

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

OCT 23 2003

Mr. Edward W. Lyle  
Allchem Performance Products, LP  
1805 - 45<sup>th</sup> Street, N.W..  
Washington, DC 20007-2070

Subject: Clor Mor Cal Hypo Granules  
EPA Registration Number 69681-6  
Application Date: August 20, 2003  
Receipt Date: September 3, 2003

Dear Mr. Lyle:

The following amendment submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is acceptable with the condition listed below:

- To update the "First Aid" Statement in accordance with PR Notice 2001-1.
- To update the new "Storage and Disposal" Statement.
- Placement of EPA Registration Number, Establishment Number, and Company name at the end of the proposed text.
- Changing of the company name from "Allchem Industries, Inc." to "Allchem Performance Products, LP".

**Condition**

Place the "Net Weight" at the bottom front panel or end of label text.

**General Comments**

A stamped copy of the accepted labeling is enclosed. Submit three (3) copies of your final printed labeling before distributing or selling the product bearing the revised labeling.

**CONCURRENCES**

<b>SYMBOL</b>								
<b>SURNAME</b>								
<b>DATE</b>								

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Should you have any questions or comments concerning this letter, please contact Delores Williams at (703) 308-6372.

Sincerely,

A handwritten signature in black ink, appearing to read "R. Brennis". The signature is fluid and cursive, with the first name "R." and the last name "Brennis" clearly distinguishable.

Robert S. Brennis  
Product Manager 32  
Regulatory Management Branch II  
Antimicrobials Division (7510C)

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**CLOR MOR CAL HYPO GRANULES**

**ACCEPTED  
With COMMENTS  
EPA Letter Dated:**

ACTIVE INGREDIENT:  
Calcium Hypochlorite . . . . . 67.00%  
INERT INGREDIENTS: . . . . . 33.00%

OCT 23 2003

**KEEP OUT OF REACH OF CHILDREN  
DANGER**

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

**SEE ADDITIONAL PRECAUTIONARY INFORMATION ON SIDE PANELS.**

69681-6

**FIRST AID**

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

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

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

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

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

NET WEIGHT: lbs. ( kg)

**PRECAUTIONARY STATEMENTS:**

**HAZARDS TO HUMANS AND DOMESTIC ANIMALS: DANGER.** Highly corrosive. Causes skin and eye damage. May be fatal if swallowed. Do not get in eyes, on skin or on clothing. Wear goggles or face shield and rubber gloves when handling this product. Irritating to nose and throat. Avoid breathing dust. Remove and wash contaminated clothing before reuse.

**ENVIRONMENTAL HAZARDS:**

This product is toxic to fish and aquatic organisms. Do not contaminate water by cleaning of equipment or disposal of wastes. 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 AND CHEMICAL HAZARDS:**

**STRONG OXIDIZING AGENT.** Mix only with water. Use clean, dry utensils. Do not add this product to any dispensing device containing remnants of any other product. Such use may cause a violent reaction leading to fire or explosion. Contamination with moisture, organic matter, or other chemicals will start a chemical reaction with generation of heat, chlorine gas and possible generation of fire and explosion. In case of contamination or decomposition, do not reseal container. If possible, isolate container in open air or well-ventilated area. Flood with large volumes of water if necessary.

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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.** Sellers guarantee shall be limited to the terms set out on this label and subject thereto, the buyer assumes the risk to persons or property arising from the use or handling of this product and accepts the product on that condition.

### **SWIMMING POOL WATER DISINFECTION**

This product, with a 65% available chlorine, is designed to dissolve quickly and provide a ready source of available chlorine in swimming pools. Used according to directions this product kills algae, kills bacteria and destroys organic contaminants. If any chlorine residual is present, adding 2 ozs. per 10,000 gallons will increase the residual by approximately 1 part per million (ppm). Follow the dosages and procedures recommended below.

Always adjust pH between 7.2 and 7.6 prior to using this product.

**START-UP:** For initial chlorination of pool water, add 10 ozs. per 10,000 gals. Allow 5 minutes for dispersion and then test the chlorine residual with a pool test kit. If below 1.0 ppm repeat this dosage until 1.0 ppm is obtained. Pool should not be entered until chlorine residual is below 2.0 ppm.

