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U S ENVIRONMENTAL PROTECTION AGENCY

Office of Pesticide Programs
Antimicrobials Division (7510 P)
1200 Pennsylvania Avenue N W
Washington D C 20460

PA Reg Number 41934 3
Date of Issuance July 24 2012

Term of Issuance Unconditional

Name of Pesticide Product Sodium Hypochlorite Solution
5 25%

NOTICE OF PESTICIDE
x Registration
Reregistration

(under FIFRA as amended)

Name and Address of Registrant (include ZIP Code)

George S Coyne Chemical Co Inc
3015 State Road
Croydon PA 19021

Note Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Antimicrobials Division prior to use of the label in commerce In any correspondence on this product always refer to the above EPA registration number

On the basis of information furnished by the registrant the above named pesticide is hereby registered/reregistered under the Federal Insecticide Fungicide and Rodenticide Act
Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency In order to protect health and the environment the Administrator on his motion may at any time suspend or cancel the registration of a pesticide in accordance with the Act The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others

This product (OPP Decision No 457625) is unconditionally registered in accordance with FIFRA sec 3(c)(7)(A) provided that you

- 1 Submit and/or cite all data required for registration of your product under FIFRA sec 3(c)(5) when the Agency requires all registrants of similar products to submit such data and submit acceptable responses required for re-registration of your product under FIFRA section 4
2 Change EPA File Symbol 41934 G to EPA Registration Number 41934 3
3 You must submit acceptable product specific Corrosion Characteristics and Storage Stability data within a year of this Registration notice
4 Correct the spelling of preferably as marked on page 1
5 Correct the spelling of traversed as marked on page 13
6 Correct the typographical error of 1/5 as marked on page 14

Submit one copy of the finished final printed label prior to releasing this product for sale

If these conditions are not complied with the registration will be subject to cancellation in accordance with FIFRA sec 6(e)

Your release for shipment of the product constitutes acceptance of these conditions

A stamped copy of the conditionally approved label is enclosed for your records

Signature of Approving Official

Handwritten signature of Monisha Harris

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

Date

July 24 2012

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SODIUM HYPOCHLORITE SOLUTION 5 25%

For Industrial Use

DISINFECTANT, SANITIZER, FUNGICIDE, ALGAECIDE

Active Ingredient – Sodium Hypochlorite	5 25%
Other Ingredients –	94 75%
Total	100 00%

KEEP OUT OF REACH OF CHILDREN

DANGER

FIRST AID	
If In Eyes	Hold eye open and rinse slowly and gently with water for 15 – 20 minutes Remove contact lenses if present after the first 5 minutes then continue rinsing eye Call a poison control center or doctor for treatment advice
If On Skin	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	Have person sip a glass of water if able to swallow Call a poison control center or doctor for treatment advice 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 <i>preferably</i> preferably mouth to mouth if possible Call a poison control center or doctor for further treatment advice
HOT LINE NUMBER	
Have the product container or label with you when you call a poison control center or when going for treatment You may also contact 1 800-424 9300 for emergency medical treatment information	
Note to physician Probable mucosal damage may contraindicate the use of gastric lavage	

SEE ADDITIONAL PRECAUTIONARY STATEMENTS ON SIDE PANEL

Manufactured by
COYNE CHEMICAL
 George S Coyne Chemical Co Inc
 3015 State Road
 Croydon PA 19021
 Telephone (210) 786 3000

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PRECAUTIONARY STATEMENTS

Hazards to humans and domestic animals

DANGER Corrosive Causes irreversible eye damage or skin burns Harmful if swallowed absorbed through skin or inhaled Do not get in eyes on skin or on clothing Avoid breathing spray mist Wear goggles or face shield Wear protective clothing and rubber gloves Wash thoroughly with soap and water after handling and before eating drinking chewing gum using tobacco or using the toilet Remove contaminated clothing and wash clothing before reuse Do not mix with chlorine type bleaches or other chemicals

Physical and Chemical Hazards

Strong oxidizer Flush drains before and after use Do not use or mix with other household chemicals such as toilet bowl cleaners rust removers acid or ammonia containing products To do so will release hazardous gases Prolonged contact with metal may cause pitting or discoloration

Environmental Hazards

This product is toxic to fish and aquatic organisms Do not discharge effluent into lakes streams ponds 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 AND DISPOSAL

Do not contaminate food or feed by storage disposal or cleaning of equipment

Pesticide Storage Store in a cool dry area away from direct sunlight and heat to avoid deterioration **Emergency Handling** In case of contamination or decomposition do not reseal container Isolate in open well ventilated area Flood with large volume of water In case of spill flood area with large quantities of water

