

68849-20001

8-15-2001

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U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Pesticide Programs
Antimicrobials Division (7510C)
401 "M" St., S.W.
Washington, D.C. 20460

EPA Reg. Number:

68849-
20001

Date of Issuance:

August 15, 2001

NOTICE OF PESTICIDE:

Registration
 Reregistration

Term of Issuance: Conditional

(under FIFRA, as amended)

Name of Pesticide Product: Sodium
Hypochlorite Solution

Name and Address of Registrant (include ZIP Code):

Tilley Chemical Co., Inc.
501 Chesapeake Park Plaza
Baltimore, Maryland 21220

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 the 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 is conditionally registered in accordance with FIFRA sec. 3(c)(7)(A) provided you:

1. Submit and/or cite all data required for registration/ reregistration of your product under FIFRA sec. 3(c)(5) when the Agency requires all registrants of similar products to submit such data.

2. Submit one copy of the revised final printed label for the record changing the EPA File symbol 68849-ENNRR to EPA Registration Number 68849-20001.

3. Make every effort to assure that all customers who use this product are aware of the labeling restrictions contained on the label and any bulletin. The following typographical errors within the technical bulletins (Circulars) must be corrected:

Circular No. TCC 586A: Page 1, Spelling of Sanitization: typo Of should be of; page 2, change ration to ratio; page 3, change ration to ratio; Spelling of surfaces; page 4, spelling of potable.

Circular No. TCC 586B: Page 1, change of to if.

Circular No. TCC 586D: Page 1 typo of to; change exiting to existing; change product to produce; typo bas should be has; page 6 change and to add; on all Bulletins line up "active ingredient" on left margin; Correct other punctuation as marked on stamped bulletins.

4. The following changes must be made to the label:

Add "Total.....100%" under ingredient list; correct typo of your street address - from plaze to plaza; Under "Hazards to Humans and Domestic Animals" statements add "See side\back panel for Additional Information.

5. The Statement of Practical Treatment should be changed to First Aid and must be revised in accordance with PR Notice 2001 as follows:

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5. (continued)

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 further treatment advice.
- If on Skin or Clothing
- Take off contaminated clothing.
 - Rinse skin immediately with plenty of water for 15-20 minutes.
 - Call a poison control center or doctor for further treatment advice.
- If Swallowed
- Call a poison control center or doctor for further treatment advice.
 - Have person sip a glass of water if able to swallow.
 - Do not induce vomiting unless told to do so by the poison control center or doctor.
 - Do not give anything by mouth to an unconscious person.
- If Inhaled
- 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 further treatment advice.

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

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA sec. 6(e). You must provide 2 copies of the revised labeling to this Office prior to shipment for release. Your release for shipment of the product constitutes acceptance of these conditions. A stamped copy of the label is enclosed for your records.

Signature of Approving Official:

Jan Lemire for
Robert S. Brennis
Product Manager 32

Date:

AUG 15 2001

SODIUM HYPOCHLORITE SOLUTION

ACTIVE INGREDIENT:
SODIUM HYPOCHLORITE.....12.5%
INERT INGREDIENTS.....87.5%
Total _____ *100%*

STATEMENT OF PRACTICAL TREATMENT (FIRST AID)

~~IF CONTACT WITH EYES OCCURS: flush with water for at least 15 minutes. Get prompt medical attention.
IF CONTACT WITH SKIN OCCURS: wash with plenty of soap and water
IF SWALLOWED: drink large quantities of water, do not induce vomiting. Call a physician or poison control center immediately.~~

DANGER: Corrosive, may cause severe skin and eye irritation or chemical burns to broken skin. Causes eye damage. Wear face shield or goggle and rubber gloves when handling this product. Wash after handling. Avoid breathing vapors. Vacate poorly ventilated areas as soon as possible. Do not return until strong odors have dissipated.

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 matters (e.g. urine, feces, etc.) will release chlorine gas which will be irritating to eyes, lungs and mucous membranes.

