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US ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF PESTICIDES PROGRAMS
REGISTRATION DIVISION (TS-767)
WASHINGTON, DC 20460

NOTICE OF PESTICIDE: [X] REGISTRATION [ ] REREGISTRATION

(Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended)

EPA REGISTRATION NO.	DATE OF ISSUANCE
43410-69	NOV 16 1995

TERM OF ISSUANCE

NAME OF PESTICIDE PRODUCT

Agri-Clor X

NAME AND ADDRESS OF REGISTRANT *(Include ZIP code)*

Agri-Chem, Inc.
P.O. Box 607477
Orlando, FL 32860-7477

NOTE: Changes in labeling formula differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above U.S. EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby Registered/Reregistered under the Federal Insecticide, Fungicide, and Rodenticide Act.

A copy of the labeling accepted in connection with this Registration/Reregistration is returned herewith.

Registration is in no way to be construed as an indorsement or approval of this product by this Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

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

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

2. Make the labeling changes listed below before you release the product for shipment:

a. Add the phrase "EPA Registration No. 43410-69."

b. In the "If Swallowed" instructions on the front panel, delete the words, "drink large quantities of milk or gelatin solution" and "If these are not available." In addition, expand the last sentence of the paragraph to read, "Get prompt medical attention."

c. Replace the text of the Environmental Hazards section with the following:

This pesticide is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other

[ ] ATTACHMENT IS APPLICABLE

SIGNATURE OF APPROVING OFFICIAL	DATE

EPA Form 8570-6 (Rev. 5-76) PREVIOUS EDITION MAY BE USED UNTIL SUPPLY IS EXHAUSTED.

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.

d. In the "Pulp and Paper Mill Process Water Systems" section of the Directions for Use, some of the text was inadvertently omitted. The sentence ending with the words "residual at 1 ppm" should read, "Subsequent dose: When microbial control is evident, add 12 oz. of this product per 10,000 gallons of water in the system daily, or as needed to maintain control and keep the chlorine residual at 1 ppm."

3. Submit a certification of child-resistant packaging, following the instructions given in §157.34(b) of the enclosed Federal Register excerpt; or add a statement to the label such as, "For industrial/commercial/institutional use only."

4. Re-submit your Confidential Statement of Formula within 75 days, with the minor revisions indicated in the "Confidential Statement of Formula" enclosure.

5. Submit five (5) copies of your final printed labeling before you release the product for shipment. Refer to the A-79 enclosure for a further description of final printed labeling.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA sec. 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

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

Sincerely,

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

Enclosures

Agri-Clor X

ACTIVE INGREDIENTS:
Sodium Hypochlorite 10%
INERT INGREDIENTS: 90%
TOTAL: 100%

KEEP OUT OF REACH OF CHILDREN

DANGER

STATEMENT OF PRACTICAL TREATMENT (First Aid)

IF CONTACT WITH EYES OCCURS, flush with water FOR AT LEAST 15 MINUTES. Get prompt medical attention.

IF CONTACT WITH SKIN OCCURS, wash with plenty of soap and water.

IF SWALLOWED, drink large quantities of milk or gelatin solution. If these are not available drink large quantities of water. DO NOT give vinegar or other acids. DO NOT induce vomiting. Get medical attention.

(See additional precautions on side panel)

ACCEPTED
With COMMENTS
In EPA Letter Dated:
NOV 16 1995
Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the Pesticide registered under EPA Reg. No. 43410-69

EPA Reg. No. 43410-69
EPA Est.. No.

Agri-Chem, Inc.
Orlando, FL 32860

Net Contents _____ U. S. Gallons

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

DANGER

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

ENVIRONMENTAL HAZARDS

This product is toxic to fish. Do not discharge into lakes, streams, ponds or public waterways unless in accordance with a NPDES permit. For guidance contact the regional office of the U. S. Environmental Protection Agency.

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, ect.) 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.

STORAGE AND DISPOSAL

Storage: 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.

Disposal: Product or rinsate that cannot be used should be diluted with water before disposal in a sanitary sewer. Do not reuse container but place in trash collection. Do not contaminate food or feed by storage, disposal or cleaning of equipment.

1/2 lb

PRODUCT USE

AGRICULTURAL USES

FRUIT & VEGETABLE SANITIZING - Thoroughly clean all fruits and vegetables in a wash tank. Thoroughly mix 6 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.

