

PH 32 813-16

104-23

US ENVIRONMENTAL PROTECTION AGENCY OFFICE OF PESTICIDES PROGRAMS REGISTRATION DIVISION (75-767) WASHINGTON, DC 20460 NOTICE OF PESTICIDE: <input type="checkbox"/> REGISTRATION <input type="checkbox"/> REREGISTRATION <i>(Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended)</i>	EPA REGISTRATION NO. 813-16	DATE OF ISSUANCE June 30, 1993
	TERM OF ISSUANCE	
	NAME OF PESTICIDE PRODUCT Dixichlor	

NAME AND ADDRESS OF REGISTRANT (Include ZIP code)

DPC Industries, Inc.
 P.O. Box 130410
 Houston, TX 77219

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.

Based on your response to the Reregistration Eligibility Document, EPA has reregistered the above named product subject to the comments recorded in the succeeding paragraph. This action is taken under the authority of section 4(g)(2)(C) of the Federal Insecticide, Fungicide, and Rodenticide Act, as amended. Reregistration under this section does not eliminate the need for continual reassessment of pesticides. EPA may require submission of data at any time to maintain the registration of your product.

Make the following labeling changes before you release the product for shipment:

- In the Ingredient Statement, you must total the Active and Inert Ingredients to "100%":

Active Ingredient:

Sodium hypochlorite.....	10.0%
Inert Ingredients:.....	90.0%
Total.....	100.0%

- The Storage and Disposal Statements must appear in the Directions For Use section of the label but somewhere after the Misuse Statement ("It is a violation...").

ATTACHMENT IS APPLICABLE

SIGNATURE OF APPROVING OFFICIAL	DATE
---------------------------------	------

20/23

3. The Ingestion Statement must be corrected in the supplemental product booklet to be the same statement as the one that appears on the product label.

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

Submit one copy of the final printed label before releasing the product in channels of trade with the revised 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.

Sincerely,



Ruth G. Douglas
Product Manager (32)
Antimicrobial Program Branch
Registration Division (H7504C)

Enclosure

**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS
AND DOMESTIC ANIMALS**

DANGER: Corrosive. May cause severe skin irritation or chemical burns to broken skin. Causes eye damage. Do not get in eyes, on skin or on clothing. Wear goggles or face shield and rubber gloves (PVC or Nitrile) when handling this product. Wash after handling. Avoid breathing vapors. Vacate poorly ventilated areas as soon as possible. Do not return until odors have dissipated.

ENVIRONMENTAL HAZARDS: This pesticide is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, streams, estuaries, oceans, or public waters unless this product is specifically identified and addressed in a NPDES permit. Do not discharge effluent containing this product to sewer systems without previously notifying the sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

PHYSICAL AND CHEMICAL HAZARDS. STRONG OXIDIZING AGENT. Mix only with water according to label directions. Mixing this product with grease oils such as feces, urine, etc. or with ammonia, acids, detergents or other chemicals will release hazardous gases irritating to eyes, lungs and mucous membranes.

NO WARRANTY, EXPRESS OR IMPLIED, OR MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE, IS MADE, EXCEPT THAT THE PRODUCT CONFORMS TO BELLER SPECIFICATIONS. BUYER ASSUMES ALL RISK OF USE, STORAGE AND HANDLING. SELLER SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING DIRECTLY OR INDIRECTLY IN CONNECTION WITH THE PURCHASE, USE, STORAGE OR HANDLING OF THE PRODUCT.

NET CONTENTS: 15 GALLONS
EPA REG. NO. 813-16
EPA EST. NO. 00813-MN-001
Manufactured by
DPC INDUSTRIES, INC.
12800 Pine Bend Trail Rosemount, MN 55068-2612
FOR EMERGENCY CALL: (713) 474-3271

DIXICHLOR

SANITIZER, DISINFECTANT

ACTIVE INGREDIENT: SODIUM HYPOCHLORITE 10%
INERT INGREDIENTS 90%

KEEP OUT OF REACH OF CHILDREN

DANGER

STATEMENT OF PRACTICAL TREATMENT
NOTE TO PHYSICIAN

- IF SWALLOWED: Bring promptly a large quantity of water. Do not induce vomiting. Avoid alcohol. Get medical attention.
- IF IN EYE: Flush with plenty of water for 15 minutes. Get medical attention.
- IF ON SKIN: Wash with plenty of soap and water. Get medical attention if irritation persists.