LOT:
15 GAL DRUM (150 LBS NET)
EPA-Est. NO. 068849-MD-001
EPA REG. NO. _____

DANGER
KEEP OUT OF REACH OF CHILDREN

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
DOT: HYPOCHLORITE SOLUTION, 8, UN1791, PGIII
SODIUM HYPOCHLORITE CAS NO. 7681-52-9

ENVIRONMENTAL HAZARD
This pesticide is toxic to fish and aquatic organisms. Do not discharge effluent containing this product 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 sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

STORAGE AND DISPOSAL
Store this product in a cool dry area, away from direct sunlight and heat to avoid deterioration. In case of a 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 contaminate food or feed by storage, disposal or cleaning of equipment.
Empty containers should be thoroughly rinsed and returned to seller. Unusable product or rinsate should be diluted and disposed according to Local, State and Federal rules & regulations.

MANUFACTURED BY:
TILLEY CHEMICAL CO. INC
501 CHESAPEAKE PARK PLAZA *Plaza*
BALTIMORE MD 21220, 410-574-4500
IN CASE OF EMERGENCY CALL CHEMTREC
800-424-9300

DIRECTION FOR END 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.

For specific use directions, see Tilley circular for each particular application.

CIRCULAR NO. TCC 586A
Sanitizers of surfaces (e.g. wooden butcher block, stainless steel tools, concrete floors, tile walls)

CIRCULAR NO TCC 586B:
Sanitizers of commercial laundry

CIRCULAR NO. TCC 586C:
Agents to wash or assist in lye peeling of fruits and vegetables (sodium hypochlorite only), agents to help control microorganisms on mushrooms (pins), potatoes, sweet potatoes (post harvest), agent to help control microorganisms on eggs for human consumption.

CIRCULAR NO. TCC 586D:
Disinfectants of human drinking water (emergency/public & individual), swimming pool water, spas/hot tubs, hydrotherapy pools, human drinking water systems (e.g. water mains)

CIRCULAR NO. TCC 586E:
Disinfectants of nonporous hard surfaces (e.g. tiles, glass, stainless steel, fiberglass)

CIRCULAR NO. TCC 586F:
Agents to help control microorganisms in sewage, waste water, industrial and pulp and paper process water systems.

CIRCULAR NO. TCC 586G:
Algicides, slimicides in cooling towers or evaporative condensers.

ACCEPTED
with COMMENTS
in EPA Letter Dated:

AUG 15 2001

Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide, registered under EPA Reg. No. **68849-20001**

Insert see side/back panel for additional information

6/1/01



Chemical Co., Inc.

501 Chesapeake Park Plaza
Baltimore, MD 21220
410-574-4500 Fax: 410-687-5036

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SODIUM HYPOCHLORITE SOLUTION

← ACTIVE INGREDIENT:
SODIUM HYPOCHLORITE.....12.5%
INERT INGREDIENT.....87.5%

Sanitization

DIRECTIONS FOR USE

CIRCULAR NO. TCC 586A

Sanitization
↑
SANITATION

SANITATION 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 reused for sanitizing purpose.

IMMERSION METHOD:

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

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Clean equipment in the normal manner. Prior to use, immerse equipment in the sanitizing

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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 sufficient product to reestablish a 200 ppm residual. Do not rinse equipment with water after treatment.

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

FLOW/PRESSURE METHOD:

110% ?

Disassemble equipment and thoroughly clean after use. Assemble equipment in operating position prior to use. Prepare a volume of 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. Discard first portion of milk or beverage dispensed from equipment following sanitization.

CLEAN-IN-PLACE METHOD:

Thoroughly clean equipment after use. Prepare a volume of 200 ppm available chlorine sanitizing solution equal to 110% of volume capacity of the equipment by mixing the product 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. Discard first portion of milk or beverage dispensed from equipment following sanitization.

SPRAY/FOG METHOD:

Pre clean 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. Use spray/fogging equipment which can resist hypochlorite solutions. Always empty and rinse spray/fog equipment with potable water after use. Thoroughly spray or fog all surfaces until wet, allowing excess sanitizer to drain. Vacate area for at least 2 hours. Prior to using equipment, rinse all surfaces treated with a 600 ppm solution with a 200 ppm solution.

SANITIZATION OF POROUS 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. Rinse equipment with an approximate 200 ppm available chlorine by weight (2 oz. of product per 10 gallons of water) and drain, do not soak

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CIRCULAR NUMBER TCC586A

equipment overnight.

IMMERSION METHOD:

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

SPRAY/FOG METHOD:

Pre clean 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. of 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.

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:

Pre clean 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. of product with 10 gallons of water. Use spray or fogging equipment which can resist hypochlorite solutions. Prior to using equipment, thoroughly spray or fog all surfaces until wet, allowing excess sanitizer to drain. Vacate area for at least 2 hours.

