PM 32 6785-4

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

P. B. & S. Chemical Co., Inc.
1405 Highway 136 West
P. O. Box 20
Henderson, KY 42420-0020

AUG 18 1995

Attention: Virgil Fegarido

Subject: Sodium Hypochlorite Solution 12.5%
EPA Registration Number 6785-4
Your Submission Dated February 15, 1995
EPA Received Date February 24, 1995

The amendment referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, to revise and update the product labeling, is acceptable provided that you make the following revisions before you release the product for shipment bearing the amended labeling.

Please make the following labeling revisions:

1. Revise item 10, "Shell Sanitizing Components" to include the following statements:

   Thoroughly clean all eggs. Thoroughly mix 2 oz. of this product with 10 gallons of warm water to produce a 200 ppm available chlorine solution. The sanitizer temperature should not exceed 130 degrees Feinheit. Spray the warm sanitizer so that the eggs are thoroughly wetted. Allow the eggs to thoroughly dry before casing or breaking. The solution should not be re-used to sanitize eggs.

2. Revise the last statement, last paragraph (Spray/Fog Method) of item 1 to read as follows:

   "Prior to using equipment, rinse all surfaces treated with a 600 ppm solution with a 200 ppm solution".

1 of 8

CONCURRENCES								
SYMBOL								
SURNAME								
DATE								

EPA Form 1320-1A (1/90)

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*U.S. Government Printing Office: 1992 — 620-856/40672

3. Revise the Environmental Hazards statement to read as follows per PR Notice 93-10:

> "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 notifiying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA".

A stamped copy of the labeling is enclosed for your records.

Submit one (1) copy of the final printed label before you release the product for shipment bearing the amended labeling.

If you have any questions concerning this letter, please contact me at (703)-305-7964.

Sincerely yours,

Ruth G. Douglas
Product Manager (32)
Antimicrobial Program Branch
Registration Division (7505C)

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.

Dilution Conversion Chart for Sodium Hypochlorite Solution

Public Systems: Disinfection of drinking water: Mix a ratio of 1 oz. to 2000 gallons of water to provide at lease 0.2 ppm and no more than 0 6 ppm Individual water system: Emergency disinfection 8 drops to 20 gallons of water.

Amount of Water	Available Chlorine	12.5%
2000 Gallons	0.2 to 0.6 ppm	1 oz.
20 Gallons	0.2 to 0 6 ppm	8 drops

STORAGE AND DISPOSAL

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

COMMERCIAL LAUNDRY SANITIZERS

Wet fabrics or clothes should be spun dry prior to sanitization Thoroughly mix 2 oz of this product with 10 gallons of water to yield 200 ppm available chlorine. Promptly after mixing the sanitizer, add the solution into the 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 220 ppm.

SEWAGE AND WASTEWATER TREATMENT

EFFLUENT SLIME CONTROL: Apply a 100 to 1000 ppm available chlorine solution at a location which will allow complete mixing Prepare this solution by mixing 10 to 100 oz. of this product with 100 gallons of water Once control is evident, apply a 15 ppm available chlorine solution. Prepare this solution by mixing 3 oz. of this product with 100 gallons of water.

FILTER BEDS - SLIME CONTROL Remove filter from service, drain to a depth of 1 ft. above filter sand, and add 80 oz. of product per 20 sq/ft evenly over the surface. Wait 30 minutes before draining water to a level that is even with the top of the filter. Wait for 4 to 6 hours before completely draining and backwashing filter.

PUBLIC WATER SYSTEMS

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

MAINS: Thoroughly flush section to be sanitized by discharging from hydrants. Permit a water flow of a least 2 5 feet per minute to continue under pressure while injecting this product by means of a hypochlorinator. Stop water flow when a chlorine residual test of 50 ppm is obtained at the low pressure end of the new main section after a 24 hour retention time. When chlorination is completed, the system must be flushed free of all heavily chlorinated water.