Pesticide Disposal Product or product rinsates that cannot be used should be diluted with water before disposal in a sanitary sewer If these wastes or rinsates cannot be disposed of by use according to label instructions contact your State Pesticide or Environmental Control Agency or the Hazardous Waste Representative at the EPA Regional Office for guidance

Container Handling and Disposal Refillable container 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 the container Cleaning before refilling is the responsibility of the refiller To clean the container before final disposal empty the remaining contents from this container into application equipment or mix tank fill the container about 10 percent full of water Agitate vigorously or recirculate water with the pump for 2 minutes Pour or pump rinsate into application equipment or rinsate collection system Repeat this rinsing procedure two more times before final disposal of the container or recycling if available

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DIRECTIONS FOR USE

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

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

SWIMMING POOL WATER DISINFECTION

For a new pool or spring start up superchlorinate with 128 to 256 ozs 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 15 to 25 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 128 to 256 ozs 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 Pool reentry is prohibited above levels of 4 ppm chlorine due to risk of bodily injury

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 6 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 manufacturers instructions

SPAS HOT TUBS IMMERSION TANKS ETC

SPAS/HOT TUBS Apply 10 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 Reentry is prohibited above levels of 5 ppm chlorine due to risk of bodily injury 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 10 oz of product per 1000 gallons of water over the surface to maintain a chlorine concentration of 5 ppm

After each use shock treat with 16 oz of this product per 500 gallons of water to control odor and algae

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During extended periods of disuse add 6 oz of product daily per 1000 gallons of water to maintain a 3 ppm chlorine concentration

HUBBARD AND IMMERSION TANKS – Add 12.2 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 12.2 oz to a bucket of water and circulate this solution through the agitator of the tank for 15 minutes and then rinse out the solution. Clean tank thoroughly and dry with clean cloths (Not for use in California)

HYDROTHERAPY TANKS – Add 2.5 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.

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 ensure that the available chlorine does not drop below 50 ppm. Prepare a 100 ppm sanitizing solution by thoroughly mixing 2.5 oz of this product with 10 gallons of water. If no test kit is available, prepare a sanitizing solution by thoroughly mixing 5 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 re used for sanitizing purposes.

IMMERSION METHOD – A solution of 100 ppm available chlorine may be used in the sanitizing solution if a chlorine test kit is available. Solutions containing an initial concentration of 100 ppm available chlorine must be tested and adjusted periodically to ensure that the available chlorine does not drop below 50 ppm. Prepare a 100 ppm sanitizing solution by thoroughly mixing 2.5 oz of this product with 10 gallons of water. If no test kit is available, prepare a sanitizing solution by thoroughly mixing 5.0 oz of this product with 10 gallons of water to provide approximately

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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 5 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 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 5 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

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 5 oz product with 10 gallons of water Prepare a 600 ppm solution by thoroughly mixing the product in a ratio of 15 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 600 ppm solution with a 200 ppm solution

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SANITIZING OF POROUS FOOD CONTACT SURFACES

RINSE METHOD – Prepare a sanitizing solution by thoroughly mixing 15 oz of this product with 10 gallons of water to provide 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 and allow the sanitizer to drain. Prepare a 200 ppm sanitizing solution by thoroughly mixing 5 oz of this product with 10 gallons of water and rinse all surfaces with this 200 ppm solution. Do not rinse with water and do not soak equipment overnight.

IMMERSION METHOD Prepare a sanitizing solution by thoroughly mixing in an immersion tank 15 oz of this product with 10 gallons of water to provide 600 ppm available chlorine by weight. Clean equipment in the normal manner. Prior to use, immerse equipment in the sanitizing solution, maintaining contact for at least 2 minutes and allow the sanitizes to drain. Following this, prepare a 200 ppm sanitizing solution by thoroughly mixing 5 oz of this product with 10 gallons of water and rinse all surfaces with this 200 ppm solution. Do not rinse with water 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 15 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 5 oz of this product with 10 gallons of water.

SANITIZATION OF NONPOROUS NON FOOD CONTACT SURFACES

RINSE METHOD Prepare a sanitizing solution by thoroughly mixing 5 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 5 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.

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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 5 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 15 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 15 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

SANITIZATION OF POROUS NON FOOD CONTACT SURFACES

RINSE METHOD Prepare a sanitizing solution by thoroughly mixing 15 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 15 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 15 oz of this product with 10 gallons of water Use spray or fogging equipment which can resist hypochlorite solutions

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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 to ensure that the chlorinated effluent has been reduced to or below the maximum permitted by the controlling regulatory jurisdiction

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

The following are critical factors affecting wastewater disinfection

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

SEWAGE AND WASTEWATER TREATMENT

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 25 to 250 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 4 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 40 oz of product per 20 sq/ft evenly over the surface Wait 30 minutes

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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 4 oz. of this product to 2,000 gallons of water. Begin feeding this solution with a hypochlorinator until a free available chlorine residual of at least 0.2 ppm and no more than 0.6 ppm is attained throughout the distribution system. Check water frequently with a chlorine test kit. Bacteriological sampling must be conducted at a frequency no less than that prescribed by the National Primary Drinking Water Regulations. Contact your local Health Department for further details.