ACCEPTED
with COMMENTS
in EPA Letter Dated:

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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 surface with 600 ppm available chlorine by thoroughly mixing the product in a ratio of 6 oz. of product with 10 gallons of water. Use spray or fogging equipment which can resist hypochlorite solutions. Always empty and rinse spray/fog equipment with portable 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.

ACCEPTED
with COMMENTS
in EPA Letter D...

AUG 15 2001

Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the year 2001, registered under...

68849-20001



Chemical Co., Inc.

501 Chesapeake Park Plaza
Baltimore, MD 21220
410-574-4500 Fax: 410-687-5036

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SODIUM HYPOCHLORITE SOLUTION

← ACTIVE INGREDIENT:
SODIUM HYPOCHLORITE.....12.5%
INERT INGREDIENT.....87.5%

DIRECTIONS FOR USE

CIRCULAR NO. TCC 586B

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

if

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Chemical Co., Inc.

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Baltimore, MD 21220
410-574-4500 Fax: 410-687-5036

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SODIUM HYPOCHLORITE SOLUTION

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SODIUM HYPOCHLORITE.....12.5%
INERT INGREDIENT.....87.5%

DIRECTIONS FOR USE

CIRCULAR NO. TCC 586C

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.

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 of available chlorine solution. The sanitizer temperature should not exceed 130 degree F. Spray the warm sanitizer so that the eggs are thoroughly wetted. Allow the eggs to thoroughly dry before casing or breaking. Do not apply a potable water rinse. The solution should not be reused to sanitize eggs.

FRUIT AND VEGETABLE WASHING:

Thoroughly clean all fruits and vegetable 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 vegetable with the sanitizing solution prior to packaging. Rinse fruit with potable water only prior to packaging.

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SODIUM HYPOCHLORITE SOLUTION

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DIRECTIONS FOR USE

CIRCULAR NO. TCC 586D

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 the casing (lining) with a 100 ppm of 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 pipe sleeve opening and the pipeline. Wash the exterior of the pump cylinder also with the sanitizing solution. Start pump and pump water until strong odor of chlorine in water is noted. Stop pump and wait at least 24 hours. After 24 hours flush well until all traces of chlorine have been removed from the water. Consult your local Health Department for further details.

INDIVIDUAL WATER SYSTEMS: DRILLED, DRIVEN & BORED WELLS

Run pump until water is as free from turbidity as possible. Pour a 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

How determined?

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sanitizer. Drop pipeline into well start pump and pump water until strong odor of chlorine in water is noted. Stop pump and wait at least 24 hours. After 24 hours flush well until all traces of chlorine have been removed from the water. Deep wells with high water levels may necessitate the use of special methods for introduction of the sanitizer into the well. Consult your local Health Department for further details.

INDIVIDUAL WATER SYSTEMS: FLOWING ARTESIAN WELLS

Artesian wells generally do not require disinfection. If analyses indicate persistent contamination, the well should be disinfected. Consult your local Health Department for further details.

EMERGENCY DISINFECTION

When boiling of water for 1 minute is not practical, water can be made potable by using this product. Prior to addition of the sanitizer, remove all suspended material by filtration or by allowing it to settle to the bottom. Decant the clarified contaminated water to a clean container and add 1 drop of this product to 20 gallons of water. Allow the treated water to stand for 30 minutes. Properly treated water should have a slight chlorine odor, if not, repeat dosage and allow the water to stand an additional 15 minutes, the treated water can then be made palatable by pouring it between clean containers several times.

PUBLIC WATER SYSTEMS

RESERVOIRS---ALGAE CONTROL

Hypochlorinate streams feeding the reservoir. Suitable feeding points should be selected on each stream at least 50 yards upstream from the points of entry into the reservoir.

MAINS:

Thoroughly flush section 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 surface. 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.

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NEW FILLER 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. 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.

EXITING EQUIPMENT:

Remove equipment from service, thoroughly clean surfaces of all physical soil. Sanitize by placing 21 oz. of this product for each 5 cubic feet capacity (approximately 500 ppm available chlorine). Fill to working capacity and let stand at least 4 hours. Drain and place in service. If the previous treatment is not practical, surfaces may be sprayed with a solution containing 5 oz. of this product for each 5 gallons of water (approximately 1000 ppm available chlorine). After drying, flush with water and return to service.

