# UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, DC 20460



# United States Environmental Protection Office of Pesticide Programs Agency

August 04, 2008

**FILE COPY** 

John R. French Arch Chemicals, Inc. 1955 Lake Park Drive, Suite100 Smyrna, GA 30080

Subject:

HTH® Super Sock It® Shock N' Swim Shock Treatment & Superchlorinator

EPA Registration Number: 1258-1246 Application Dated: July 02, 2008 Receipt Date: July 08, 2008

Dear Mr. French:

This acknowledges receipt of your notification, Submitted under the provision of PR Notice 98-10, FIFRA Section 3(c) 9.

## **Proposed Notification**

Typographical errors and omission of previously accepted text.

## **General Comment**

Based on a review of the material submitted, the following comment applies:

This notification is accepted and a copy has been inserted in your file for future reference.

Should you have any questions concerning this letter, please contact Wanda Henson at (703) 308-6345.

Sincerely,

Wanda Henson ✓ Product Reviewer (32)

Regulatory Management Branch II Antimicrobials Division (7510P)

United States  Environmental Protection Age Washington, DC 20460						verent verent	agistration Amendment Other		O. Approval expires 2-28-8 OPP Identifier Number	
		Application	on for F	esticid	e - Sect	ion	l l			
1. Company/Product Number 1258-1246			2. EPA Product Manager E. Mitchell					3. Proposed Classification  None Restricted		
4. Company/Product (Name) HTH:SUPER SOCK IT:SHOCK N' SWIM SHOCK TRI			PM#						Nestricted	
5. Name and Address of Applicant (Include ZIP Code) Arch Chemicals, Inc. 1955 Lake Park Drive, Suite 100 Smyrna, GA 30080			6. Expedited Reveiw. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to:  EPA Reg. No.							
Check if this	is a new address			Produc	t Name					
			Sect	ion - il	· .					
Amendment - Explain  Resubmission in resp  Notification - Explain  Explanation: Use addition  Notification to correct minor to  This notification is consistent labeling or the confidential state  EPA. I further understand the FIFRA and I may be subject to	below.  tel page(s) if necessarily pographical errors.  with the provisions of Fatement of formula of the strict of this notification is no	y. (For section PR Notice 98-10 is product. I upt consistent w	0 and EPA nderstand t ith the term	regulations hat it is a vis of PR No	Agency lette "Me Too" A Other - Expl s at 40 CFR foliation of 18 otice 98-10 a	er dat applica ain be 152.46 3 U.S.6 nd 10	ition.  low.  i, and no othe C. Sec. 1001	er changes	make any false statement to	
THE TOTAL BILLION OF SUBJECT 1	o emorcement action a	na penanes ui		ion - II						
1. Material This Product Will	Be Packaged In:									
Child-Resistant Packaging  Yes  No  *Certification must  The submitted  Unit Packaging  Yes  No  If "Yes" Unit Packaging  Yes  No. per Unit Packaging wgt.			Water Soluble Packaging  Yes  ✓ No  If "Yes" Package wgt  No. per Package wgt  No. per Package wgt  No. per				f Container  Metal Plastic Glass Paper Other (Specify)			
3. Location of Net Contents	Information	4. Size(s) Re	tail Contain	100	1	5. Lo	cation of Lab	el Directio	ns	
Label			Various [] containe					er .		
6. Manner in Which Label is Affixed to Product    Lithograph   Paper glued   Stenciled										
Section - IV										
1. Contact Point (Complete	items directly below f	or identification				if nec	essery, to pr	ocess this	application.)	
Name John R. French, Ph.D.				Title Senior Regulatory Manager				Telephone No. (Include Area Code) 770-805-3226		
i certify that the states i acknowledge that an both under applicable	y knowlinglly false or		l all attach						6. Date Application Received (Statnped)	
<sup>2. Signature</sup> John R. French	. JUIIIII. DN: cn=John R. French, o=Arch Chemicals, inc., ou, email=RFrench@archchemicals.			3. Title Senior Regulatory Manager					, S. C.	
4. Typed Name			5. Date					11111	100	

John R. French, Ph.D.