NEW TANKS, BASINS, ETC Remove all physical soil from surfaces. Place 20 oz. of this product for each 5 cubic feet of working capacity (50 ppm available chlorine). Fill to working capacity and allow to stand for at least 4 hours. Drain and flush with portable water and return to surface

NEW FILTER SAND Apply 8 oz of this product for each 150 to 200 cubic feet of sand The action of the product dissolving as the water passes through the bed will aid in sanitizing the new sand

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

PUBLIC WATER SYSTEMS (CONTINUED)

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

DISINFECTION OF DRINKING WATER (EMERGENCY/PUBLIC SYSTEMS)

PUBLIC SYSTEMS: Mix a ratio of 1 oz. of this product to 100 gallons of water Begin feeding this solution with a hypochlorinator until a free available chlorine residual of at least 0.2 ppm and no more than 0.6 ppm is attained throughout the distribution system Check water frequently with a chlorine test kit Bacteriological sampling must be conducted at a frequency no less than that prescribed by the National Interim Primary Drinking Water Regulations. Contact your local Health Department for further details

AUTHORIZED BY USDA FOR USE IN FEDERALLY INSPECTED MEAT AND POULTRY PLANTS

Chlorine may be present in processing water of meat and poultry plants at concentration up to 5 parts per million (ppm) calculated as available chlorine. Also chlorine may be present in poultry chiller intake water, and intake water, and in carcass wash water at concentrations up to 50 parts per million calculated as available chlorine Chlorine must be dispensed at a constant and uniform level and the method or system must be such that a controlled rate is maintained. Thoroughly mix 1 oz. of this product in 200 gallons of water to make a sanitizing solution of 5 ppm available chlorine, or 10 oz in 200 gallons of water for 50 ppm available chlorine

SWIMMING POOL WATER DISINFECTION

For a new pool or spring start up, superchlorinate with 52 to 104 oz of product for each 10,000 gallons of water to yield 5 to 10 ppm available chlorine by weight. Check the level of available chlorine with a test kit. Adjust and maintain pool water pH to between 7.2 to 7 6. Adjust and maintain the alkalinity of the pool to between 50 to 100 ppm.

To maintain the pool, add manually or by a feeder device 11 oz. of this product for each 10,000 gallons of water to yield an available chlorine residual between 0.6 to 1.0 ppm by weight. Stabilized pools should maintain a residual of 1.0 to 1.5 ppm available chlorine. Test the pH, available chlorine residual and alkalinity of the water frequently with appropriate test kits. Frequency of water treatment will depend upon temperature and number of swimmers.

Every 7 days, or as necessary, superchlorinate the pool with 52 to 104 oz. of product for each 10,000 gallons of water to yield 5 to 10 ppm available chlorine by weight. Check the level of available chlorine with a test kit. Do not reenter pool until the chlorine residual is between 1.0 to 3.0 ppm.

At the end of the swimming pool session or when water is to be drained from the pool, chlorine must be allowed to dissipate from treated pool water before discharge Do not chlorinate the pool within 24 hours prior to discharge.

WINTERIZING POOLS - While water is still clear and clean, apply 3 oz of product per 1000 gallons, while filter is running, to obtain a 3 ppm available chlorine residual, as determined by a suitable test kit Cover pool, prepare heater, filter and heater components for winter by following manufacturer's instructions

Dosage of Spas/Hot-Tub maintain dosage 5 oz. of product per 1000 gallons of water to provide 5 ppm available chlorine. Shock treat dosage 8 oz of product per 500 gallons of water. Daily use of product 3 oz. per 1000 gallons of water

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BLEACHES

Active Ingredient - Sodium Hypochlorite ..
Inert Ingredients ....

P.B. & S. CHEMI
P.O.
HENDERSON
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EPA Reg. No 6785-4

NET CONTENTS

KEEP OUT OF R
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STATEMENT OF PRAC

IF CONTACT WITH EYES OCCURS, flush with wat

IF CONTACT WITH SKIN OCCURS, wash with plen

IF SWALLOWED, drink large quantities of water. D
Get prompt medical attention.

PRECAUTI

HAZARDS TO HUM

DANGER: Corrosive, may cause severe skin and damage. Wear safety glasses or goggles and rub Avoid breathing vapors. Vacate poorly ventilated ar dissipated.

