing Artesian Wells**”, in the second sentence

P 9 – Under “**Food Egg Sanitation**”, in the third and seventh sentences

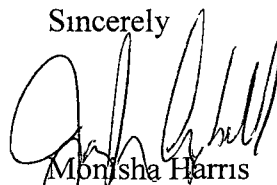
P 10 – Under “**Fish Pond Equipment**”, in the third sentence

P 10 – Under “**Sanitization of Dialysis Machines**”, in the tenth sentence

Please resubmit your label amendment through an application (Form 8570-1) for registration, which clearly states the purpose of the submission, three copies of the label, one of which be highlighted what changes have been made to the label

If you have any questions on this letter, please contact David Liem at 703-305-1284 or by email at liem.david@epa.gov

Sincerely



Monisha Harris
Acting Product Manager (32)
Regulatory Management Branch II
Antimicrobials Division (7510P)

Att Accepted stamped label with comment

SIERRA PURE CHLOR

4/14

ACTIVE INGREDIENT	
Sodium Hypochlorite	12.5%
INERT INGREDIENTS	87.5%
TOTAL	100.0%

KEEP OUT OF REACH OF CHILDREN

DANGER

ACCEPTED
with COMMENTS
EPA Letter Dated
JUL 24 2012

<p>FIRST AID</p> <p>If in eyes</p> <ul style="list-style-type: none"> • 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 • Call a poison control center or doctor for further treatment advice <p>If on skin or clothing</p> <ul style="list-style-type: none"> • 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 <p>If swallowed</p> <ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice • Have a 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 <p>If inhaled</p> <ul style="list-style-type: none"> • Move person to fresh air • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible • Call a poison control center or doctor for treatment advice <p>Note to Physician Probable mucosal damage may contraindicate the use of a gastric lavage</p>	<p>Under the Federal Insecticide, Fungicide and Rodenticide Act, this product is registered under EPA Reg No. 8996-20001</p>
--	--

Hot Line Number

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. Contact the Poison Control Center at 1-800-222-1222 for 24 hour emergency medical treatment information.

Manufactured by
Sierra Chemical Company
2302 Larkin Circle
Sparks, NV 90431
(775) 358-0888

EPA REG NO 8996-20001

5/14

HAZARD PRECAUTIONARY STATEMENTS TO HUMANS AND DOMESTIC ANIMALS

DANGER Corrosive, may cause severe skin and eye irritation or chemical burns to broken skin Do not get in eyes, on skin, or on clothing Wear safety glasses or goggles and rubber gloves when handling this product Wash 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

ENVIRONMENTAL HAZARDS

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

PHYSICAL OR CHEMICAL HAZARDS

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 which is irritating to eyes, lungs and mucous membranes

DIRECTIONS FOR USE

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

NOTE This product degrades with age Use a chlorine test kit and increase dosage, as necessary, to obtain the required level of available chlorine

STORAGE AND DISPOSAL

Store this product in a cool dry area, away from direct sunlight and heat to avoid deterioration In case of spill, flood areas with large quantities of water Product or rinsates that cannot be used should be diluted with water before disposal in a sanitary sewer Do not reuse container but place in trash collection Do not contaminate food or feed by storage, disposal or cleaning of equipment

Refillable Containers Refill this container with Sodium Hypochlorite only Do not reuse this container for any other purpose Cleaning the container before final disposal is the responsibility of the person disposing of the container Cleaning before refilling is the responsibility of the re-filler To clean the container before final disposal, empty the remaining contents from this container into the application equipment or mix tank Fill the container about 10 percent full with water Agitate vigorously or recirculate water with pump for 2 minutes Pour or pump rinsate into application equipment or rinsate collection system Repeat this rinsing procedure two more times

Nonrefillable Container Do not reuse or refill this container Offer for recycling if available Clean container promptly after emptying

For containers 5 gallons or less Triple rinse as follows Empty the remaining contents into application equipment, or a mix tank and drain for 10 seconds after the flow begins to drip Fill the container 1/4 full with water and recap Shake for 10 seconds Pour rinsate into application equipment or a mix tank to store rinsate for later use or disposal Drain for 10 seconds after the flow begins to drip Repeat this procedure two more times

For containers over 5 gallons Triple rinse as follows Empty the remaining contents into application equipment or a mix tank Fill the container 1/4 full with water Replace and tighten closures Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds Stand the container on its end and tip it back and forth several times Turn the container over onto its other end and tip it back and forth several times Empty the rinsate into application equipment or a mix tank to store rinsate for later use or disposal Repeat this procedure two more times

SWIMMING POOL WATER DISINFECTANT

6/14

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 to 7.6. Adjust and maintain the alkalinity of the pool to between 50 to 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 to 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 to 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 & clean, apply 3 oz of product per 1,000 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 manufacturers' instructions.