July 2, 2008

Arch Chemicals, Inc.

1955 Lake Park Drive Suite 100 Smyrna, GA 30080 Tel: 770.801.6600



July 2, 2008 Via Federal Express

Ms. Emily Mitchell (PM-32)
Office of Pesticide Programs (7504P)
C/O Document Processing Desk (NOTIF)
U.S. Environmental Protection Agency
Room S-4900, One Potomac Yard
2777 South Crystal Drive
Arlington, VA 22202-4501

Subject:

HTH® Super Sock It® Shock N' Swim Shock Treatment & Superchlorinator

For Swimming Pools (EPA Reg. No. 1258-1246)

Notification to correct minor typographical errors on label

Dear Ms. Mitchell:

This correspondence constitutes our notification to the Agency that we are correcting minor typographical errors involving text on the label that was omitted during the previous review. Importantly, all of these identified changes have already been made to our other labels for products of similar composition.

In support of this notification, enclosed please find the following documents:

- > Application for pesticide (8570-1);
- Revised label, with the changes indicated in red font.

Please feel free to contact me at any time, either by telephone (direct: 770-805-3226) or by e-mail (JRFrench@archchemicals.com) with regard to this action.

Sincerely,

John R. French, Ph.D.

Senior Regulatory Manager

#### MASTER LABEL

Last changes in red.

[All text in square brackets [AAA] is optional and may/may not be included on final label]

(All text in rounded brackets (AAA) is for information purposes and will not appear on final label)

# **FRONT PANEL- MANDATORY LANGUAGE FOR ALL LABELS**

HTH® SUPER SOCK IT® SHOCK N' SWIM SHOCK TREATMENT & SUPERCHLORINATOR FOR SWIMMING POOLS

**ACTIVE INGREDIENT:** 

 CALCIUM HYPOCHLORITE
 62.4%

 OTHER INGREDIENTS
 37.6%

 TOTAL
 100%

Available Chlorine.......60%

KEEP OUT OF REACH OF CHILDREN

# **DANGER**

Contamination or improper use may cause fire, explosion or the release of toxic gases. Do not allow product to contact any foreign matter, including other water treatment products. If product is exposed to small amounts of water, it can react violently to produce heat and toxic gases and spatter. Do not add water to this product. Add only into water. {The following optional statement is for use on residential use swimming pool and spa products} [Do not mix this product with a small amount of water. Only add directly to your [pool] [or spa].] Highly Corrosive. Causes skin burns and irreversible eye damage. May be fatal if swallowed. Harmful if absorbed through the skin.

Read all precautionary statements on [back] label and first aid statements before use.

For the authority having jurisdiction over fire code enforcement: This product meets the NFPA criteria for a class one oxidizer.

FIRST AID: If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice. If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. If Swallowed: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person. If Inhaled: Remove person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. IN CASE OF EMERGENCY CALL: 1-800-654-6911 Note to physician: Probable mucosal damage may contraindicate the use of gastric lavage.

Net Wt. xxx

// C/

## {BACK OR SIDE PANEL-MANDATORY LANGUAGE FOR ALL LABELS}

#### PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER: Highly corrosive. Causes skin burns and irreversible eye damage. May be fatal if swallowed. Harmful if absorbed through skin. Irritating to nose and throat.

- Open in a well ventilated area. Avoid breathing dust and fumes.
- Do not get in eyes, on skin, or on clothing. Do not handle with bare hands. Wear goggles and use rubber gloves. For additional protection of skin wear long sleeves and long pants.
- Remove and wash contaminated clothing separately before reuse.
- · Only use utensils which are thoroughly clean and dry.
- Wash thoroughly with soap and water after handling.

#### PHYSICAL and CHEMICAL HAZARDS:

If product is exposed to small amounts of water, it can react violently to produce heat and toxic gases and spatter. Do not add water to this product. Add only into water.

- [Do not mix this product with a small amount of water. Only add this product directly to your pool.] {This statement will appear on Pool use labels only.}
- Do not allow to become wet or damp before use.