ENVIRON

This pesticide is toxic to fish and aquatic organisms streams, ponds, estuaries, oceans or public waters NPDES permit. Do not discharge effluent containing sewage treatment plant authority. For guidance cont

PHYSICAL O

STRONG OXIDIZING AGENT: Mix only with w chemicals (e g ammonia, acids, detergents, etc.) gas which is irritating to eyes, lungs and mucous me

Amount of Water	Available Chlorine	12.5%
1000 Gallons	3 ppm	3 oz.
1000 Gallons	5 ppm	5 oz.

SPAS AND HOT-TUBS

Apply 5 oz. of product per 1000 gallons of water to obtain a free available chlorine concentration of 5 ppm, as determined by a suitable chlorine test kit. Adjust and maintain pool water pH to between 7.2 and 7.6. Some oils, lotions, fragrances, cleaners, etc. may cause foaming or cloudy water as well as reduce the efficiency of the product.

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

After each use, shock treat with 8 oz. of this product per 500 gallons of water to control odor and algae.

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

For the following supplemental uses, contact your supplier for supplemental label.

1. Sanitization of nonporous food contact surfaces
2. Sanitization of porous food contact surfaces.
3. Sanitization of nonporous non-food contact surfaces.
4. Disinfection of nonporous non-food contact surfaces.
5. Sanitization of porous non-food contact surfaces.
6. Emergency disinfection after main breaks.
7. Cooling tower/evaporate condenser water.
8. Pulp and paper mill process water systems.
9. Sanitizing dairy, meat, poultry, shell egg grading, and egg product processing equipment
10. Shell egg sanitizing compounds
11. Disinfection of individual drinking water systems.
12. Sanitizer for components of paper and paperboard for aqueous and fatty foods
13. Sewage & wastewater effluent treatment.

ACCEPTED
with COMMENTS
In EPA Letter Dated:

AUG . 8 1995

Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 6155-4

NSF®

CERTIFIED TO ANSI/NSF 60. MAXIMUM USE FOR POTABLE WATER 250 mg/L

1/95

SODIUM HYPOCHLORITE SOLUTION 12.5%

1. Sanitization of Nonporous Food Contact Surfaces
2. Sanitization of Porous Food Contact Surfaces
3. Sanitization of Nonporous Non-Food Contact Surfaces
4. Disinfection of Nonporous Non-Food Contact Surfaces
5. Sanitization of Porous Non-Food Contact Surfaces
6. Emergency Disinfection After Main Breaks
7. Cooling Tower/Evaporative Condenser Water
8. Pulp and Paper Mill Process Water Systems
9. Sanitizing Dairy, Meat, Poultry, Shell Egg Grading, and Egg Product Processing Equipment
10. Shell Egg Sanitizing Compounds
11. Disinfection of Individual Drinking Water Systems
12. Sanitizer for Components of Paper and Paperboard for Aqueous and Fatty Foods
13. Sewage & Wastewater Effluent Treatment

DILUTION CONVERSION CHART FOR SURFACES

For food contact surfaces available chlorine must be maintained between 100 ppm to 200 ppm For disinfectant of floors, walls, ceilings, and other similar hard nonporous surfaces, the dosage must be maintained between 600 ppm to 1000 ppm.

Amount of Water	Available Chlorine	12.5%
10 gallons	100 ppm	1 oz
10 gallons	200 ppm	2 oz
10 gallons	600 ppm	6 oz
10 gallons	1000 ppm	11 oz.

1. Sanitization of Nonporous Food Contact Surfaces

RINSE METHOD - A solution of 100 ppm available chlorine may be used in the sanitizing solution if a chlorine test kit is available. Solutions containing an initial concentration of 100 ppm available chlorine must be tested and adjusted periodically to insure that the available chlorine does not drop below 50 ppm Prepare a 100 ppm sanitizing solution by thoroughly mixing 1 oz. of this product with 10 gallons of water. If no test kit is available, prepare a sanitizing solution by thoroughly mixing 2 oz of this product with 10 gallons of water to provide approximately 200 ppm available chlorine by weight

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

Sanitizers used in automated systems may be used for general cleaning but may not be re-used for sanitizing purposes

IMMERSION METHOD - A solution of 100 ppm available chlorine may be used in the sanitizing solution if a chlorine test kit is available. Solutions containing an initial concentration of 100 ppm periodically to insure that the available chlorine does not drop below 50 ppm. Prepare a 100 ppm sanitizing solution by thoroughly mixing 1 oz. of this product with 10 gallons of water. If no test kit is available, prepare a sanitizing solution by thoroughly mixing 2 oz. of this product with 10 gallons of water to provide approximately 200 ppm available chlorine by weight.

