

278-64

04/16/2011

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

APR 16 2011

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

Ms. Kim Davis  
Agent for Miami Products & Chemical Co.  
RegWest Company LLC  
8203 West 20<sup>th</sup> St., Suite A  
Greeley, CO 80634-4696

Subject: Sanygen Industrial Clor Sodium Hypochlorite  
EPA Registration No.: 278-64  
Application Date: 1/13/2012  
Receipt Date: 1/17/2012

Dear Ms. Davis:

The following amendment submitted in connection with registration under FIFRA, as amended, is acceptable.

**Proposed Amendment**

- o Update of the Storage and Disposal sections to include additional nonrefillable and refillable containers
- o Additional claims and uses in Directions for Use

**General Comments**

A stamped label is enclosed for your records. Submit three (3) copies of your final printed label before distributing or selling the product bearing the revised labeling. Should you have any questions or comments concerning this letter, you may contact Jaclyn Carl by telephone at (703) 347-0213 or by e-mail at [carl.jaclyn@epa.gov](mailto:carl.jaclyn@epa.gov). When submitting information or data in response to this letter, a copy of this letter should accompany the submission to facilitate processing.

Sincerely,

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

**CONCURRENCES**

SYMBOL							
SURNAME							
DATE							



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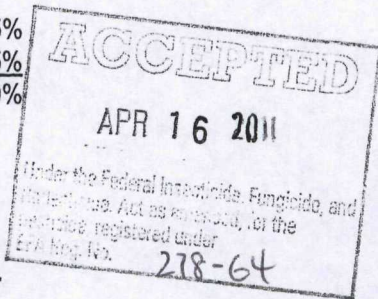
# Sanygen Industrial Clor Sodium Hypochlorite

[[Select marketing claims from *Marketing Claims* section below]]

**Active Ingredient:**

Sodium Hypochlorite (CAS No. 7681-52-9) .....	12.5%
<b>Other Ingredients</b> .....	<u>87.5%</u>
Total .....	100.0%

Provides 11.9% available chlorine



**Keep Out of Reach of Children  
DANGER**

See back {side} panel for additional Precautionary Statements.

### First Aid

<b>If in Eyes:</b>	<ul style="list-style-type: none"> <li>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.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If Swallowed:</b>	<ul style="list-style-type: none"> <li>Immediately call a poison control center or doctor for treatment advice.</li> <li>Have person sip a glass of water if able to swallow.</li> <li>Do not induce vomiting unless told to by a poison control center or doctor.</li> <li>Do not give anything to an unconscious person.</li> </ul>
<b>If on Skin or Clothing:</b>	<ul style="list-style-type: none"> <li>Take off contaminated clothing.</li> <li>Immediately rinse skin with plenty of water for 15-20 minutes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If Inhaled:</b>	<ul style="list-style-type: none"> <li>Move person to fresh air.</li> <li>If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth if possible.</li> <li>Call a poison control center or doctor for further treatment advice.</li> </ul>
Have the product container or label with you when calling a poison control center or doctor or going for treatment. For emergency information concerning this product, call Chemtrec at 1-800-424-9300.	
<b>Note to Physician:</b> Probable mucosal damage may contraindicate the use of gastric lavage.	

*{Note: The First Aid statements' grid format will be used if label space allows, otherwise a paragraph format will be used.}*

EPA Reg. No 278-64

EPA Est. 278-OH-1

Net Contents: \_\_\_\_\_ Gallon{s}  
{1 gallon through tanker trucks}

## PRECAUTIONARY STATEMENTS

### Hazards to Humans & Domestic Animals

**DANGER:** Corrosive. Causes irreversible eye damage. Do not get in eyes or on clothing. Wear face shield or goggles and rubber gloves when handling this product. Thoroughly wash with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.



### Environmental Hazards

*{For product packaged in containers less than 5 gallons:}*

This product is toxic to fish and aquatic organisms.

*{For product packaged in containers 5 gallons or greater:}*

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

### Physical or Chemical Hazards

**Strong Oxidizing Agent.** Mix only with water according to label directions. Mixing this product with chemicals (e.g. ammonia, acids, detergents, etc.) or organic matter (e.g. urine, feces, etc.) will release chlorine gas which is irritating to eyes, lungs and mucous membranes.