**SUPERCHLORINATION (SHOCK) OF STABILIZED POOLS:** For pools stabilized with cyanuric acid, periodic superchlorination is necessary to provide sufficient free available chlorine to control algae, destroy unfiltered organic contaminants, minimize odors and keep your water sparkling clear. Superchlorinate by broadcasting this product over a large area, mainly in the deep end of the pool, at the rate of 10 ozs. per 10,000 gals. Superchlorinate every 14 days when the temperature of the water is below 80° F. Treatment every 7 days is recommended when the temperature is higher, bathing loads are heavy, pool water appears dull or hazy, an unpleasant chlorine-like smell is present, excessive eye irritation occurs, or after heavy rains. Pool should not be entered until the chlorine residual is below 2.0 ppm. Check the level of residual chlorine with a test kit.

### **TREATMENT FOR CONTROL OF ALGAE:**

If algae develops resulting in a green color and a slimy feeling, treatment is necessary. Broadcast this product over a large area of the pool surface mainly at the deep end, at the rate of 20 ozs. per 10,000 gals. If the pool sides or bottom develop algae spots, direct this product as close to the algae as possible. NOTE: Prolonged contact with pool surfaces may cause staining or bleaching. Immediately after treatment, thoroughly clean pool by scrubbing surface of algae growth, vacuuming and cycling through the filter. If necessary, repeat the treatment. Pool should not be entered until the chlorine residual is below 2.0 ppm.

**WINTERIZING:** While the water is still clear and clean, prepare for long periods of disuse by gradually applying 6 ozs. per 10,000 gals. Run the filter until dispersion is complete. Cover the pool with a plastic pool cover and prepare the heater, pump and filter components for winter by following manufacturers' directions. When the pool cover is removed in the spring, follow "START-UP" directions. At the end of the swimming pool season or when water is to be drained from the pool, this product must be allowed to dissipate from pool water before discharge. Do not chlorinate the pool within 24 hours prior to discharge.

### **SPAS, HOT TUBS, IMMERSION TANKS, ETC.**

**SPAS/HOT TUBS:** Apply 0.5 oz. of product per 500 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 0.5 oz. of product per 500 gallons of water over the surface to maintain a chlorine concentration of 5 ppm.

After each use, shock treat with 1.5 oz. of this product per 500 gallons of water to control odor and algae.

During extended periods of disuse, add 1.5 oz. of product daily per 500 gallons of water to maintain a 3 ppm chlorine concentration.

**HYDROTHERAPY TANKS:** Add 1 oz. of this product per 1000 gallons of water to obtain a chlorine residual of 1 ppm, as determined by a suitable chlorine test kit. Pool should not be entered until the chlorine residual is below 3 ppm. Adjust and maintain the water pH to between 7.2 and 7.6. Operate pool filter continuously. Drain pool weekly, and clean before refilling.

### **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 40 gallons of water. If no test kit is available, prepare a sanitizing solution by thoroughly mixing 1 oz. of this product with 20 gallons of water to provide approximately 200 ppm available chlorine by weight.

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

**IMMERSION METHOD:** A solution of 100 ppm available chlorine may be used in the sanitizing solution if a chlorine test kit is available. Solutions containing an initial concentration of 100 ppm available chlorine must be tested and adjusted periodically to insure that the available chlorine does not drop below 50 ppm. Prepare a 100 ppm sanitizing solution by thoroughly mixing 1 oz. of this product with 40 gallons of water. If no test kit is available, prepare a sanitizing solution by thoroughly mixing 1 oz. of this product with 20 gallons of water to provide approximately 200 ppm available chlorine by weight.

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

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

**FLOW/PRESSURE METHOD:** Disassemble equipment and thoroughly clean after use. Assemble equipment in operating position prior to use. Prepare a volume of a 200 ppm available chlorine sanitizing solution equal to 110% of volume capacity of the equipment by mixing the product in a ratio of 1 oz. product with 20 gallons of water. Pump solution through the system until full flow is obtained at all extremities, the system is completely filled with the

sanitizer and all air is removed from the system. Close drain valves and hold under pressure for at least 2 minutes to insure contact with all internal surfaces. Remove some cleaning solution from drain valve and test with a chlorine test kit. Repeat entire cleaning/sanitizing process if effluent contains less than 50 ppm available chlorine.