FRUIT AND VEGETABLE WASHING

- For the recommended concentration of available chlorine for various commodities to be treated see the table below. To obtain a 100 ppm solution of chlorine add 1 gallon of Agri-Clor X to 1000 gallons of water. Use ACI Clor-just to control pH is recommended.
- For Citrus Canker Quarantine. Use of a 200 ppm chlorine solution at pH 6.0 to 7.5 is achieved by 2 gallons of Agri-Clor X in 1000 gallons of water with 1-2 gallons of ACI Clor-just. (Amount of buffer is dependent upon starting pH of the water used. Apply for 2 minutes using a suitable spray or drip treatment.
- For washing fruits and vegetables in accordance with 21 CFR 173.315 Agri-Clor X may be used to assist in the washing of fruits and vegetables at a concentration not to exceed 0.2% (2000 ppm). Such use must be followed by a potable water rinse.
- 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 oz. of this product to 2 gallons of water to obtain 500 ppm available chlorine.

Commodity	ppm available chlorine to use
Apple	150-200
Artichokes	100-150
Asparagus	125-150
Brussels Sprouts	100-150
Carrots	100-200
Cauliflower	300-400
Celery	100-110
Cherry	75-100
Citrus Fruits	25-200
Chopped Cabbage or Lettuce (1)	80-100
Cucumbers	300-350
Green Onions	75-120
Melons - Flow through washer	100-150
Melons - Hydrocooler	10
Mushrooms (2)	100-200
Peaches, Nectarines and Plums	50-100
Pears (Without Buffer)	200-300
Peppers - Flow through washer	300-400
Peppers - Dump tank	100-135
Potatoes - Flow through washer	65-125
Potatoes - Pit system	100-150
Radishes	100-150
Stone Fruit - Hydrocooler	30-75
Tomatoes - Flow through washer	300-350
Tomatoes - Dump tank	20-120

1 - After treatment the adhered moisture must be removed by a centrifugation process.

2 - After treatment with the chlorinated water, the mushrooms must be treated with 0.2% Sodium bisulfite (antioxidant treatment) to prevent browning

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 Tbs. of this product to 200 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.

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 1000 ppm available chlorine for a period of 10 minutes. A 1000 ppm solution can be made by thoroughly mixing 12 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.

AQUACULTURAL USES

FISH PONDS - Remove fish from ponds prior to treatment. Thoroughly mix 106 oz. of this product 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 6 oz. of this product to 20 gallons of water to obtain 200 ppm available chlorine. Porous equipment should soak for 1 hour.

MARINE LOBSTER PONDS - Remove lobsters, seaweed etc. from ponds prior to treatment. Drain the pond. Thoroughly mix 60 gallons of this product to 10,000 gallons of water to obtain at least 600 ppm available chlorine. Apply so that all burrows, 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 6 oz. of this product to 10,000 gallons of water at 50 to 70°F to obtain 0.5 ppm available chlorine. Expose oysters to this solution for at least 15 minutes, monitoring the available chlorine level so that it does not fall below 0.05 ppm. Repeat entire process if the available chlorine level drops below 0.05 ppm or the temperature falls below 50°F.

CONTROL OF SCAVENGERS IN FISH HATCHERY PONDS - Prepare a solution containing 200 ppm available chlorine by mixing 3 oz. of this 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.

SWIMMING POOL WATER DISINFECTION: For a new pool or spring start-up, superchlorinate with 54 to 108 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 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 12 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.

SPAS, HOT-TUBS, IMMERSION TANKS, ETC.

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

To maintain the water, apply 5 oz. of product per 1000 gallons of water over the surface to maintain a chlorine concentration of 5 ppm. After each use, shock treat with 10 oz of this product per 500 gallons of water to control odor and algae. During extended periods of disuse, add 3 oz. of product daily per 1000 gallons of water to maintain a 3 ppm chlorine concentration.

HUBBARD AND IMMERSION TANKS - Add 6 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 6 oz of this product to a bucket of water and circulate this solution through the agitator of the tank for 15 minutes and then rinse out the solution. Clean tank thoroughly and dry with clean cloths.

HYDROTHERAPY TANKS - Add 1 oz. of this product per 1000 gallons of water to obtain a chlorine residual of [illegible] 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.

FOOD PROCESSING PLANTS

FOOD EGG SANITIZATION - Thoroughly clean all eggs. Thoroughly mix 6 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.

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 1.5 oz. of this product with 10 gallons of water. If no test kit is available, prepare a sanitizing solution by thoroughly mixing 3 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 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 used for sanitizing purposes.