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

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

FLOW/PRESSURE METHOD - Disassemble equipment and thoroughly clean after use Assemble equipment in operating position prior to use Prepare a volume of a 200 ppm available chlorine sanitizing solution equal to 110% of volume capacity of the equipment by mixing the product in a ratio of 2 oz. product with 10 gallons of water. Pump solution through the system until full flow is obtained at all extremities, the system is completely filled with the sanitizer and all air is removed from the system. Close drain valves and hold under pressure for at least 2 minutes to 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 200 ppm available chlorine sanitizing solution equal to 110% of volume capacity of the equipment by mixing the product in a ratio of 2 oz. product with 10 gallons of water Pump solution through the system until full flow is obtained at all extremities, the system is completely filled with the sanitizer and all air is removed from the system. Close drain valves and hold under pressure for at least 10 minutes to insure contact with all internal surfaces Remove some cleaning solution from drain valve and test with a chlorine test kit. Repeat entire cleaning/sanitizing process if effluent contains less than 50 ppm available chlorine.

SPRAY/FOG METHOD - Preclean all surfaces after use. Use a 200 ppm available chlorine solution to control bacteria, mold or fungi and a 600 ppm solution to control bacteriophage. Prepare a 200 ppm sanitizing solution of sufficient size by thoroughly mixing the product in a ratio of 2 oz. product with 10 gallons of water. Prepare a 600 ppm solution by thoroughly mixing the product in a ratio of 6 ozs product with 10 gallons of water. Use spray or fogging equipment which can resist hypochlorite 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

2. Sanitization of Porous Food Contact Surfaces

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

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

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

3. Sanitization of Nonporous Non-Food Contact Surfaces

RINSE METHOD - Prepare a sanitizing solution by thoroughly mixing 2 oz. of this product with 10 gallons of water to provide approximately 200 ppm available chlorine by weight. Clean equipment surfaces in the normal manner. Prior to use, rinse all surfaces thoroughly with the sanitizing solution, maintaining contact with the sanitizer for at least 2 minutes Do not rinse equipment with water after treatment and do not soak equipment overnight

IMMERSION METHOD - Prepare a sanitizing solution by thoroughly mixing, in an immersion tank, 2 oz. of this product with 10 gallons of water to provide approximately 200 ppm available chlorine by weight. Clean equipment in the normal manner. Prior to use, immerse equipment in the sanitizing solution for a 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

SEE REVERSE SIDE FOR FURTHER USES

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solution of sufficient size by thoroughly mixing the product in a ratio of 2 oz. product with 10 gallons of water. Use spray or fogging equipment which can resist hypochlorite solutions. Prior to using equipment, thoroughly spray or fog all surfaces until wet, allowing excess sanitization to drain. Vacate area for at least 2 hours.

4. Disinfection of Nonporous Non-Food Contact Surfaces

RINSE METHOD - Prepare a disinfecting solution by thoroughly mixing 6 oz. of this product with 10 gallons of water to provide approximately 600 ppm available chlorine by weight. Clean equipment surfaces in the normal manner. Prior to use, rinse all surfaces thoroughly with the disinfecting solution, maintaining contact with the solution for at least 10 minutes. Do not rinse equipment with water after treatment and do not soak equipment overnight.

IMMERSION METHOD - Prepare a disinfecting solution by thoroughly mixing, in an immersion tank, 6 oz. of this product with 10 gallons of water to provide approximately 600 ppm available chlorine by weight. Clean equipment in the normal manner. Prior to use, immerse equipment in the disinfecting solution for at least 10 minutes and allow sanitizer to drain. Do not rinse equipment with water after treatment.