### DIRECTIONS FOR USE

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

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

**Cleaning Formulations, Bleaching & Non-Pesticide Chemical Manufacturing:** This product may be used for cleaning formulations, bleaching and non-pesticide chemical manufacturing. Only specifically designed handling and dispensing equipment must be used in accordance with manufacturer's instructions and according to operating instructions or product formulations defined by the use facility.

To calculate the pool capacity (in gallons of water) use the following formulas:

Shape of Pool	Gallons of Water
Rectangular	*Average Depth x average length x average width x 7.5
Circular	*Diameter x diameter x average depth x 5.9
Oval with straight sides	*Full width x full length x average depth x 6.7
Irregular	Consult pool builder

**\*Note:** All dimensions are in feet.

**Swimming Pool Water Disinfection:** For a new pool or spring start-up, superchlorinate with 52 to 104 fl. 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 suitable test kit. Adjust and maintain pool water pH to between 7.2 and 7.6. Adjust and maintain the alkalinity of the pool to between 50 and 100 ppm.

To maintain the pool, add manually or by feeder device 11 fl. oz. of this product for each 10,000 gallons of water to yield an available chlorine residual between 0.6 and 1.0 ppm by weight. Stabilized pools ~~must~~ 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 suitable test kits. Frequency of water treatment will depend upon temperature and number of swimmers.



Every 7 days, or as necessary, superchlorinate the pool with 52 to 104 fl. oz. of product for each 10,000 gallons of water to yield 5.0 to 10.0 ppm available chlorine by weight. Check the level of available chlorine with a suitable test kit. Re-entry into treated pool prohibited above levels of 4 ppm due to risk of bodily harm.

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 fl. oz. of product per 1,000 gallons of water, while filter is running, to obtain a 3 ppm available chlorine residual, as determined by a suitable test kit. Cover pool and prepare filter and heater components for winter by following the manufacturer's instructions.

**Spas & Hot Tubs:** Apply 5 fl. oz. of product per 1,000 gallons of water to obtain a free available chlorine residual of 5 ppm, as determined by a suitable test kit. Adjust and maintain the pH of the water 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 fl. oz. of product per 1,000 gallons of water over the surface to maintain a chlorine residual of 5 ppm.

After each use, shock treat with 8 fl. oz. of this product per 500 gallons of water to control odor and algae. Do not re-enter the spa or hot tub until the chlorine level is below 5 ppm due to risk of bodily harm.

During extended periods of disuse, add 3 fl. oz. of this product daily per 1,000 gallons of water to maintain a 3 ppm concentration.

**Hubbard and Immersion Tanks:** Add 5 fl. 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 5 fl. 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. Thoroughly clean tank and dry with clean cloths.

**Hydrotherapy Tanks:** Add 1 fl. oz. of this product per 1,000 gallons of water to obtain a chlorine residual of 1 ppm, as determined by a suitable chlorine test kit. Pool must not be entered until the chlorine residual is below 3 ppm due to risk of bodily harm. Adjust and maintain the water pH to between 7.2 and 7.6. Continuously operate pool filter. 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 1 fl. oz. of this product with 10 gallons of water. If no test kit is available, prepare a sanitizing solution by thoroughly mixing 2 fl. 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, thoroughly rinse all surfaces with the sanitizing solution, maintaining contact with the sanitizer for at least 2 minutes. If solution contains less than 50 ppm available chlorine, as determined by a suitable test kit, either discard the solution or add sufficient product to reestablish a 200 ppm residual. Do not rinse equipment with water after treatment and do not soak equipment overnight. Sanitizers used in automated systems may be used for general cleaning but may not be reused for sanitizing purposes.

**Immersion Method:** A solution of 100 ppm available chlorine may be used in the sanitizing solution if a chlorine test kit is available. Solutions containing an initial concentration of 100 ppm available chlorine must be tested and adjusted periodically to ensure that the available chlorine does not drop below 50 ppm. Prepare a 100 ppm sanitizing solution by thoroughly mixing 1 fl. oz. of this product with 10 gallons of water. If no test kit is available, prepare a



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sanitizing solution by thoroughly mixing 2 fl. oz. of this product with 10 gallons of water to provide approximately 200 ppm available chlorine by weight. Clean equipment in the normal manner. Prior to use, immerse equipment in the sanitizing solution for at least 2 minutes and allow the sanitizer to drain. If solution contains less than 50 ppm available chlorine, as determined by a suitable test kit, either discard the solution or add sufficient product to reestablish a 200 ppm residual. Do not rinse equipment with water after treatment. Sanitizers used in automated systems may be used for general cleaning but may not be reused for sanitizing purposes.