DIRECTIONS FOR USE

STORAGE AND DISPOSAL:

Store in a cool, dry area away from direct sunlight. In case of spill, flood area with large quantities of water. Triple rinse empty container. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, as allowed by state and local authorities, by burning, if burned, stay out of smoke. Product or residue that cannot be used should be diluted with water and disposed of in a sanitary sewer. Do not contaminate food or feed by storage, disposal or cleaning of equipment.

IT IS A VIOLATION OF FEDERAL LAW TO USE THIS PRODUCT IN A MANNER INCONSISTENT WITH ITS LABELING

Amount Strength Available (Gallons) 5% Strength	Volume (Gallons)	Amount Strength Available (Gallons) 10% Strength
1.00	1.00	1.00
2.00	2.00	2.00
3.00	3.00	3.00
4.00	4.00	4.00
5.00	5.00	5.00
6.00	6.00	6.00
7.00	7.00	7.00
8.00	8.00	8.00
9.00	9.00	9.00
10.00	10.00	10.00
11.00	11.00	11.00
12.00	12.00	12.00
13.00	13.00	13.00
14.00	14.00	14.00
15.00	15.00	15.00

INFORM ALL SHIPPING APPLICANCES FOR ALL FOOD CONTACT SURFACES AND OBJECTS - Remove food particles by brushing, scraping and, when necessary, scrubbing. Wash thoroughly with a good detergent or compatible cleanser and rinse with potable water before application of DIXICHLOR SOLUTION. The all surfaces thoroughly with DIXICHLOR SOLUTION solution by immersion, flooding or spraying. Contact time must be at least 22 minutes. Drain solution and rinse. Do not wash with potable water after sanitizing DIXICHLOR SOLUTION solution must not be re-used for sanitizing purposes. Prepare a fresh solution daily if the old solution becomes diluted or soiled.

DISINFECTION OF FOOD CONTACT SURFACES
SPRAYING METHOD - Pre-clean all surfaces after use. Prepare a 200 ppm available chlorine solution to control bacteria, mold or fungi and a 600 ppm solution to control viruses. Thoroughly wet the surface with the spray or fogging equipment which can reach hypochlorite solution. Always empty and clean spraying equipment with potable water after use. Thoroughly spray or fog all surfaces until wet, allow equipment to drain. Wash area for at least 2 hours. Prior to using equipment, rinse all surfaces with a 200 ppm available chlorine solution. Prepare a 200 ppm sanitizing solution by thoroughly mixing 1 oz. of this product with 10 gallons of water.

DISINFECTION OF NON-FOOD CONTACT SURFACES
SPRAYING METHOD - Pre-clean all surfaces after use. Use a 200 ppm available chlorine solution to control bacteria, mold or fungi and a 600 ppm solution to control viruses.

Instructions for using the product are contained in the package of each container. Always thoroughly wash hands after use with soap and water for a 600 ppm solution.

For more product information, contact your distributor. Total of 15.000 gallons available in 15.000 gallons by weight. Total of 15.000 gallons available in 15.000 gallons by weight. Total of 15.000 gallons available in 15.000 gallons by weight. Total of 15.000 gallons available in 15.000 gallons by weight.

PUBLIC SYSTEMS - Sanitize this product. Total of 15.000 gallons available in 15.000 gallons by weight. Total of 15.000 gallons available in 15.000 gallons by weight. Total of 15.000 gallons available in 15.000 gallons by weight.

NOTE: This product is not for use on food contact surfaces.

ACCEPTED
with COMMENTS
In EPA Letter Dated:

JUN 30 1993
Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 813-16

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DRA

Sodium Hypochlorite

ACCEPTED
with COMMENTS
in EPA Letter Dated:

JUN 30 1993

Under the Federal Insecticide,
Fungicide, and Rodenticide Act as
amended, for the pesticide
registered under EPA Reg. No.
813-16

DIRECTIONS FOR USE

Manufactured by

DPC INDUSTRIES, INC.

DXI INDUSTRIES, INC.

1919 JACINTO PORT BLVD.
HOUSTON, TEXAS 77015

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Under the Fungicide, Disinfectant and Sanitizer Act as amended, this product is registered under EPA Reg. No.