IMMERSION METHOD - A solution of 100 ppm available chlorine may be used in the sanitizing solution if a chlorine test kit is available. Solutions containing an initial concentration of 100 ppm available chlorine must be tested and adjusted periodically to insure that the available chlorine does not drop below 50 ppm. Prepare a 100 ppm sanitizing solution by thoroughly mixing 1.5 oz. of this product with 10 gallons of water. If no test kit is available, prepare a sanitizing solution by thoroughly mixing 3 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, 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 ration of 3 oz. of product with 10 gallons of water. Pump solution through the system until full flow is obtained at all extremities, the system is completely filled with the sanitizer and all air is removed from the system. Close drain valves and hold under pressure for at least 2 minutes to insure contact with all internal surfaces. Remove some cleaning solution from drain valve and test with a chlorine test kit. Repeat entire cleaning/sanitizing process if effluent contains less than 50 ppm available chlorine.

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 ration of 3 oz. of 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 - Thoroughly clean equipment after use. Use a 200 ppm available chlorine solution to control bacteria, mold and 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 3 oz. product with 10 gallons of water. Prepare a 600 ppm solution by

thoroughly mixing the product in a ratio of 8 oz. product with 10 gallons of water. Use spray or fogging equipment which can resist hypochlorite solutions. Always empty and rinse spray/fog equipment with potable water after use. Thoroughly spray or fog all surfaces until wet, allowing excess sanitizer to drain. Vacate area for at least 2 hours. Prior to using equipment, rinse all surfaces treated with 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 8 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 3 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 equipment with water after treatment 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 3 oz. of this product with 10 gallons of water. Prior to using equipment, immerse all surfaces with a 200 ppm available chlorine solution. Do not rinse and do not soak equipment overnight.

SPRAY/FOG METHOD - Precleas all surfaces after use. Prepare a 600 ppm available chlorine sanitizing solution of sufficient size by thoroughly mixing 8 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. 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 200 ppm available chlorine solution. Prepare a 200 ppm sanitizing solution by thoroughly mixing 3 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 3 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, 3 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 - Precleas all surfaces after use. Prepare a 200 ppm available chlorine sanitizing solution of sufficient size by thoroughly mixing the product in the ratio of 3 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 8 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 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, 8 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 600 ppm 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 8 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 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, 8 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 the ratio of 8 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. 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, of 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 15 to 30 minute contact time. A reasonable average of residual chlorine is 0.5 ppm after 15 minutes contact time.

SE 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 12 to 125 oz of this product with 100 gallons of water. Once control is evident, apply a 15 ppm available chlorine solution. Prepare this solution by mixing 4 oz. of this product with 100 gallons of water.
FILTER BEDS - SLIME CONTROL: Remove filter from service, drain to a depth of 1 ft. above filter sand, and add 104 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 1.5 oz of this product to 100 gallons of water. Begin feeding this solution with a hypochlorinator until a free available chlorine residual of at least 0.2 ppm and no more than 0.6 ppm is attained throughout the distribution system. Check water frequently with a chlorine test kit. Bacteriological sampling must be conducted at a frequency no less than that prescribed by the National Interim Primary Drinking Water Regulations. Contact your local Health Department for further details.
INDIVIDUAL SYSTEMS: DUG WELLS - Upon completion of the casing (lining) wash the interior of the casing (lining) with a 100 ppm available chlorine solution using a stiff brush. This solution may be made by thoroughly mixing 1.5 oz. of this product with 10 gallons of water. After covering the well, pour the sanitizing solution into the well through both the pipesleeve opening and the pipeline. Wash the exterior of the pump cylinder also with the sanitizing solution. Start pump and pump water until strong odor of chlorine in water is noted. Stop pump and wait at least 24 hours. After 24 hours flush well until all traces of chlorine have been removed from the water. Consult your local Health Department for further details.
INDIVIDUAL WATER SYSTEMS: DRILLED, DRIVEN & BORED WELLS - Run pump until water is as free from turbidity as possible. Pour a 100 ppm available chlorine sanitizing solution into the well. This solution may be made by thoroughly mixing 1.5 oz. of this product into 10 gallons of water. Add 5 to 10 gallons of clean, chlorinated water to the well in order to force the sanitizer into the rock formation. Wash the exterior of the pump cylinder also with the sanitizing solution. 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 w.. levels may necessitate the use of special methods for introduction of the sanitizer into the well. Consult your local Health Department for further details.
INDIVIDUAL WATER SYSTEMS: FLOWING ARTESIAN WELLS - Artesian wells generally do not require disinfection. If analyses indicate persistent contamination, the well should be disinfected. Consult your local Health Department for further details.
EMERGENCY DISINFECTION - When boiling of water for 1 minute is not practical, water can be made potable by using this product. Prior to addition of the sanitizer, remove al suspended material by filtration or by allowing it to settle to the bottom. Decant the clarified, contaminated water to a clean container and add 10 drops of this product to 20 gallons of water. Allow the treated water to stand for 30 minutes. Properly treated water should have a slight chlorine odor, if not, repeat the dosage and allow the water to stand an additional 15 minutes. The treated water can then be made palatable by pouring it between clean containers for several times.