**Flow/Pressure Method:** Disassemble equipment and thoroughly clean after use. Assemble equipment in operating position prior to use. Prepare a volume of a 200 ppm available chlorine sanitizing solution equal to 110% of volume capacity of the equipment by mixing the product in a ratio of 2 fl. 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 2.6 fl. 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 2 fl. oz. product with 10 gallons of water. Prepare a 600 ppm solution by thoroughly mixing the product in a ratio of 6 fl. oz. product with 10 gallons of water. Use spray or fogging equipment that can resist hypochlorite solutions. Always empty and rinse spray/fog equipment with potable water after use. Thoroughly spray or fog all surfaces until wet, allowing excess sanitizer to drain. Vacate area for at least 2 hours. Prior to using equipment, rinse all surfaces treated with a 600 ppm solution with a 200 ppm solution.

#### Sanitization of Porous Food Contact Surfaces

**Rinse Method:** Prepare a 600 ppm solution by thoroughly mixing 6 fl. oz. of this product with 10 gallons of water. Clean surfaces in the normal manner. Thoroughly rinse all surfaces with the 600 ppm solution, maintaining contact for at least 2 minutes. Prepare a 200 ppm sanitizing solution by thoroughly mixing 2 fl. oz. of this product with 10 gallons of water. Prior to using equipment, rinse all surfaces with a 200 ppm available chlorine solution. Do not rinse and do not soak equipment overnight.

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

**Spray/Fog Method:** Preclean all surfaces after use. Prepare a 600 ppm available chlorine sanitizing solution of sufficient size by thoroughly mixing the product in a ratio of 6 fl. oz. product with 10 gallons of water. Use spray or fogging equipment which can resist hypochlorite solutions. Always empty and rinse spray/fog equipment with potable water after use. Thoroughly spray or fog all surfaces until wet, allowing excess sanitizer to drain. Vacate area for at least 2 hours. Prior to using equipment, rinse all surfaces with a 200 ppm available chlorine solution. Prepare a 200 ppm sanitizing solution by thoroughly mixing 2.6 fl. 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 fl. 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



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

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

#### Disinfection of Nonporous Non-Food Contact Surfaces

**Rinse Method:** Prepare a disinfecting solution by thoroughly mixing 6 fl. 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, thoroughly rinse all surfaces 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 fl. oz. of this product with 10 gallons of water to provide approximately 600 ppm available chlorine by weight. Clean equipment in the normal manner. Prior to use, immerse equipment in the disinfecting solution for at least 10 minutes and allow the sanitizer to drain. Do not rinse equipment with water after treatment.

#### Sanitization of Porous Non-Food Contact Surfaces

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

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

#### Sewage and 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, must ~~should~~ be the final and primary standard and the chlorine residual must ~~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 must ~~should~~ contain 0.2 to 1.0 ppm chlorine residual after a 15 to 30 minutes contact time. A reasonable average of residual chlorine is 0.5 ppm after 15 minutes contact time.

**Sewage and Wastewater Treatment**

**Effluent Slime Control:** Apply a 100 to 1,000 ppm available chlorine solution at a location which will allow complete mixing. Prepare this solution by mixing 10 to 100 fl. 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 1.5 fl. 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 fl. oz. of product per 20 sq. ft. evenly over the surface. Wait 30 minutes before draining water to a level that is even with the top of the filter. Wait for 4 to 6 hours before completely draining and backwashing filter.

**Disinfection of Drinking Water  
(Emergency/Public/Individual Systems)**

**Public Systems:** Mix a ratio of 1 fl. 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 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 1 fl. 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 and 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 fl. oz. of this product into 10 gallons of water. Add 5 to 10 gallons of clean, chlorinated water to the well in order to force the sanitizer into the rock formation. Wash the exterior of pump cylinder with the sanitizer. Drop pipeline into well, start pump and pump water until strong odor of chlorine in water is noted. Stop pump and wait at least 24 hours. After 24 hours flush well until all traces of chlorine have been removed from the water. Deep wells with high water levels may necessitate the use of special methods for introduction of the sanitizer into the well. Consult your local Health Department for further details.