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

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DIXICHLOR PRODUCTS

DIXICHLOR MAX

EPA Reg. No. 813-15

ACTIVE INGREDIENT:

Sodium Hypochlorite 12.5%

INERT INGREDIENT: 87.5%

DIXICHLOR

EPA Reg. No. 813-16

ACTIVE INGREDIENT:

Sodium Hypochlorite 10.0%

INERT INGREDIENT: 90.0%

DIXICHLOR SPECIAL

EPA Reg. No. 813-13

ACTIVE INGREDIENT:

Sodium Hypochlorite 8.0%

INERT INGREDIENT: 92.0%

DIXICHLOR LITE

EPA Reg. No. 813-14

ACTIVE INGREDIENT:

Sodium Hypochlorite 5.25%

INERT INGREDIENT: 94.75%

FOR EMERGENCY CALL: (713) 474-3271

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DIXICHLOR PRODUCTS

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 prompt medical attention.

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 (PVC, Nitrile) when handling these products. Wash after handling. Avoid breathing vapors. Vacate poorly ventilated areas as soon as possible. **DO NOT** return until strong odors have dissipated.

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Under the Federal Insecticide,
Fungicide, and Herbicide Act as
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PHYSICAL OR CHEMICAL HAZARDS

STRONG OXYDIZING AGENT: Mix only with water according to Label or Directions For Use. **Soak** Directions. Mixing either of these products 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.

IMPORTANT! ALL SANITIZING APPLICATIONS

FOR ALL FOOD CONTACT SURFACES AND OBJECTS—Remove food particles by rubbing, scraping and, when necessary, soaking. Wash thoroughly with a good detergent or soap in cleaner and rinse with potable water before application of **SODIUM HYPOCHLORITE** solution. Wet all surfaces thoroughly with **SODIUM HYPOCHLORITE** solution by immersion flooding or spraying. Contact time must be at least 2 minutes. Drain solution and air-dry. Do not wash with potable water after sanitizing. **SODIUM HYPOCHLORITE** solutions must not be re-used for sanitizing purposes. Prepare a fresh solution daily if the old solution becomes diluted or soiled.

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. Product or rinsates that cannot be use 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.

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

7.

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in EPA Letter 10/1/83

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Under the Federal Insecticide,
Fungicide, and Rodenticide Act as
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DIOCHLOR SODIUM HYPOCHLORITE

The DILUTION CONVERSION CHART provided below covers the DIOCHLOR Sodium Hypochlorite Products manufactured by DCG Industries, Inc. and DPC Industries, Inc. It is designed to serve as a guide and may not cover all PPM ranges or dilution as required to satisfy a particular use or need.

II. DILUTION CONVERSION CHART

Desired Strength Avail. Chlorine (by Weight)	Gallons Water	Liquid Oz. Sodium Hypochlorite			
		12.5%	10%	8%	6.25%
5 PPM	100	.5	.75	1.0	1.5
10 PPM	100	1.0	1.5	2.0	2.5
15 PPM	100	1.5	2.0	2.5	4.0
25 PPM	100	2.5	3.5	4.0	6.0
35 PPM	100	3.5	4.5	5.5	8.5
50 PPM	100	5.0	6.5	8.0	12.0
100 PPM	10	1.0	1.5	2.0	2.5
200 PPM	10	2.0	2.5	3.5	5.0
500 PPM	10	5.0	6.5	8.0	12.0
600 PPM	10	6.0	8.0	10.0	15.0
1000 PPM	10	10.0	13.0	15.0	24.5
2000 PPM	10	20.0	26.0	30.0	48.0
10000 PPM	10	100.0	125.0	150.0	244.0

Should other available chlorine strengths or dilution volumes be desired, the following formula must be used to adjust the dosages:

$$\text{Ounce of Product} = \frac{(\text{PPM avail. Cl}_2) (\text{Gal. Water}) (128)}{(\% \text{ Active Ingredient}) (10,000)}$$

Formula Definition:

- | | |
|-------------------------------|-------------------------------------|
| Ounce of Product | = Ounces of DIOCHLOR Product to Use |
| PPM Available Cl ₂ | = What is Required |
| Dilution Gallons Water | = You Specify Quantity |
| 128 oz./gal. | = Constant 128 |
| (%) Percent Active Ingredient | = Sodium Hypochlorite Strength |
| 10,000 | = Constant |

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JUN 30 1993

Under the Federal Insecticide,
Fungicide, and Herbicide Act as
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IV. AGRICULTURAL USES

A. Post-Harvest Protection

Potatoes can be sanitized after cleaning and prior to storage by spraying with a 500 ppm available chlorine sanitizing solution at a level of 1 gallon of sanitizing solution per tons of potatoes.