Can react with other materials, including other water treatment products, to cause intense fire, explosion, and the release of toxic gases.

- Keep all foreign matter, including other water treatment products, away from this product.
- Do not allow this product to contact other water treatment products. Do not use this product in a floater or feeder that has been used with any other product. If used with a skimmer, make sure skimmer is completely clean and free of residue from other water treatment products before putting this product in a skimmer.

Exposure to heat can cause this product to rapidly decompose, leading to intense fire, explosion, and the release of toxic gases.

Store in a cool, dry, well ventilated area.

Strong oxidizing agent. This product can increase fire intensity. Keep away from heat and from flame and burning material (like a lighted cigarette).

{First sentence of paragraph below for 50 lb. containers or less; complete paragraph for all other sizes}

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

**EMERGENCY HANDLING:** In case of contamination or decomposition: Do not reseal container. Place the container in an open and well-ventilated area by itself (if possible). Flood with large amounts of water until the material is dissolved. Dispose of container and any remaining contaminated material in an approved landfill area.



**STORAGE & DISPOSAL:** {Optional statements – usage depends on whether or not refillable or nonrefillable containers are used and whether or not product is packaged for household/residential use only}

## {Nonrefillable container - household/residential use}

[Keep this product dry in its tightly closed container when not in use. Store in a cool, dry, well-ventilated area. Keep away from heat or open flame. Nonrefillable container. Do not reuse or refill this container. Rinse empty container thoroughly with water to dissolve all material prior to disposal. Offer for recycling if available. Do not contaminate food or feed by storage or disposal or cleaning of equipment. FOR DISPOSAL OF A CONTAMINATED OR DECOMPOSING PRODUCT SEE EMERGENCY HANDLING.]

#### {Nonrefillable container - single-use, non-resealable package}

[Keep this product dry in its tightly closed container. Store in a cool, dry, well-ventilated area. Keep away from heat or open flame. Nonrefillable container. Do not reuse or refill this container. Rinse and discard empty container thoroughly with water to dissolve all material prior to disposal. Offer for recycling if available. Do not contaminate food or feed by storage or disposal or cleaning of equipment. FOR DISPOSAL OF A CONTAMINATED OR DECOMPOSING PRODUCT SEE EMERGENCY HANDLING.]

## {Refillable container - household/residential use}

[Keep this product dry in its tightly closed container when not in use. Store in a cool, dry, well-ventilated area. Keep away from heat or open flame. Do not contaminate food or feed by storage or disposal or cleaning of equipment. FOR DISPOSAL OF A CONTAMINATED OR DECOMPOSING PRODUCT SEE EMERGENCY HANDLING. Refillable container. Refill this container with calcium hypochlorite only. Do not use this container for any other purpose. Rinse empty container thoroughly with water to dissolve all material prior to disposal.]

## {Nonrefillable container - non-household/residential use}

[Keep this product dry in its tightly closed container when not in use. Store in a cool, dry, well-ventilated area. Keep away from heat or open flame. Do not contaminate food or feed by storage or disposal or cleaning of equipment. FOR DISPOSAL OF A CONTAMINATED OR DECOMPOSING PRODUCT SEE EMERGENCY HANDLING. Nonrefillable container. Do not reuse this container. Offer for recycling if available. Rinse empty container thoroughly with water to dissolve all material prior to disposal.]

## {Refillable container - non-household/residential use}

[Keep this product dry in its tightly closed container when not in use. Store in a cool, dry, well-ventilated area. Keep away from heat or open flame. Do not contaminate food or feed by storage or disposal or cleaning of equipment. FOR DISPOSAL OF A CONTAMINATED OR DECOMPOSING PRODUCT SEE EMERGENCY HANDLING. Refillable container. Refill this container with calcium hypochlorite only. Do not use this container for any other purpose. Cleaning of this container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. Rinse empty container thoroughly with water to dissolve all material prior to disposal.]