SPAS, HOT-TUBS, IMMERSION TANKS, ETC

SPAS/HOT-TUBS Apply 5 oz of product per 1,000 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 1,000 gallons of water over the surface to maintain a chlorine concentration of 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 1,000 gallons of water to maintain a 3 ppm chlorine concentration.

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

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 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 used for sanitizing purposes.

IMMERSION METHOD A solution of 100 ppm available chlorine may be used in the sanitizing solution if a chlorine test is available. Solutions containing an initial concentration of 100 ppm available chlorine must be tested and adjusted periodically to insure that the available chlorine does not drop below 50 ppm. Prepare a 100 ppm sanitizing solution by thoroughly mixing 1 oz of this product with 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 re-used for sanitizing purposes.

FLOW/PRESSURE METHOD Disassemble equipment and thoroughly clean after use. Assemble equipment in operating position prior to use. Prepare a volume of a 200 ppm available chlorine sanitizing solution equal to 110% of volume capacity of the equipment by mixing the product in a ratio of 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 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 100% 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 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.

SPRAY/FOG 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 2 oz product with 10 gallons of water. Prepare a 600 ppm solution 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 treated with a 600 ppm solution with a 200 ppm solution.

SANITIZATION OF POROUS FOOD CONTACT SURFACES

RINSE METHOD Prepare a 600 ppm solution by thoroughly mixing 6 oz of this product with 10 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 2 oz of this product with 10 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, 6 oz of this product with 10 gallons of water. Clean equipment in the normal manner. Immerse equipment in the 600 ppm solution for at least 2 minutes. Prepare a 200 ppm sanitizing solution by thoroughly mixing 2 oz of this product with 10 gallons of water. Prior to using equipment immerse all surfaces in a 200 ppm available chlorine solution. Do not rinse and do not soak equipment overnight.

SPRAY/FOG 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 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 200 ppm sanitizing solution by thoroughly mixing 2 oz of this product with 10 gallons of water.

8/14

SANITIZATION OF NONPOROUS NON-FOOD CONTACT SURFACES

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 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 2 oz 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.

DISINFECTION OF NONPOROUS NON-FOOD CONTACT SURFACES

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 sanitizer to drain. Do not rinse equipment with water after treatment.

SANITIZATION OF POROUS NON-FOOD CONTACT SURFACES

RINSE METHOD Prepare a sanitizing solution by thoroughly mixing 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 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.

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

9/14

The following are critical factors affecting wastewater 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 wastewater
- 2 **Contacting** Upon flash mixing, the flow through the system must be maintained
- 3 **Dosage/Residual Control** Successful disinfection is extremely dependent on response to fluctuating chlorine demand to maintain a predetermined, desirable level. Secondary effluent should contain 0.2 to 1.0 ppm chlorine residual after a 15 to 30 minutes contact time. A reasonable average of residual chlorine is 0.5 ppm after 15 minutes 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 15 ppm available chlorine solution. 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.

DISINFECTION OF DRINKING WATER (EMERGENCY/PUBLIC/INDIVIDUAL SYSTEMS)

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 casing (lining) with a 100 ppm available chlorine solution using a stiff brush. This solution can be made by thoroughly mixing 1 oz of this product into 10 gallons of water. After covering the well, pour the sanitizing solution into the well through both the pipesleeve 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 100 ppm available chlorine sanitizing 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 into the well. Consult your local Health Department for further details.

INDIVIDUAL WATER SYSTEMS - FLOWING ARTESIAN WELLS Artesian wells generally do not require disinfections. 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 8 drops 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.

PUBLIC WATER SYSTEMS

10/14

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 20 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 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 1,000 ppm available chlorine). After drying, flush with water and return to service.