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. 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.

B. Feed Egg Sanitization

Thoroughly clean all eggs. Thoroughly mix DDOCHLOR product with 10 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 reused to sanitize eggs.

C. Fruit and Vegetable Washing

Thoroughly clean all fruits and vegetables in a wash tank. Thoroughly mix DDOCHLOR in 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.

V. ARTIFICIAL SAND BEACHES

To sanitize the sand, spray a 500 ppm available chlorine solution at frequent intervals. Small areas can be sprinkled with a watering can.

VI. ASPHALT OR WOOD ROOFS AND SIDINGS

To control fungus and mildew, first remove all physical soil by brushing and hosing with clean water. Apply a 5000 ppm available chlorine solution by brushing or spraying roof or siding. After 30 minutes, rinse by hosing with clean water.

VII. AQUACULTURAL USES

A. Fish Ponds

Remove fish from ponds prior to treatment. Add appropriate amount of DDOCHLOR to 10,000 gallons of water to obtain 10 ppm available chlorine. Add more DDOCHLOR 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.

B. Fish Pond Equipment

Thoroughly clean all equipment prior to treatment. Thoroughly mix DDOCHLOR with 10 gallons of water to obtain 200 ppm available chlorine. Porous equipment should soak for one hour.

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Under the Federal Insecticide,
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registered under EPA Reg. No.

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C. Main Lobster Ponds

Remove lobsters, seaweed, etc. from ponds prior to treatment. Drain the pond. Thoroughly mix DDOCHLOR 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.

D. Conditioning Live Oysters

Thoroughly mix DDOCHLOR to 10,000 gallons of water at 60 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.

E. Control of Scavengers in Fish Hatchery Ponds

Prepare a solution containing 200 ppm of available chlorine by mixing DDOCHLOR 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.

VII. BOAT BOTTOMS

To control slime on boat bottoms, sling a plastic tarp under boat, retaining enough water to cover the fouled bottom area, but not allowing water to enter enclosed area. This envelope should contain approximately 500 gallons of water for a 14 foot boat. Add DDOCHLOR 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.

IX. COOLING TOWER/EVAPORATIVE CONDENSER WATER

A. Slug Feed Method

Initial Dose: When system is noticeably fouled, add appropriate amount of DDOCHLOR 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 appropriate amount of DDOCHLOR 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.

B. Intermittent Feed Method

Initial Dose: When system is noticeably fouled, add appropriate amount of DDOCHLOR 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 appropriate amount of DDOCHLOR 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.

C. Continuous Feed Method

Initial Dose: When system is noticeably fouled, add appropriate amount of DDOCHLOR per 10,000 gallons in the system to obtain 5 to 10 ppm available chlorine.

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Subsequent Dose: Maintain this treatment level by starting a continuous feed of 1 oz. of DDXCHLOR per 1,000 gallons water lost by blowdown to maintain a 1.0 ppm residual. Heavily fouled systems must be cleaned before treatment is begun.

D. Cooling Tower/Evaporative Condenser Water Treatment Chart

Method	Ounce DDXCHLOR/10,000 Gallons Water			
	12.5%	10%	8%	5.25%
Shug Feed To obtain 5-10 ppm	52-104	66-136	84-88	130-280
Subsequent Dose Maintain 1 ppm residual	11	13	16	25
Intermittent Feed To obtain 5-10 ppm	52-104	66-136	84-106	130-280
Subsequent Dose Maintain 1 ppm residual	11	13	16	25
Continuous Feed To obtain 5-10 ppm	52-104	66-136	84-106	130-280
Subsequent Dose* Maintain 1 ppm residual	1	1.5	2.0	2.5

(*per 1000 gal.)

X. EMERGENCY DISINFECTION AFTER DROUGHTS

A. Supplementary Water Supplies

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

B. Water Shipped in By Tanks, Tank Cars, Trucks, Etc.

Thoroughly clean all containers and equipment. Spray a 50 ppm available chlorine solution and rinse with potable water after 5 minutes. During the filling of the containers, dose with sufficient amounts of DIXICHLOR to provide at least a 0.2 ppm chlorine residual. Use a chlorine test kit.