EPA Est. No. Xxx

Sold by: Arch Chemicals, Inc. P.O. Box 723547 Atlanta, GA 31139-3547

EPA Reg. No. 1258-1246

[Visit [brand]: <a href="https://www.xxx.com">www.xxx.com</a>]
{Optional}



{Optional}



[[HTH] [HTH POOLIFE] (Brand Name) HELPLINE [866-HTH-POOL] [866-4-POOL-FUN]

Toll Free

Call 7 days a week with your questions concerning pool water care. 8:00 a.m.

- 10:00 p.m. Eastern Time

# **{OPTIONAL MARKETING CLAIMS}**

Kills bacteria
Controls Algae
Destroys organic contaminants
No need to pre-dissolve
Routine Chlorinator

Shock Treatment (and) Superchlorinator for Swimming Pools and Spas

Restores a crystal clarity to pool water

**Buffered Sanitizer** 

Oxidizer

Removes organic waste and produces sparkling clean swimming pool water. For pool startup and weekly shock treatment for heavy bather loads or after

heavy rains

Will not cause over stabilization

{Optional statements for inclusion on dealer direct brands}

[Step 1. Sanitize

Step 2. Shock

Step 3. Add Algaecide

[Use Our 4 Simple Steps For A Beautiful Pool!

1 balance your pool water

2 sanitize to keep bacteria away

3 shock to maintain water clarity

Contains no cyanuric acid Sanitizes pool water Swimming pool sanitizer Innovative Exclusive Patented technology

60% available chlorine
Powerful shock treatment for crystal clear water

Fast acting Quick dissolving

Patented

Good for all pool surfaces Ideal for Vinyl lined pools



4 prevent algae from growing]

[Spend more time in your pool and less time cleaning]

[With our legacy of excellence, you can trust us with your pool care]

[We are proud to be the do-it-yourself pool care experts with over 80 years of experience, continual research and product innovation.]

[Need Help? Easy to use pool and spa care tips and detailed product information are just a click away. Simply log on to <a href="www.hthpools.com">www.hthpools.com</a> or call 1-866-HTH-POOL.]

[{recycle symbol} Made from 10% recycled paper]

100

## **{SWIMMING POOL USES}**

## {Use 1-Pools}

**DIRECTIONS FOR USE**: It is a violation of Federal law to use this product in a manner inconsistent with its labeling. [This product is a concentrated chlorinating agent.] [It is in a dry, free-flowing form.] [It kills bacteria, controls algae and destroys organic contaminants in pools.]

#### READ ALL PRECAUTIONARY STATEMENTS BEFORE USE.

[METHOD OF APPLICATION: How To Use: [Do not pre-mix this product.] [Only add this product directly to your pool.] {When contents are in a resealable container} [Use only a clean, dry [scoop][cup] [lid] to measure this product]. [Do not use the [scoop] [cup][lid] for any other purpose.] {When contents are in a single use bag for use as a shock for pools 10,000 gallons or larger} [For single use bag, use entire contents when opened]. [For best results, follow a weekly program with our [brand] System. Consult your authorized [brand] dealer for advice on the system that best suits your pool and your lifestyle.] [Take a pool water sample to your authorized [brand] dealer regularly for a detailed water analysis.]

## [Method for dosing directly into pool:]

Add the recommended dosage of this product during evening hours while the filter pump is running. When adding this product to your pool, broadcast the product evenly over a wide area in the deepest part of the pool. If any granules settle to the bottom of the pool use brush to disperse.

#### [Method for skimmer addition:

[Use this method to avoid bleaching vinyl liner or paint.] Make sure that filter pump is on and properly recirculating through skimmer. Empty skimmer of all chemicals and/or debris. Contamination may cause an explosion or the release of toxic gases. Do not use this method when an automatic chemical dispensing device (e.g. feeder) is present. Pour this product slowly into skimmer, making sure that the material is drawn into the system at the same rate: do not allow this material to accumulate as toxic gases may be generated.]]