**CLEAN-IN-PLACE METHOD:** Thoroughly clean equipment after use. Prepare a volume of a 200 ppm available chlorine sanitizing solution equal to 110% of volume capacity of the equipment by mixing the product in a ratio of 1 oz. product with 20 gallons of water. Pump solution through the system until full flow is obtained at all extremities, the system is completely filled with the sanitizer and all air is removed from the system. Close drain valves and hold under pressure for at least 10 minutes to insure contact with all internal surfaces. Remove some cleaning solution from drain valve and test with a chlorine test kit. Repeat entire cleaning/sanitizing process if effluent contains less than 50 ppm available chlorine.

**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 1 oz. product with 20 gallons of water. Prepare a 600 ppm solution by thoroughly mixing the product in a ratio of 3 oz. product with 20 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 3 oz. of this product with 20 gallons of water. Clean surfaces in the normal manner. Rinse all surfaces thoroughly with the 600 ppm solution, maintaining contact for at least 2 minutes. Prepare a 200 ppm sanitizing solution by thoroughly mixing 1 oz. of this product with 20 gallons of water. Prior to using equipment, rinse all surfaces with a 200 ppm available chlorine solution. Do not rinse and do not soak equipment overnight.

**IMMERSION METHOD:** Prepare a 600 ppm solution by thoroughly mixing, in an immersion tank, 3 oz. of this product with 20 gallons of water. Clean equipment in a normal manner. Prepare a 200 ppm sanitizing solution by thoroughly mixing 1 oz. of this product with 20 gallons of water. Prior to using, immerse equipment in the 200 ppm sanitizing solution for at least 2 minutes and allow the sanitizer to drain. Do not rinse and do not soak equipment overnight.

**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 3 oz. product with 20 ounces 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 1 oz. of this product with 20 gallons of water.

### **SANITIZATION OF NONPOROUS NON-FOOD CONTACT SURFACES**

**RINSE METHOD:** Prepare a sanitizing solution by thoroughly mixing 1 oz. of this product with 20 gallons of water to provide approximately 200 ppm available chlorine by weight. Clean equipment surfaces in the normal manner. Prior to use, rinse all surfaces thoroughly with the sanitizing solution, maintaining contact with the sanitizer for at least 2 minutes. Do not rinse equipment with water after treatment and do not soak equipment overnight.

**IMMERSION METHOD:** Prepare a sanitizing solution by thoroughly mixing, in an immersion tank, 1 oz. of this product with 20 gallons of water to provide approximately 200 ppm available chlorine by weight. Clean equipment in the normal manner. Prior to use, immerse equipment in the sanitizing solution for at least 2 minutes and allow the sanitizer to drain. Do not rinse equipment with water after treatment.

**SPRAY/FOG METHOD:** Pre-clean all surfaces after use. Prepare a 200 ppm available chlorine sanitizing solution of sufficient size by thoroughly mixing the product in a ratio of 1 oz. product with 20 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 3 oz. of this product with 20 gallons of water to provide approximately 600 ppm available chlorine by weight. Clean equipment surfaces in the normal manner. Prior to use, rinse all surfaces thoroughly with the disinfecting solution, maintaining contact with the solution for at least 10 minutes. Do not rinse equipment with water after treatment and do not soak equipment overnight.

**IMMERSION METHOD:** Prepare a disinfecting solution by thoroughly mixing, in an immersion tank, 3 oz. of this product with 20 gallons of water to provide approximately 600 ppm available chlorine by weight. Clean equipment in the normal manner. Prior to use, immerse equipment in the disinfecting solution for at least 10 minutes and allow the sanitizer to drain. Do not rinse equipment with water after treatment.

### **SANITIZATION OF POROUS NON-FOOD CONTACT SURFACES**

**RINSE METHOD:** Prepare a sanitizing solution by thoroughly mixing 3 oz. of this product with 20 gallons of water to provide approximately 600 ppm available chlorine by weight. Clean surfaces in the normal manner. Prior to use, rinse all surfaces thoroughly with the sanitizing solution, maintaining contact with the sanitizer for at least 2 minutes. Do not rinse equipment with water after treatment and do not soak equipment overnight.