XI. EMERGENCY DISINFECTION AFTER FIRES

A. 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.

XII. EMERGENCY DISINFECTION AFTER FLOODS

A. Wells

Thoroughly flush contaminated casing with a 500 ppm available chlorine solution. 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.

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

813-16

B. 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.

C. Basins, Tanks, Flumes, Etc.

Thoroughly clean all equipment, then add 20 oz. of 12.5% DDOCHLOR to 5 cu. ft. of water to obtain 800 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 1000 ppm available chlorine. Allow to stand for 2 to 4 hours, flush and return to service. (Using ratio method to calculate concentration, 5.25%, 8 or 10% DDOCHLOR can be used)

D. Filters

When the sand filter needs replacement, apply 80 oz. of 12.5% DDOCHLOR for each 150 to 200 cubic feet of sand. When the filter is severely contaminated, additional product should be distributed over the surface at the rate of 80 oz. per 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 80 oz. of 12.5% DDOCHLOR 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. (Using ratio method to calculate concentration, 5.25%, 8 or 10% DDOCHLOR can be used.)

E. 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.

XIII. EMERGENCY DISINFECTION AFTER MAIN BREAKS

A. 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.

**XIV. DISINFECTION OF DRINKING WATER (POTABLE)
(Emergency/Public/Individual Systems)**

A. Public System

Mix a ratio of DDOCHLOR to water to produce a 10 ppm available chlorine by weight. 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.

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as free from turbidity as possible. Pour a 100 ppm available chlorine sanitizing solution into the well. 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 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.

2. 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 details.

D. 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 to 3 drops, (dependent on product strength) to 20 gallons water. Allow the treated water to stand for 30 minutes. Properly treated water should have a slight chlorine odor. If not, repeat dosage and allow the water to stand an additional 15 minutes. The treated water can then be made palatable by pouring it between clean containers several times.

E. Meat and Poultry Plant Treatment

For the treatment of drinking water and water which may be incorporated into food products or directly contact food, use the following concentrations. Chlorine may be present in the process water of meat plants at concentrations of up to 5 ppm. Chlorine may be present in the process water of poultry plants at levels up to 20 ppm. Levels are calculated in ppm of available chlorine. Use dilution conversion chart to calculate the proper ratio of Hypochlorite solution to water. SODIUM HYPOCHLORITE must be dispensed at a constant and uniform level to insure that a controlled rate is maintained.

XV. PUBLIC WATER SYSTEM

A. Reservoirs - Algae Control

Hypochlorite 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.

B. Mains

Thoroughly flush section to be sanitized by discharging from hydrant. 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 in 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.

C. New Tanks, Basins, Etc.

Remove all physical soil from surfaces. Place 20 oz. of 12-1/2% SODIUM HYPOCHLORITE 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. (Using ratio method to calculate concentration, 5.25% or 10% SODIUM HYPOCHLORITE can be used.)

D. New Filter Sand

Apply 80 oz. of 12 1/2% DIXICHLOR 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. (Using ratio method to calculate concentration, 5.25%, 8, or 10% DIXICHLOR can be used.)

E. New Wells

Flush the casing with a 50 ppm available chlorine solution. 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.

F. 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 at least 4 hours. Drain and place in service. If the previous treatment is not practical, surfaces may be sprayed with a 1000 ppm available chlorine solution. After drying, flush with water and return to service.

XVI. FARM PREMISES

Remove all animals, poultry, and feed from premises, vehicles, and enclosures. Remove all litter and manure from floors, walls and surfaces of barns, pens, stalls, chutes and other facilities occupied or traversed by animals or poultry. Empty all troughs, racks and other feeding and watering appliances. Thoroughly clean all surfaces with soap or detergent and rinse with water. To disinfect, saturate all surfaces with a solution of at least 1000 ppm available chlorine for a period of 10 minutes. Immerse all halter, ropes, and other types of equipment used in handling and restraining animals and 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.

XVII. LAUNDRY SANITIZERS

A. Household Laundry Sanitizers

1. **IN SOAKING SUDS:** Thoroughly mix DIXICHLOR in 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.

2. **IN WASHING SUDS:** Thoroughly mix DIXICHLOR in wash water containing clothes to provide 200 ppm available chlorine. Wait 5 minutes, then add soap or detergent and start the wash/rinse cycle.

B. Commercial Laundry Sanitizers

Wet fabrics or clothes should be spun dry prior to sanitization. Thoroughly mix DIXICHLOR with water to yield 200 ppm available chlorine. Promptly after mixing the sanitizer, add the solution into the prewash cycle 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 DIXICHLOR if the available chlorine level has dropped below 200 ppm.