**Individual Water Systems – Flowing Artesian Wells:** Artesian wells generally do not require disinfection. If analyses indicate persistent contamination, the well must 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 must 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 several times between clean containers.

**Public Water Systems**



**Reservoirs – Algae Control:** Hypochlorinate streams feeding the reservoir. Suitable feeding points must be selected on each stream at least 50 yards upstream from the points of entry into the reservoir.

**Mains:** Thoroughly flush section to be sanitized by discharging from hydrants. Permit a water flow of at least 2.5 feet per minute to continue under pressure while injecting this product by means of a hypochlorinator. Stop water flow when a chlorine residual test of 50 ppm is obtained at the low pressure end of the new main section after a 24 hour retention time. When chlorination is completed, the system must be flushed free of all heavily chlorinated water.

**New Tanks, Basins, Etc.:** Remove all physical soil from surfaces. Place 20 fl. 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 80 fl. oz. of this product for each 150 to 200 cubic feet of sand. The action of the product dissolving as the water passes through the bed will aid in sanitizing the new sand.

**New Wells:** Flush the casing with a 50 ppm available chlorine solution of water containing 5 fl. oz. of this product for each 100 gallons of water. The solution must be pumped or fed by gravity into the well after thorough mixing with agitation. The well must stand for several hours or overnight under chlorination. It may then be pumped until a representative raw water sample is obtained. Bacterial examination of the water will indicate whether further treatment is necessary.

**Existing Equipment:** Remove equipment from service, thoroughly clean surfaces of all physical soil. Sanitize by placing 21 fl. 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 fl. oz. of this product for each 5 gallons of water (approximately 1,000 ppm available chlorine). After drying, flush with water and return to service.

#### Emergency Disinfection after Floods

**Wells:** Thoroughly flush contaminated casing with a 500 ppm available chlorine solution. Prepare this solution by mixing 5 fl. oz. of this product with 10 gallons of water. Backwash the well to increase yield and reduce turbidity, adding sufficient chlorinating solution to the backwash to produce a 10 ppm available chlorine residual, as determined by a chlorine test kit. After the turbidity has been reduced and the casing has been treated, add sufficient chlorinating solution to produce a 50 ppm available chlorine residual. Agitate the well water for several hours and take a representative water sample. Retreat well if water samples are biologically unacceptable.

**Reservoirs:** In case of contamination by overflowing streams, establish hypochlorinating stations upstream of the reservoir. Chlorinate the inlet water until the entire reservoir obtains a 0.2 ppm available chlorine residual, as determined by a suitable chlorine test kit. In case of contamination from surface drainage, apply sufficient product directly to the reservoir to obtain a 0.2 ppm available chlorine residual in all parts of the reservoir.

**Basins, Tanks, Flumes, Etc.:** Thoroughly clean all equipment, then apply 20 fl. oz. of product per 5 cu. ft. of water to obtain 500 ppm available chlorine, as determined by a suitable test kit. After 24 hours drain, flush, and return to service. If the previous method is not suitable, spray or flush the equipment with a solution containing 5 fl. oz. of this product for each 5 gallons of water (1,000 ppm available chlorine). Allow to stand for 2 to 4 hours, flush and return to service.

**Filters:** When the sand filter needs replacement, apply 80 fl. oz. of this product for each 150 to 200 cubic feet of sand. When the filter is severely contaminated, distribute additional product over the surface at the rate of 80 fl. oz. per 20 sq. ft. Have the water stand at a depth of 1 foot above the surface of the filter bed for 4 to 24 hours. When filter beds can be backwashed of mud and silt, apply 80 fl. 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



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**Cross Connections or Emergency Connections:** Set up hypochlorination or gravity feed equipment 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:** Set up gravity or mechanical hypochlorite feeders on a supplementary line to dose the water to a minimum chlorine residual of 0.2 ppm after a 20 minute contact time. Use a chlorine test kit.

**Water Shipped in by Tanks, Tank Cars, Trucks, Etc.:** Thoroughly clean all containers and equipment. Spray a 500 ppm available chlorine solution and rinse with potable water after 5 minutes. This solution is made by mixing 5 fl. oz. of this product for each 10 gallons of water. During the filling of the containers, dose with sufficient amounts of this product to provide at least a 0.2 ppm chlorine residual. Use a chlorine test kit.