**IMMERSION METHOD:** Prepare a sanitizing solution by thoroughly mixing, in an immersion tank, 3 oz. of this product with 20 gallons of water to provide approximately 600 ppm available chlorine by weight. Clean equipment in the normal manner. Prior to use, immerse equipment in the sanitizing solution for at least 2 minutes and allow the sanitizer to drain. Do not rinse equipment with water after treatment.

**SPRAY/FOG METHOD:** After cleaning, sanitize non-food contact surfaces with a 600 ppm available chlorine by thoroughly mixing the product in a ratio of 3 oz. of this product with 20 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, 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 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 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.



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## **SEWAGE & WASTEWATER TREATMENT**

**EFFLUENT SLIME CONTROL:** Apply a 100 to 1000 ppm available chlorine solution at a location which will allow complete mixing. Prepare this solution by mixing 2 to 20 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 0.3 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 16 oz. of this 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 6000 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 100 ppm available chlorine solution using a stiff brush. This solution can be made by thoroughly mixing 1 oz. of this product into 40 gallons of water. After covering the well, pour the sanitizing solution into the well through both the pipe-sleeve opening and the pipeline. Wash the exterior of the pump cylinder also with the sanitizing solution. Start pump and pump water until strong odor of chlorine in water is noted. Stop pump and wait at least 24 hours. After 24 hours flush well until all traces of chlorine have been removed from the water. Contact your local Health Department for further details.

**INDIVIDUAL WATER SYSTEMS: DRILLED, DRIVEN & BORED WELLS:** Run pump until water is as free from turbidity as possible. Pour a 100 ppm available chlorine sanitizing solution into the well. This solution can be made by thoroughly mixing 1 oz. of this product into 40 gallons of water. Add 5 to 10 gallons of clean, chlorinated water to the well in order to force the sanitizer into the rock formation. Wash the exterior of pump cylinder with the sanitizer. Drop pipeline into well, start pump and pump water until strong odor of chlorine in water is noted. Stop pump and wait at least 24 hours. After 24 hours flush well until all traces of chlorine have been removed from the water. Deep wells with high water levels may necessitate the use of special methods for introduction of the sanitizer into the well. Consult your local Health Department for further details.

**INDIVIDUAL WATER SYSTEMS: FLOWING ARTESIAN WELLS:** Artesian wells generally do not require disinfection; if analysis 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 grain of this product to 1 gallon of water. One grain is approximately the size of the letter "O" in this sentence. 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 point 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 4 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 16 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 1 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 other treatment is necessary.

**EXISTING EQUIPMENT:** Remove equipment from service, thoroughly clean surfaces of all physical soil. Sanitize by placing 4 oz. of this product for each 5 cubic feet capacity (approximately 500 ppm available chlorine). Fill to working capacity and let stand for at least 4 hours. Drain and place in service. If previous treatment is not practical, surfaces may be sprayed with a solution containing 1 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 1 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 water well 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 4 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 1 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 16 oz. of this product for each 150 to 200 cubic feet of sand. When the filter is severely contaminated, additional product should be distributed over the surface at the rate of 16 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 16 oz. of this product per each 50 sq. ft., allowing the water to stand at a depth of 1 foot above the filter sand. After 30 minutes, drain water to the level of the filter. After 4 to 6 hours, drain, and proceed with normal backwashing.

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

#### **EMERGENCY DISINFECTION AFTER FIRES**

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

#### **EMERGENCY DISINFECTION AFTER DROUGHTS**

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

**WATER SHIPPED IN BY TANKS, TANK CARS, TRUCKS, ETC.:** Thoroughly clean all containers and equipment. Spray a 500 ppm available chlorine solution and rinse with potable water after 5 minutes. This solution is made by mixing 1 oz. of this product for each 5 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.

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## **COOLING TOWER / EVAPORATIVE CONDENSER WATER**

### **SLUG FEED METHOD:**

**Initial Dose:** When system is noticeably fouled, apply 10 to 20 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 2 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 10 to 20 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 (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 2 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 10 to 20 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 3,000 gallons of water lost by blowdown to maintain a 1 ppm residual. Badly fouled systems must be cleaned before treatment is begun.

### **BRIQUETTES OR TABLETS:**

Initially slug dose the system with 10 oz. of this product per 10,000 gallons of water in the system. Badly fouled systems must be cleaned before treatment is begun.