[ROUTINE CHLORINATION: Throughout the pool season, adjust pH to 7.2 – 7.6. Allow to pH adjustment chemicals to disperse and add 6 to 9 oz. of this product per 10,000 gallons of pool water daily or as often as needed to maintain chlorine residual at 1–4 parts per million (ppm). If you have stabilized your pool using [HTH] [BRAND] Stabilizer & Conditioner (or similar product) add 3 to 5 oz. per 10,000 gallons every other day or as often as needed to maintain a chlorine residual at 1-4 ppm. Follow "Method of Application". As a preventative treatment, you should shock treat your pool once a week to prevent pool problems. In addition to weekly shock treatment, you should shock treat to remedy problems which may occur when bathing loads are high, water appears hazy or dull, unpleasant odors or eye irritation occur, after heavy wind and rainstorms, or if algae does develop with resulting green color and slimy feeling walls.]

[POOL SHOCK TREATMENT: Add the recommended dosages of this product while the filter pump is running. See METHOD OF APPLICATION. When adding this product to your pool, broadcast the product evenly over a wide area in the deepest part of the pool. **DOSAGE RATE**: Adjust and maintain pH to 7.2 - 7.4 with [HTH] [BRAND] pH Plus or [HTH] [BRAND] pH Minus. Follow label directions. Allow the pH adjustment chemicals to disperse and add 1 lb. (16 oz.) of this product per 14,000 gallons [16 to 32 ounces per 15,000 gallons] of water weekly to help prevent pool problems.

(Only the correct dosage will be put on the individual bag)

[For one time dose single use bags, use the following dosage rate for 5 – 10 ppm available chlorine by weight:]

120

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1 ounce bag: 1 to 2 ounces per 900 gallons (one to two bags)
2 ounce bag: 2 to 4 ounces per 1,800 gallons (one to two bags)
3 ounce bag: 3 to 6 ounces per 2,800 gallons (one to two bags)
4 ounce bag: 4 to 8 ounces per 3,700 gallons (one to two bags)
5 ounce bag: 5 to 10 ounces per 4,600 gallons (one to two bags)
6 ounce bag: 6 to 12 ounces per 5,600 gallons (one to two bags)
7 ounce bag: 7 to 14 ounces per 6,600 gallons (one to two bags)
8 ounce bag: 8 to 16 ounces per 7,500 gallons (one to two bags)
10 ounce bag: 10 to 20 ounces per 9,200 gallons (one to two bags)
12 ounce bag: 12 to 24 ounces per 11,000 gallons (one to two bags)
14 ounce bag: 14 to 28 ounces per 13,000 gallons (one to two bags)
16 ounce bag: 16 to 32 ounces per 15,000 gallons (one to two bags)
18 ounce bag: 18 to 36 ounces per 17,000 gallons (one to two bags)
20 ounce bag: 20 to 40 ounces per 18,000 gallons (one to two bags)
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Use entire contents of bag when opened.

{End of dosage instructions for one time dose single use bags}

Additional shock treatments {1 lb. (16 oz.) per 14,000 gallons of water} may be required to correct problems which are caused by: visible algae; high bathing loads; heavy wind and rainstorms. Additional shock treatments will also remove; unpleasant odors, and eye imitation.

Do not reenter pool until the free available chlorine residual is 1 to 4 ppm.

Shock treat your pool when opening, then weekly to prevent pool problems.]

[SUPER CHLORINATION: In the summer months when the pool water temperature is 80° F or above, or if the chlorine residual falls rapidly after regular chlorination, super chlorination is recommended. Super chlorinate the pool by adding (for one pound bag) 1 bag or (for all other products) 1 pound of this product per 8,000 gallons of water every other week. Do not use the pool until the chlorine residual has dropped to 4 ppm.]

[ALGAE CONTROL: If the sides or bottom of your pool develop algae spots, direct this product as close to the algae as possible. Follow "Pool Shock Treatment" directions. Note: Prolonged contact with pool surfaces may cause staining or bleaching. Immediately after treatment thoroughly clean pool by brushing surface of algae growth, vacuum and cycle through filter. If necessary, repeat the treatment. Pool should not be entered until the chlorine residual is 1 to 4 ppm.]