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EMERGENCY DISINFECTION AFTER FLOODS

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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 back wash 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.

Produce

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.

BASIN, TANKS, FLUMES, ETC.:

Thoroughly clean all equipment, then apply 20 oz. of product per 5 cubic feet of water to obtain 500 ppm available chlorine, as determined by a suitable test kit. After 24 hours drain, flush, and

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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 of 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 square feet. Water should stand at a depth of 1 foot above the surface of the filter bed for 4 to 24 hours. When filter beds can be back washed 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 back washing.

DISTRIBUTION SYSTEM:

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

EMERGENCY DISINFECTION AFTER FIRES

CROSS CONNECTIONS OR EMERGENCY CONNECTIONS

add colon

Hypochlorination or gravity feeders 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 minutes contact time. Use a chlorine test kit.

WATER SHIPPED IN BY TANKS, TANK CARS, TRUCKS, ETC.

Thoroughly clean all containers and equipment. Spray 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.

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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.

SWIMMING POOL WATER DISINFECTION

For a new pool or spring start-up, super chlorinate 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 between 7.2 to 7.6. Adjust and maintain the alkalinity of the pool 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 depends upon temperature and number of swimmers.

Every 7 days, or as necessary, super-chlorinate 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 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 and clean, apply 3 oz. of product per 1000 gallons of water while filter is running, to obtain a 3 ppm available chlorine residual, as determined by a suitable test kit. Cover pool, prepare heater, filter and heater components for winter by following manufacturer's instructions.

SPAS, HOT-TUBS, IMMERSION TANKS, ETC.

SPAS/HOT TUBS

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

To maintain the water, apply 5 oz. of product per 1000 gallons of water over the surface to

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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 1000 gallons of water to maintain a 3 ppm chlorine concentration.

HUBBARD AND IMMERSION TANKS:

Add 5 oz. of product per 200 gallons of water before patient use to obtain a chlorine residual of 25 ppm, as determined by a suitable test kit. Adjust and maintain the water pH to between 7.2 and 7.6. After each use drain the tank. Add 5 oz. to a bucket of water and circulate this solution through the agitator of the tank for 15 minutes and then rinse out the solution. Clean tank thoroughly and dry with clean cloths.

HYDROTHERAPY TANKS:

Add 1 oz. of this product per 1000 gallons of water to obtain a chlorine residual of 1 ppm, as determined by a suitable 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 to 7.6. Operate pool filter continuously. Drain pool weekly, and clean before refilling.

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Chemical Co., Inc.

501 Chesapeake Park Plaza
Baltimore, MD 21220
410-574-4500 Fax: 410-687-5036

16/19

SODIUM HYPOCHLORITE SOLUTION

← ACTIVE INGREDIENT:
SODIUM HYPOCHLORITE.....12.5%
INERT INGREDIENT.....87.5%

DIRECTIONS FOR USE

CIRCULAR NO. TCC 586E

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.

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DIRECTIONS FOR USE

CIRCULAR NO. TCC 586F

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, if the chlorinated effluent has been reduced to or below the maximum permitted by the controlling regulatory jurisdiction.

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

The following are critical factors affecting wastewater disinfection:

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

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SEWAGE AND WASTE WATER 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 back-washing filter.

PULP AND PAPER MILL PROCESS WATER SYSTEMS

SLUG FEED METHOD:

Initial Dose: When system is noticeably fouled, apply 52 to 104 oz. of this product per 10,000 gallons of water in the system to obtain from 5 to 10 ppm available chlorine. Repeat until control is achieved.

Subsequent Dose: When microbial control is evident, add 11 oz. of this product per 10,000 gallons of water in the system daily, or as needed to maintain control and keep the chlorine residual at 1 ppm. Badly fouled systems must be cleaned before treatment is begun.

INTERMITTENT FEED METHOD:

Initial Dose: When system is noticeably fouled, apply 52 to 104 oz. of this product per 10,000 gallons of water in the system to obtain 5 to 10 ppm available chlorine. Apply half (or 1/3, 1/4, 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, 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. 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.

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DIRECTIONS FOR USE

CIRCULAR NO. TCC 586G

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, 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. Badly fouled systems must be cleaned before treatment is begun.

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, 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. 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.