**Emergency Disinfection after Main Breaks**

**Mains:** Before assembly of the repaired section, flush out mud and soil. Permit a water flow of at least 2.5 feet per minute to continue under pressure while injecting this product by means of a hypochlorinator. Stop water flow when a chlorine residual test of 50 ppm is obtained at the low pressure end of the new main section after a 24 hour retention time. When chlorination is completed, the system must be flushed free of all heavily chlorinated water.

**Cooling Tower/Evaporative Condenser Water**

**Slug Feed Method – Initial Dose:** When system is noticeably fouled, apply 52 to 104 fl. 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 fl. 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 fl. oz. of this product per 10,000 gallons of water in the system to obtain 5 to 10 ppm available chlorine. Apply half (or 1/3, 1/4 or 1/5) of this initial dose when half (or 1/3, 1/4 or 1/5) of the water in the system has been lost by blowdown. **Subsequent Dose:** When microbial control is evident, add 11 fl. oz. of this product per 10,000 gallons of water in the system to obtain a 1 ppm residual. Apply half (or 1/3, 1/4 or 1/5) of this initial dose when half (or 1/3, 1/4 or 1/5) of the water in the system has been lost by blowdown. Badly fouled systems must be cleaned before treatment is begun.

**Continuous Feed Method – Initial Dose:** When system is noticeably fouled, apply 52 to 104 fl. 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 fl. 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:** Initially slug dose the system with 52 fl. 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 11 fl. 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 2 fl. oz. of this product to 10 gallons of washwater to provide 200 ppm available chlorine. Wait 5 minutes, then add soap or detergent. Immerse laundry for at least 11 minutes prior to starting the wash/rinse cycle.

**In Washing Suds:** Thoroughly mix 2 fl. oz. of this product to 10 gallons of washwater 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**

Spin dry wet fabrics or clothes prior to sanitization. Thoroughly mix 2 fl. 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



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

### Pulp and Paper Mill Process Water Systems

**Slug Feed Method – Initial Dose:** When system is noticeably fouled, apply 52 to 104 fl. 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 fl. 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 fl. 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 12.8 fl. 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 64 to 128 fl. 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 1.3 fl. 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:** Initially slug dose the system with 64 fl. 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 12.8 fl. 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 ton of potatoes. Thoroughly mix 1 fl. oz. of this product to 2 gallons of water to obtain 500 ppm available chlorine.

**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 2 fl. oz. of this product with 10 gallons of warm water to produce a 200 ppm available chlorine solution. The sanitizer temperature must ~~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~~ Do not be reused the solution to sanitize eggs.



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**Fruit and Vegetable Washing:** Thoroughly clean all fruits and vegetables in a wash tank. Thoroughly mix 5 fl. 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 103 fl. oz. of this product to 10,000 gallons of water to obtain 10 ppm available chlorine. Add more product to the water if the available chlorine level is below 1 ppm after 5 minutes. Return fish to pond **after** the available chlorine level reaches zero.

**Fish Pond Equipment:** Thoroughly clean all equipment prior to treatment. Thoroughly mix 2 fl. oz. of this product to 10 gallons of water to obtain 200 ppm available chlorine. Porous equipment must soak for one hour.

**Maine Lobster Ponds:** Remove lobsters, seaweed etc. from ponds prior to treatment. Drain the pond. Thoroughly mix 6,200 oz. (48.4 gallons) of this product to 10,000 gallons of water to obtain at least 600 ppm available chlorine. Apply so that all barrows, gates, rock and dam are treated with product. Permit high tide to fill the pond and then close gates. Allow water to stand for 2 to 3 days until the available chlorine level reaches zero. Open gates and allow 2 tidal cycles to flush the pond before returning lobsters to pond.

**Conditioning Live Oysters:** Thoroughly mix 5 fl. oz. of this product to 10,000 gallons of water at 50 to 70°F to obtain a 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°F.