INDIVIDUAL SYSTEMS DUG WELLS Upon completion of the casing (lining) wash the interior of the casing (lining) with a 100 ppm available chlorine solution using a stiff brush. This solution can be made by thoroughly mixing 2.5 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 2.5 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 the pump cylinder with the sanitizer. Drop pipeline into the 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.

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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 3 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 This process has not been demonstrated to inactivate Cryptosporidium cysts

PUBLIC WATER SYSTEMS

RESERVOIRS ALGAE CONTROL Hypo chlorinate 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 50 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 service

NEW FILTER SAND Apply 200 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 8 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

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EXISTING EQUIPMENT Remove equipment from service thoroughly clean surfaces of all physical soil Sanitize by placing 53 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 12.5 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 500 ppm available chlorine solution Prepare this solution by mixing 12.5 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 50 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 7 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 200 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 200 oz of this product per each 50 sq ft allowing the water to stand at a depth of 1 foot above the filter After 30 minutes drain water to the level of the filter After 4 to 6 hours drain and proceed with normal backwashing

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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 24 hour retention time Use a chlorine test kit

EMERGENCY DISINFECTION AFTER FIRES

CROSS CONNECTIONS OF 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 12.5 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 of 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 128 to 256 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

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Subsequent Dose When microbial control is evident add 25 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 128 to 256 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 25 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 128 to 256 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 2.5 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

Commercial Laundry Sanitizers

Wet fabrics or clothes should be spun dry prior to sanitization Thoroughly mix 5 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

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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 12.5 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

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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 54 to 108 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 12 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 54 to 108 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 12 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

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CONTINUOUS FEED METHOD Initial Dose When system is noticeably fouled apply 54 to 108 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 5 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 ton of potatoes Thoroughly mix 1 5 oz of this product to 2 gallons of water to obtain 500 ppm available chlorine

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Disinfect leafcutting bee cells and bee boards by immersion in a solution containing 1 ppm available chlorine for 3 minutes. Allow cells to drain for 2 minutes and dry for 4 to 5 hours or until no chlorine odor can be detected. This solution is made by thoroughly mixing 1 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 3 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 degrees F. Spray the warm sanitizer so that the eggs are thoroughly wetted. Allow the eggs to thoroughly dry before casing or breaking. Do not apply a potable water rinse. The solution should not be re used to sanitize eggs.

FRUIT & VEGETABLE WASHING Thoroughly clean all fruits and vegetables in a wash tank. Thoroughly mix 8 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.

AQUACULTURAL USES

FISH PONDS Remove fish from ponds prior to treatment. Thoroughly mix 108 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 3 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 6,480 oz of this product to 10,000 gallons of water to obtain at least 600 ppm available chlorine. Apply so that all barrows, gates, rocks, and dams are treated with product. Permit high tide to fill the pond and then close the gates. Allow water to stand for 2 to 3 days until the available chlorine level reaches zero. Open and allow 2 tidal cycles to flush the pond before returning lobsters to the pond.

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CONDITIONING LIVE OYSTERS Thoroughly mix 8oz of this product to 10 000 gallons of water at 50 to 70 degrees F to obtain 0.5 ppm available chlorine. Expose oysters to 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 degrees F.

CONTROL OF SCAVENGERS IN FISH HATCHERY PONDS Prepare a solution containing 200 ppm of available chlorine by mixing 3 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 9 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 degrees C. Drain system of the sanitizing solution and thoroughly rinse with water. Discard and DO NOT reuse the spent sanitizer. Rinsate must be monitored with a suitable test kit to ensure that no available chlorine remains in the system.

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

Consult the guidelines for hemodialysate systems which are available from the Hepatitis Laboratories CDC Phoenix AZ 85021.

ASPHALT OR SEALED 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 8 oz of this product per gallon of water and brush or spray roof or siding. After 30 minutes rinse by hosing with clean water.

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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 27 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

To sanitize the sand spray a 500 ppm available chlorine solution containing 8 oz of this product per 10 gal of water at frequent intervals Small areas can be sprinkled with a watering can

WARE WASHING

FOR SANITIZING TABLEWARE IN LOW TEMPERATURE DISHWASHING MACHINE
Dispense this product into final rinse water at 100 ppm available chlorine Do not allow concentration to fall below 50 ppm Air dry Dispenser should be set to deliver 4cc of sanitizing solution per gallon of water to give 100 ppm of available chlorine Only a qualified service representative should set or adjust dispenser on the machine

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