5. Sanitization of Porous Non-Food Contact Surfaces

RINSE METHOD - Prepare a sanitizing solution by thoroughly mixing 6 oz. of this product with 10 gallons of water to provide approximately 600 ppm available chlorine by weight. Clean surfaces in the normal manner. Prior to use, rinse all surfaces thoroughly with the sanitizing solution, maintaining contact with the sanitizer for at least 2 minutes. Do not rinse equipment with water after treatment and do not soak.

IMMERSION METHOD - Prepare a sanitizing solution by thoroughly mixing, in an immersion tank, 6 oz. of this product with 10 gallons of water to provide approximately 600 ppm available chlorine by weight. Clean equipment in the normal manner. Prior to use, immerse equipment in the sanitizing solution for at least 2 minutes and allow the sanitizer to drain. Do not rinse equipment with water after treatment.

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

6. 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.

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PLEASE CONSULT TECHNICAL D/

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.

7. Cooling Tower/Evaporative Condenser Water
SLUG FEED METHOD - Initial Dose: When system is noticeably fouled, apply 52 to 104 oz. of this product per 10,000 gallons of water in the system to obtain from 5 to 10 ppm available chlorine. Repeat until control is achieved.

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

INTERMITTENT FEED METHOD - Initial Dose: When system is noticeably fouled, apply 52 to 104 oz. of this product per 10,000 gallons of water in the system to obtain 5 to 10 ppm available chlorine. Apply half (or 1/3, 1/4, or 1/5) of this initial dose when half (or 1/3, 1/4, or 1/5) of the water in the system has been lost by blowdown.

Subsequent Dose: When microbial control is evident, add 11 oz. of this product per 10,000 gallons of water in the system to obtain a 1 ppm residual. Apply half (or 1/3, 1/4, or 1/5) of this initial does when half (or 1/3, 1/4, or 1/5) of the water in the system has been lost by blowdown. Badly fouled systems must be cleaned before treatment is begun.

CONTINUOUS FEED METHOD - Initial Dose: When system is noticeably fouled, apply 52 to 104 oz. of this product per 10,000 gallons of water in the system to obtain 5 to 10 ppm available chlorine.

Subsequent Dose: Maintain this treatment level by starting a continuous feed of 1 oz. of this product per 1,000 gallons of water lost by blowdown to maintain a 1 ppm residual. Badly fouled systems must be cleaned before treatment is begun.

8. Pulp and Paper Mill Process Water Systems
SLUG FEED METHOD - Initial Dose: When system is noticeably fouled, apply 52 to 104 oz. of this product per 10,000 gallons of water in the system to obtain from 5 to 10 ppm available chlorine. Repeat until control is achieved.

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

INTERMITTENT FEED METHOD - Initial Dose: When system is noticeably fouled, apply 52 to 104 oz. of this product per 10,000 gallons of water in the system to obtain 5 to 10 ppm available chlorine. Apply half (or 1/3, 1/4, or 1/5) of this initial dose when half (or 1/3, 1/4, or 1/5) of the water in the system has been lost by blowdown.

Subsequent Dose: When mic
evident, add 11 oz. of this product p
of water in the system to obtain a
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Subsequent Dose: Maintain this tr
starting a continuous feed of 1 oz. o
1,000 gallons of water lost by blowdc
1 ppm residual. Badly fouled s
cleaned before treatment is begun

9. Sanitizing Dairy, Meat, Poul Grading, and Egg Produc Equipment
CLEAN-IN-PLACE METHOD - Tr
equipment after use. Prepare a volu
available chlorine sanitizing solution e
volume capacity of the equipment
product in a ratio of 2 oz. product w
water. Pump solution through the
flow is obtained at all extremities,
completely filled with the sanitizer
removed from the system. Close c
hold under pressure for at least 10 m
contact with all internal surfaces
cleaning solution from drain valve
chlorine test kit. Repeat entire cle
process if effluent contains less
available chlorine.

10. Shell Egg Sanitizing Compound
These chlorine compounds shall be u
warm* potable water spray rinse for
clean or freshly washed shell eggs.
been sanitized with these compounds
for use in the manufacture of egg pro
prior potable water rinse.