[OPENING YOUR POOL: Follow "Pool Shock Treatment" directions. Allow 30 minutes for product to disperse and test chlorine residual with a pool test kit. Repeat dosage, as needed, until chlorine residual is 1 to 4 ppm.]

**[WINTERIZING:** While the water is still clear and clean, prepare for long periods of disuse by gradually adding 1 lb. of this product per 8,000 gallons of pool water. Follow "Method of Application". Run the filter until completely dissolved. Cover the pool with a pool cover and prepare the heater, pump and filter components for winterizing by following manufacturers directions.]

**[WATER BALANCE**: For best product performance, swimmer comfort and crystal clear water: Maintain pH in the7.2-7.6 range. Maintain total alkalinity in the 60-100 ppm range. Maintain calcium hardness above 200 ppm. Maintain available chlorine level at 1-4 ppm with the use of your normal sanitizer. Use a reliable test kit that measures all these ranges. Use the HTH Pool Care products to make adjustments. Follow label directions for each product.]

## **{SPA / HOT TUB USES}**

{Use 2-Spas}

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling. [This product is a concentrated chlorinating agent.] [It is in a dry, free-flowing form.] [It kills bacteria, controls algae and destroys organic contaminants in pools.]

READ ALL PRECAUTIONARY STATEMENTS BEFORE USE.

[SPA/HOT-TUB TREATMENT: Apply 0.6 oz. of product per 500 gallons of water to obtain a free available chlorine concentration of 5 ppm, as determined by a suitable chlorine test kit. Adjust and maintain pool water pH to between 7.2 and 7.6. Some oils, lotions, fragrances, cleaners, etc. may cause foaming or cloudy water as well as reduce the efficiency of the product. To maintain the water, apply 0.6 oz. of product per 500 gallons of water over the surface to maintain a chlorine concentration of 5 ppm. Do not enter spa until chlorine residual is 1-5 ppm. After each use, shock treat with 1.7 oz. of this product per 500 gallons of water to control odor and algae. During extended periods of disuse, add 1.7 oz. of product daily per 500 gallons of water to maintain a 3 ppm chlorine concentration.]

[FOR SMALL POOLS: METHOD OF APPLICATION: Use the cap to measure. Add the recommended dosages of this product after each usage or as needed. When adding this product to your pool, broadcast the product evenly over surface of the pool. ROUTINE CHLORINATION: Throughout the pool season, add approximately one teaspoon (3 grams) of this product per 200 gallons of pool water daily or as often as needed to maintain chlorine residual at 1-3 ppm. SHOCK TREATMENT: Add approximately three teaspoons (9 grams) of this product per 200 gallons of water to provide a dosage of 9 ppm free available chlorine. Do not reenter pool until chlorine residual is 1.0 to 4.0 ppm.]

## **{COMMERCIAL USES}**

{Use 3-Industrial}

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling. [This product is a concentrated chlorinating agent.] [It is in a dry, free-flowing form.] [It kills bacteria, controls algae and destroys organic contaminants in pools.]

READ ALL PRECAUTIONARY STATEMENTS BEFORE USE.



**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 waste water be instantaneously and completely flash mixed to assure reaction with every chemically active soluble and particulate component of the waste water.
- 2. Contacting: Upon flash mixing, the flow through the system must be maintained.
- 3. Dosage/Residual Control: Successful disinfection is extremely dependent on response to fluctuating chlorine demand to maintain a predetermined, desirable chlorine level. Secondary effluent should contain 0.2 to 1.0 ppm chlorine residual after a 15 to 30 minute contact time. A reasonable average of residual chlorine is 0.5 ppm after 15 minutes contact time.

**EFFLUENT SLIME CONTROL** - Apply a 100 to 1000 ppm available chlorine solution at a location which will allow complete mixing. Prepare this solution by mixing 2.25 to 22 oz. of this product with 100 gallons of water. Once control is evident, apply a 15 ppm available chlorine solution. Prepare this solution by mixing 0.33 oz. of this product with 100 gallons of water.

P