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XVIII. PULP AND PAPER MILL PROCESS WATER SYSTEMS

A. Slug Feed Method

INITIAL DOSE: When system is noticeably fouled, add appropriate amount of DDOCHLOR 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 appropriate amount of DDOCHLOR per 10,000 gallons of water in the system daily, or as needed, to maintain control and keep the chlorinated residual at 1 ppm. Badly fouled systems must be cleaned before treatment is begun.

B. Intermittent Feed Method

INITIAL DOSE: When system is noticeably fouled, add appropriate amount of DDOCHLOR 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 appropriate amount of DDOCHLOR 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.

C. Continuous Feed Method

INITIAL DOSE: When system is noticeably fouled, add appropriate amount of DDOCHLOR 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.

D. Pulp and Paper Mill Process Water Systems Treatment Chart

Method	Ounce DDOCHLOR/10,000 Gallons Water			
	12.5%	10%	8%	5.25%
Slug Feed To obtain 5-10 ppm	52-104	66-135	84-88	130-260
Subsequent Dose Maintain 1 ppm residual	11	13	16	25
Intermittent Feed To obtain 5-10 ppm	52-104	66-135	84-168	130-260
Subsequent Dose Maintain 1 ppm residual	11	13	16	25
Continuous Feed To obtain 5-10 ppm	52-104	66-136	84-168	130-260
Subsequent Dose* Maintain 1 ppm residual	1	1.5	2.0	2.5

(*per 1000 gal.)

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SANITIZATION OF NONPOROUS FOOD CONTACT SURFACES

A. 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 required quantity of DIOXCHL OR with 10 gallons of water. If no test kit is available, prepare a sanitizing solution to provide approximately 200 ppm available chlorine by weight.

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

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

B. 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. If no test kit is available, prepare a sanitizing solution 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 automatic systems may be used for general cleaning but may not be reused for sanitizing purposes.

C. Rewash/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. Pump solution through the system until full flow is obtained at all extremities. The system is completely rinsed 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.

D. 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. Pump solution through the system until full flow is obtained at all extremities. The system is completely rinsed 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.

E. Spray/Fog Method

Pre-clean all surfaces after use. Use a 200 ppm available chlorine solution to control bacteria, mold or fungi and a 600 ppm solution to control bacteriophages. Use spray or fogging equipment which can mist 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 areas for at least 2 hours. Prior to using equipment, rinse all surfaces treated with a 600 ppm solution with a 200 ppm solution.

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XX. **SANITIZATION OF POROUS FOOD CONTACT SURFACES**

A. **Rinse Method**

Clean surfaces in the normal manner. Rinse all surfaces thoroughly with the 600 ppm solution, maintaining contact for at least 2 minutes. Prior to using equipment rinse all surfaces with a 200 ppm available chlorine solution. Do not rinse and do not soak equipment overnight.

B. **Immersion Method**

Clean equipment in the normal manner. Immerse equipment in the 600 ppm solution for at least 2 minutes. Prior to using equipment, immerse all surfaces in a 200 ppm available chlorine solution. Do not rinse and do not soak equipment overnight.

C. **Spray/Fog Method**

Preclean all surfaces after use. Prepare a 600 ppm available chlorine sanitizing solution of the required quantity and apply using 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.

XXI. **SANITIZATION OF NONPOROUS NON-FOOD CONTACT SURFACES**

A. **Rinse Method**

Prepare a sanitizing solution 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.

B. **Immersion Method**

Prepare a sufficient quantity of sanitizing solution in an immersion tank, 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.

C. **Spray/Fog Method**

Preclean all surfaces after use. Prepare a 200 ppm available chlorine sanitizing solution of sufficient size and apply using 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.

XXII. **DISINFECTATION OF NONPOROUS NON-FOOD CONTACT SURFACES**

A. **Rinse Method**

Prepare a disinfecting solution 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.

B. **Immersion Method**

Prepare a disinfecting solution in an immersion tank, to provide approximately 600 ppm available chlorine by weight. Clean equipment in the normal manner. Prior to use, immerse equipment in the disinfecting solution for at least 10 minutes and allow the sanitizer to drain. Do not rinse equipment with water after treatment.