**Subsequent Dose:** When microbial control is evident, add 2 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.

## **LAUNDRY SANITIZERS**

### **HOUSEHOLD LAUNDRY SANITIZERS:**

**IN SOAKING SUDS:** Thoroughly mix 1 tbs. of this product to 10 gallons of wash water to provide 200 ppm available chlorine. Wait 5 minutes, then add soap detergent. Immerse laundry for at least 11 minutes prior to starting the wash/rinse cycle.

**IN WASHING SUDS:** Thoroughly mix 1 tbs. 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 cloths should be spun dry prior to sanitization. Thoroughly mix 1 oz. of this product with 20 gallons of water to yield 200 ppm available chlorine. Promptly after mixing the sanitizer, add the solution into the pre-wash prior to washing fabrics/clothes in the regular wash cycle with a good detergent. Test the level of available chlorine, if solution has been allowed to stand. Add more of this product if the available chlorine 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 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 2 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 10 to 20 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 2 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 10 to 20 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 2 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 10 to 20 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 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.

**BRIQUETTES OR TABLETS:**

Initial Dose: Initially slug dose the system with 10 oz. of this product per 10,000 gallons of water in the system. Badly fouled systems must be cleaned before treatment is begun.

Subsequent Dose: When microbial control is evident, add 2 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.

**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 10 gallons of water to obtain 500 ppm available chlorine.

**FOOD EGG SANITIZATION:** Thoroughly clean all eggs. Thoroughly mix 1 oz. of this product with 20 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 1 oz. of this product in 200 gallons of water to make a sanitization 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**

**CONTROL OF SCAVENGERS IN FISH HATCHERY PONDS:** Prepare a solution containing 200 ppm of available chlorine by mixing 0.5 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 7 oz. of this product to 60 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°FC. 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 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

**TOILET BOWL SANITIZERS**

(These products are marketed as individual packages for placement in the toilet. Therefore, use directions are not appropriate.)

(Claims are limited to sanitization. No claim for disinfection are permitted.)

**ASPHALT OR WOOD ROOFS AND SIDINGS**

To control fungus and mildew, first remove all physical soil by brushing and hosing with clean water, and apply a 5000 ppm available chlorine solution. Mix 1 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 35 oz. of this product to this water to obtain a 35ppm 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 REACHES**

To sanitize sand, spray a 500 ppm available chlorine solution containing 0.1 oz. of this product per gallon of water at frequent intervals. Small areas can be sprinkled with a watering can.

**FOOD PROCESSING PLANTS**

POULTRY DRINKING WATER – Spray or flush with a solution containing 1 oz. of this product for every gallon of water. Treat poultry drinking water to a dosage of 1 to 5 ppm available chlorine by adding 1 to 5 oz. of this product per 1000 gallons of water.

**FISH FILLETING**

Eviscerated and degilled fish removed from the fishing vessel are placed in a wash tank of seawater or fresh water which has been treated with enough product to produce a chlorine residual of 25 ppm, as determined by a test kit. Remove fish from treated water 24 to 48 hours before filleting. After scaling, the fish are again washed in a 25 ppm solution and are ready for filleting.

**PECAN CRACKING AND DYEING**

Prepare a 1000 ppm available chlorine soaking solution by adding 1 oz. of this product for each 5 gallons of water to obtain a 1000 ppm available chlorine content. Soak for a minimum of 10 minutes. After removal, age pecans for 24 hours. Before bleaching, pecans are placed in a rotary cleaner where they are washed, drained and soaked in a 2% sulfuric acid bath at 80 to 90°F for 1 minute. Transfer to a solution containing 100 oz. of this product for each 100 gallons of water (5000 ppm). After 4 to 8 minutes, they are drained and washed in a 1% sulfuric acid bath at 80-90°F. They are then dried.

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.

### **STORAGE AND DISPOSAL**

**Do not contaminate water, food or feed by storage or disposal or cleaning of equipment.**

**PESTICIDE STORAGE:** Keep this product dry in a tightly closed container when not in use. Store in a cool, dry, well-ventilated area away from heat or open flame. In case of decomposition, isolate container (if possible) and flood area with large amounts of water to dissolve all materials before discarding this container. Do not reuse empty container but place in trash collection.

**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 directions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

**CONTAINER DISPOSAL:** Triple rinse (or equivalent). 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 out of smoke.

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