11. Disinfection of Individual D Systems
INDIVIDUAL SYSTEMS: DUG WI
completion of the casing (lining), was
the casing (lining) with a 100 ppm av
solution using a stiff brush. This s
made by thoroughly mixing 1 oz. of tl
10 gallons of water. After covering th
sanitizing solution into the well thr
pipesleeve opening and the pipelin
exterior of the pump cylinder also wit
solution. Start pump and pump wa
odor of chlorine in water is noted S
wait at least 24 hours. After 24 hours
all traces of chlorine have been rem
water. Consult your local Health D
further details.

SODIUM HYPOCHLORITE SOLUTION 12.5%

(SUPPLEMENTAL LABEL)
EPA Reg. No. 6785-4
P. B. & S. CHEMICAL COMPANY, INC.
Corporate Headquarters
HENDERSON, KENTUCKY 42420
(502) 827-3545

PLEASE CONSULT TECHNICAL DATA AND MATERIAL SAFETY DATA SHEETS BEFORE USING THIS PRODUCT

been lost by blowdown.

Subsequent Dose: When microbial control is evident, add 11 oz. of this product per 10,000 gallons of water in the system to obtain a 1 ppm residual. Apply half (or 1/3, 1/4, or 1/5) of this dose when half (or 1/3, 1/4, or 1/5) of the water in the system has been lost by blowdown. Badly fouled systems must be cleaned before treatment is begun.

CONTINUOUS FEED METHOD - Initial Dose: When system is noticeably fouled, apply 52 to 104 oz. of this product per 10,000 gallons of water in the system to obtain 5 to 10 ppm available chlorine.

Subsequent Dose: Maintain this treatment level by starting a continuous feed of 1 oz. of this product per 1,000 gallons of water lost by blowdown to maintain a 1 ppm residual. Badly fouled systems must be cleaned before treatment is begun.

9. Sanitizing Dairy, Meat, Poultry, Shell Egg Grading, and Egg Product Processing Equipment

CLEAN-IN-PLACE METHOD - Thoroughly clean equipment after use. Prepare a volume of 200 ppm available chlorine sanitizing solution equal to 110% of volume capacity of the equipment by mixing the product in a ratio of 2 oz. product with 10 gallons of water. Pump solution through the system until full flow is obtained at all extremities, the system is completely filled with the sanitizer and all air is removed from the system. Close drain valves and hold under pressure for at least 10 minutes to insure contact with all internal surfaces. Remove some cleaning solution from drain valve and test with a chlorine test kit. Repeat entire cleaning/sanitizing process if effluent contains less than 50 ppm available chlorine.

10. Shell Egg Sanitizing Compounds

These chlorine compounds shall be incorporated in a warm* potable water spray rinse for use in sanitizing clean or freshly washed shell eggs. Eggs that have been sanitized with these compounds may be broken for use in the manufacture of egg products without a prior potable water rinse.

11. Disinfection of Individual Drinking Water Systems

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 oz. of this product into 10 gallons of water. After covering the well, pour the sanitizing solution into the well through both the pipesleeve opening and the pipeline. Wash the exterior of the pump cylinder also with the sanitizing solution. Start pump and pump water until strong odor of chlorine in water is noted. Stop pump and wait at least 24 hours. After 24 hours flush well until all traces of chlorine have been removed from the water. Consult your local Health Department for further details.

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

12. Sanitizing Components of Paper and Paperboard for Aqueous and Fatty Foods (Sanitization of Porous Food Contact Surfaces)

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

IMMERSION METHOD - Prepare a 600 ppm solution by thoroughly mixing, in an immersion tank, 8 oz. of this product with 10 gallons of water. Clean equipment in the normal manner. Immerse equipment in the 600 ppm solution for at least 2 minutes. Prepare a 200 ppm sanitizing solution by thoroughly mixing 2 oz. of this product with 10 gallons of water. Prior to using equipment, immerse all surfaces in a 200 ppm available chlorine solution. Do not rinse and do not soak equipment overnight.

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

13. 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 Probably 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 after 15 minutes contact time.

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