**Control of Scavengers in Fish Hatchery Ponds:** Prepare a solution containing 200 ppm of available chlorine by mixing 2 fl. 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

Thoroughly flush equipment with water prior to using this product. Thoroughly mix 6 fl. oz. of this product to 10 gallons of water to obtain at least 600 ppm available chlorine. Immediately use this product in the hemodialysate system allowing for a minimum contact time of 15 minutes at 20°C. Drain system of the sanitizing solution and thoroughly rinse with water. Discard and **do not** reuse the spent sanitizer. Rinsate must be monitored with a suitable test kit to ensure that no available chlorine remains in the system. This product can be used ~~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. Use this product in a disinfectant program that includes bacteriological monitoring of the hemodialysate delivery system. ~~This product is Do not recommended for use~~ this product in hemodialysate or reverse osmosis (RO) membranes. Consult the guidelines for hemodialysate systems which are available from the Hepatitis Laboratories, CDC, Phoenix, AZ 85021.

This product is not to be used as a terminal sterilant/high level disinfectant on any surface or instrument that (1) is introduced directly into the human body, either into or in contact with the bloodstream or normally sterile areas of the body, or (2) contacts intact mucous membranes but which does not ordinarily penetrate the blood barrier or otherwise enter normally sterile areas of the body. This product may be used to preclean or decontaminate critical or semi-critical medical devices prior to sterilization or high level disinfection.

#### Asphalt or Wood Roofs and Sidings

To control fungus and mildew, first remove all physical soil by brushing and hosing with clean water, and apply a 5,000 ppm available chlorine solution. Mix 5 fl. 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~~ contains approximately 500 gallons of water for a 14 foot boat. Add 18 fl. 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 5 fl. oz. of this product per 10 gallons of water at frequent intervals. Small areas may be sprinkled with a watering can.

### Toilet Bowl Sanitizer

{These products are marketed as individual packages for placement in the toilet. Therefore use directions are not appropriate. Claims are limited to sanitization. No claims for disinfection are permitted.}

### Notice: Apply this product only as specified on this label.

To the extent consistent with applicable law, buyer assumes all risks of use of this chemical if used contrary to directions.

*{For product in household/residential-use containers:}*

### Storage and Disposal

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

**Pesticide Storage:** To avoid deterioration, store this product in a cool dry area, away from direct sunlight and heat. In case of spill, flood areas with large quantities of water. **Container Disposal:** Non-refillable container; do not reuse or refill this container. **If empty:** Do not reuse this container. Place in trash or offer for recycling if available. **If partly filled:** Call your local solid waste agency for disposal instructions. Never place undiluted unused product down any indoor or outdoor drain.

*{For product not in household/residential-use containers (refillable container):}*

### Storage and Disposal

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

**Pesticide Storage:** To avoid deterioration, store this product in a cool dry area, away from direct sunlight and heat. In case of spill, flood areas with large quantities of water. **Pesticide Disposal:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance. **Container Disposal:** Refillable container. Refill this container with only sodium hypochlorite. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the 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 with 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.

*{For product not in household/residential-use containers greater than 5 gallons (non-refillable container):}*

### Storage and Disposal



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

**Pesticide Storage:** To avoid deterioration, store this product in a cool dry area, away from direct sunlight and heat. In case of spill, flood areas with large quantities of water. **Pesticide Disposal:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

**Container Disposal:** Non-refillable container; do not reuse or refill this container. Offer for recycling, if available. Triple rinse (or equivalent) container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

*{For product not in household/residential-use containers less than or equal to 5 gallons (non-refillable container):}*

**Storage and Disposal**

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

**Pesticide Storage:** To avoid deterioration, store this product in a cool dry area, away from direct sunlight and heat. In case of spill, flood areas with large quantities of water. **Pesticide Disposal:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. **Container Disposal:** Non-refillable container; do not reuse or refill this container. Offer for recycling, if available. Triple rinse (or equivalent) container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

*{Per PR Notice 2007-4 the batch code/lot number will appear on the label or container.}*



**WATER QUALITY**

ANSI/NSF 60

DRINKING WATER TREATMENT ADDITIVE

<5N86>

MAX USE LEVEL

80mg/L

**Do Not Mix With Acids or other Chemicals**



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HYPOCHLORITE SOLUTION  
UN 1791  
FOR COMMERCIAL USE



**Miami Products & Chemical Co.**  
520 Lonoke Street  
Dayton, OH 45403  
800-776-1313

*{Marketing Claims}*

For Disinfection and Sanitization of {Select from Sites Listed in *Directions for Use*}

*{End of Marketing Claims}*

- [ ] Denotes optional/alternative language
- { } Denotes language that does not appear on the market label