EMERGENCY DISINFECTION AFTER FLOODS

WELLS Thoroughly flush contaminated casing with a 500 ppm available chlorine solution. Prepare this solution by mixing 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 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 5 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 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 sq ft. Water should stand at a depth of 1 foot above the surface of the filter bed for 4 to 24 hours. When filter beds can be backwashed of mud and silt, apply 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

11/14

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

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 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

COOLING TOWER/EVAPORATIVE CONDENSER WATER

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, 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 1 ppm residual Badly fouled systems must be cleaned before treatment is begun

LAUNDRY SANITIZERS

HOUSEHOLD LAUNDRY SANITIZERS

IN SOAKING SUDS Thoroughly mix 2 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 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 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.

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 transverse by animals or poultry. Empty all troughs, racks and other feeding and watering appliances. Thoroughly clean all surfaces with soap or detergent and rinse with water. To disinfect, saturate all surfaces with a solution of at least 1,000 ppm available chlorine for a period of 10 minutes. A 1,000 ppm solution can be made by thoroughly mixing 11 oz of this product with 10 gallons of water. Immerse all halters, ropes and other types of equipment used in handling and restraining animals or poultry, as well as the cleaned forks, shovels, and scrapers used for removing litter and manure. Ventilate buildings, cars, boats, and other closed spaces. Do not house livestock or poultry or employ equipment until chlorine has been dissipated. All treated feed racks, mangers, troughs, automatic feeders, fountains and waterers must be rinsed with potable water before reuse.

PULP AND PAPER MILL PROCESS WATER SYSTEMS

SLUG FEED METHOD - Initial Dose When system is noticeably fouled, apply 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 1 ppm residual. Badly fouled systems must be cleaned before treatment is begun.

AGRICULTURAL USES

POST-HARVEST PROTECTION Potatoes can be sanitized after cleaning and prior to storage by spraying with a sanitizing solution at a level of 1 gallon of sanitizing solution per tons of potatoes. Thoroughly mix 1 oz of this product to 2 gallons of water to obtain 500 ppm available chlorine.

Bee Cells and Bee Boards - (Not approved for use in California) Disinfect leaf-cutting bee cells and bee boards by immersion in a solution containing 1 ppm available chlorine for 30 minutes. Allow cells to drain for 2 minutes and dry for 4 to 5 hours or until no chlorine odor can be detected. This solution is made by thoroughly mixing 1 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 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 re-used 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 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 sanitizing solution prior to packaging Rinse fruit with potable water only prior to packaging

AQUACULTURAL USES

FISH PONDS Remove fish from ponds prior to treatment Thoroughly mix 103 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 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 - (Not approved for use in California) Remove lobsters, seaweed, etc from ponds prior to treatment Drain the pond Thoroughly mix 6,200 oz of this product to 10,000 gallons of water to obtain at least 600 ppm available chlorine Apply so that all barrows, gates, rock and dam are treated with product Permit high tide to fill the pond and then close gates Allow water to stand for 2 to 3 days until the available chlorine level reaches zero Open gates and allow 2 tidal cycles to flush the pond before returning lobsters to pond

CONTROL OF SCAVENGERS IN FISH HATCHERY PONDS Prepare a solution containing 200 ppm of available chlorine by mixing 2 oz of product with 10 gallons of water Pour into drained pond potholes Repeat if necessary Do not put desirable fish back into refilled ponds until chlorine residual has dropped to 0 ppm as determined by a test kit

SANITIZATION OF DIALYSIS MACHINES

Flush equipment thoroughly with water prior to using this product Thoroughly mix 6 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 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 multi-patient hemodialysate systems This product has been shown to be an effective disinfectant (virucide, fungicide, bactericide, pseudomonicide) when tested by AOAC and EPA test methods This product 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

ASPHALT OR WOOD ROOFS AND SIDINGS

To control fungus and mildew, first remove all physical soil by brushing and hosing with clean water, and apply a 5,000 ppm available chlorine solution Mix 5 oz of this product per gallon of water and brush or spray roof or siding After 30 minutes, rinse by hosing with clean water

BOAT BOTTOMS

To control slime on boat 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 18 oz of this product to this water to obtain a 35 ppm available chlorine concentration Leave immersed for 8 to 12 hours Repeat if necessary Do not discharge the solution until the free chlorine level has dropped to 0 ppm as determined by a swimming pool test kit

ARTIFICIAL SAND BEACHES