PUBLIC WATER SYSTEMS
RESERVOIRS - ALGAE CONTROL: Hypochlorinate streams feeding the reservoir. Suitable feeding points should be selected on each stream at least 50 yards upstream from the points of entry into the reservoir.
MAINS - Thoroughly flush section 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 25 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 100 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 6 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.
EXISTING EQUIPMENT - Remove equipment from service, thoroughly clean surfaces of all physical soil. Sanitize by placing 26 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 6 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 6 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 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

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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 25 oz. of this product for each 5 cubic feet of water to obtain 500 ppm available chlorine, as determined by a suitable chlorine test kit. After 24 hours drain, flush, and return to service. If the previous treatment is not suitable, spray or flush the equipment with a solution containing 6 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 100 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 100 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 100 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 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.
WATER SHIPPED IN BY TANKS, TANK CARS, TRUCKS, ETC. - Thoroughly clean all containers and equipment. Spray a 500 ppm available chlorine and rinse with potable water after 5 minutes. This solution is made by mixing 6 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 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 54 to 108 oz. of this product per 10,000 gallons of water in the system to obtain from 5 to 10 ppm available chlorine. Repeat until control is achieved.
Subsequent Dose: When microbial control is evident, add 12 oz. of this product per 10,000 gallons of water in the system daily, or as needed to maintain control and keep the chlorine residual at 1 ppm. Badly fouled systems must be cleaned before treatment is begun.
INTERMITTENT FEED METHOD - Initial dose : When system is noticeably fouled, apply 54 to 108 oz. of this product per 10,000 gallons of water in the system to obtain from 5 to 10 ppm available chlorine. Apply half (or 1/3., 1/4, or 1/5) of the initial dose when half (or 1/3., 1/4, or 1/5) of the water in the system has been lost by blowdown.
Subsequent Dose: When microbial control is evident, add 12 oz. of this product per 10,000 gallons of water in the system to obtain a 1 ppm residual. Apply half (or 1/3., 1/4, or 1/5) of the 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 54 to 108 oz. of this product per 10,000 gallons of water in the system to obtain from 5 to 10 ppm available chlorine.
Subsequent Dose: Maintain this treatment level by starting a continuous feed of 1 oz. 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.

LAUNDRY SANITIZERS
IN SOAKING SUDS - Thoroughly mix 3 oz of this product to 10 gallons of wash water 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 3 oz 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 clothes should be spun dry prior to sanitization. Thoroughly mix 3 oz of this product to 10 gallons of water to yield 200 ppm available chlorine. Promptly after mixing the sanitizer, add the solution into the prewash prior to washing fabrics/clothes in the regular wash cycle with a good detergent. Test the level of available chlorine, if solution has been allowed to stand. Add more of this product if the available chlorine level has dropped below 200 ppm.

PULP AND PAPER MILL PROCESS WATER SYSTEMS
SLUG FEED METHOD - Initial dose : When system is noticeably fouled, apply 54 to 108 oz. of this product per 10,000 gallons of water in the system to obtain from 5 to 10 ppm available chlorine. Repeat until control is achieved
control and keep the chlorine residual at 1 ppm. Badly fouled systems must be cleaned before treatment is begun.

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 the enclosed area. This envelope should contain approximately 500 gallons of water for a 14 foot boat. Add 22 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 6 oz. of this product per 10 gallons of water at frequent intervals. Small areas can be sprinkled with a watering can.

Seller warrants that this material conforms to the ingredient statement on the label and is reasonably fit for the purposes referred to in the Directions for Use. No other warranty, express or implied, is made. This includes any other express or implied warranty of FITNESS or of MERCHANTABILITY, and no agent of Seller, is authorized to do so except in writing, with a specific reference to this warranty. Any damages arising from a breach of this warranty shall be limited to direct damages, and shall not include consequential damages, such as loss of profits or values

ACCEPTED
with COMMENTS
In EPA Letter Dated:
NOV 16 1995
Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No.
43410-69