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XXXI. SANITIZATION OF POROUS NON-FOOD CONTACT SURFACES

A. Rinse Method

Prepare a sanitizing solution to provide approximately 600 ppm available chlorine by weight. Clean surfaces in the normal manner. Prior to use, rinse all surfaces thoroughly with the sanitizing solution, maintaining contact with the sanitizer for at least 2 minutes. Do not rinse equipment with water after treatment and do not soak equipment overnight.

B. Immersion Method

Prepare a sanitizing solution, in an immersion tank, 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.

C. Spray/Fog Method

After cleaning, sanitize non-food contact surfaces with 600 ppm available chlorine, using 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.

XXIV. 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, 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 pre-determined, 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.

XXV. SEWAGE AND WASTEWATER TREATMENT

A. Effluent Slime Control

Apply a 100 to 1000 ppm available chlorine solution at a location which will allow complete mixing. Once control is evident, apply a 15 ppm available chlorine solution.

B. Filter Beds - Slime Control

Remove filter from service, drain to a depth of 1 ft. above filter sand, and add 80 oz. of 12 1/2% DDCHLOR 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. (Using ratio method to calculate concentration, 5.25%, 8 or 10% DDCHLOR can be used.)

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XXVI. SANITIZATION OF DIALYSIS MACHINES

Flush equipment thoroughly with water prior to using this product. Thoroughly mix DDXCHLOR 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 the system of the sanitizing solution and thoroughly rinse with water. Discard and DO NOT reuse the spent sanitizer. Rinse must be monitored with a suitable test kit to insure that no available chlorine remains in the system.

This product is recommended for decontaminating single and multipatient hemodialysate systems. This product has been shown to be an effective disinfectant (virucide, fungicide, bactericide, pseudomonicide) when tested by APAC and EPA test methods. This product may not totally eliminate all vegetative microorganisms in hemodialysate delivery systems due to the construction and/or assembly, but can be relied upon to reduce the number of microorganisms to acceptable levels when used as directed. This product should be used in a disinfectant program which includes bacteriological monitoring of the hemodialysate delivery system. This product is NOT recommended for use in hemodialysate or reverse osmosis (RO) membranes.

Consult the guidelines for hemodialysate systems which are available from the Hepatitis Laboratories, DCD, Phoenix, AR 85021.

XXVII. SPAS, HOT-TUBS, IMMERSION TANKS, ETC.

A. Spas/Hot-Tubs

Using Chart or Formula, calculate and approximate an amount of DDXCHLOR 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, cleansers, etc. may cause foaming or cloudy water as well as reduce the efficiency of the product.

1. *Maintaining the Water:* To maintain the water, apply DDXCHLOR solution over the surface to maintain a chlorine concentration of 5 ppm.
2. *After Each Use:* Shock treat to control odor and algae, using DDXCHLOR at a rate of 8 ounces of 12½% to 500 gallons of water. (Use chart or formula when using 5.25, 8 or 10% DDXCHLOR.)
3. *Periods of Douse:* During periods of douse, add DDXCHLOR daily to maintain a 3 ppm chlorine concentration.

B. Hubbard and Immersion Tanks

Before patient use add DDXCHLOR 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 ounces of 12½% DDXCHLOR 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. (Use chart or formula when using 5.25, 8 or 10% DDXCHLOR.)

C. Hydrotherapy Tanks

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

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XXVII. SWIMMING POOL WATER DISINFECTION

A. New Pool or Spring Start-Up

For a new pool or spring start-up, superchlorinate with DDOCHLOR to yield a 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 7.8. Adjust and maintain the alkalinity of the pool to between 50 to 100 ppm.

B. Maintaining the Pool

To maintain the pool, add manually or by a feeder device a sufficient quantity of DDOCHLOR 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.

C. Superchlorination

Every 7 (seven) days, or as necessary, superchlorinate the pool with DDOCHLOR to yield a 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.

D. End of Swimming Pool Season

At the end of the swimming pool season or when the 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.

E. Winterizing Pool

While water is still clear, and while filter system is in service, apply DDXLCHLOR in quantities 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 manufacturers' instructions.

F. Swimming Pool Disinfection Chart

Method	Ounce DDOCHLOR/10,000 Gallons Water			
	12.5%	10%	8%	5.25%
Start-Up	52-104	64-128	80-160	122-244
Maintenance	11	13	16	25
Superchlorination	52-104	64-128	80-160	122-244
Winterizing	30	39	16	75

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