

August 13, 2004

Pamela Nicholas  
Arch Chemicals, Inc.  
501 Merritt 7  
Norwalk, CT 06856-5204

Subject: HTH Pool Shock Treatment and Super for Swimming Pools  
EPA Registration No. 1258-1237  
Application Dated: May 19, 2004  
Receipt Date: May 20, 2004

Dear Ms. Nicholas:

The amendment submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is acceptable with the conditions listed below

- revised label

#### General Comments

1. The re-entry language under "Swimming Pool" directions for use must be revised as follows.

Re-entry into treated pools is prohibited above levels of 4ppm due to risk of bodily injury.

2. The re-entry language under "Spa/Hot Tub" directions for use must be revised as follows.

Re-entry into treated pools is prohibited above levels of 5ppm due to risk of bodily injury.

A stamped copy of your labeling accepted with comments is enclosed. Submit a copy of your final printed labeling before distributing or selling the product bearing the revised labeling

#### CONCURRENCES

SYMBOL	7510C						
SURNAME	Mitchell						
DATE	8-13-04						

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

*Sincerely,*

*Emily H. Mitchell  
Product Manager - Team 32  
Regulatory Management Branch II  
Antimicrobials Division (7510C)*

**EPA MASTER LABEL 1258-1237**

[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}

**HTH POOL SHOCK  
SHOCK TREATMENT & SUPERCHLORINATOR  
FOR SWIMMING POOLS**

**KEEP OUT OF REACH OF CHILDREN**

**DANGER**

Contamination or improper use may cause fire or explosion. Do not contaminate with any foreign matter, including other spa or pool treatment products. Add only into water.

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

**ACTIVE INGREDIENT:**

CALCIUM HYPOCHLORITE.....47.6%

OTHER INGREDIENTS..... 52.4%

TOTAL.....100%

**Minimum Available Chlorine...45 %**

**ACCEPTED  
with COMMENTS  
EPA Letter Dated:**

**AUG 13 2004**

Under the Federal Insecticide,  
Fungicide and Rodenticide Act as  
amended, for the pesticide,  
registered under EPA Reg. No. **1258-1237**

**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. Note to physician: Probable mucosal damage may contraindicate the use of gastric lavage. 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**

Net Wt. 8 oz. (0.227 KG); Net Wt. 10 oz. (0.284 KG); Net Wt. 12 oz. (0.341 KG); Net Wt. 14 oz. (0.397 KG); Net Wt. 1 Lb. (0.45 KG); Net Wt. 2 Lb. (0.9 KG); Net Wt. 5 Lb. (2.27 KG); Net Wt. 10 Lb. (4.54 KG); Net Wt. 15 Lb. (6.8 KG); Net Wt. 20 Lb. (9.09 KG); Net Wt. 23 Lb. (10.4 KG); Net Wt. 23.4 Lb. (10.6 KG); 25 lb. (11.3 kg.); Net Wt. 50 Lb. (22.7 KG); Net Wt. 55 Lb. (25 KG); Net Wt. 75 Lb. (34.1 KG)

Cat 1.1

3/15

{Existing 1237 Claims}  
[Kills bacteria] [Controls Algae] [Destroys organic contaminants]  
[Sanitizes pool water]  
[Swimming pool sanitizer]  
[Routine Chlorinator]  
[Shock Treatment (and) Superchlorinator for Swimming Pools and Spas]  
[Restores a crystal clarity to pool water]  
[No need to pre-dissolve]  
[Buffered Sanitizer]  
[Buffered for pH control]  
[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]  
[Will not cause cyanuric acid to [form] {or} [build up] in your pool]  
[Contains no cyanuric acid]  
[Good for all pool surfaces] →

1069 additional claims

{Optional statements for use only with spa sanitization directions}  
[Chlorinating granules for multiple pool and spa uses] ←

{Optional statements for use only with swimming pool sanitization directions}  
[Chlorinating granules for multipurpose uses]  
[Chlorinating granules for multiple pool and spa uses] ←

{Additional claims:}  
[47% available chlorine]  
[Fast acting] →  
[Quick dissolving]  
[Eliminates bacteria]  
[Destroys bacteria]  
[Get bacteria-free water]  
[Controls algae, kills bacteria and destroys organic contaminants in [pools] [spas & hot tubs]]  
[Dry, free-flowing form]  
[Concentrated chlorinating agent]

{claims on other ICM CH's}  
[Use only with Pulsar chlorinator systems]  
[Use only with Constant Chlor chlorinator systems]

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{back panel}

**PRECAUTIONARY STATEMENTS: HAZARDS TO HUMANS AND DOMESTIC ANIMALS: DANGER. Corrosive.**

Causes irreversible eye damage or skin burns. Harmful if swallowed, or absorbed through skin. Do not get in eyes, on skin or on clothing. Wear goggles or face shield. Wear protective clothing and rubber gloves. Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove contaminated clothing and wash clothing before reuse.

**STORAGE & DISPOSAL:** 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 reuse empty container. Rinse empty container thoroughly with water to dissolve all material and discard container in trash. 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.

**CHEMICAL HAZARDS: DANGER.** Strong oxidizing agent. Add only into water. Use only clean dry utensils to dispense this product. Do not use this product in a container or dispensing device that has been used with any other product. Keep all foreign matter, including other [spa and] pool treatment products, away from this product. Do not allow to become wet or damp before use. Contamination may start a chemical reaction that can give off heat and hazardous gases and may cause a fire or explosion. Do not touch this chemical with a flame or 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. Immediately remove container to an open and well-ventilated outdoor area by itself. Flood with large amounts of water until the material is dissolved. Dispose of container and any remaining material in an approved landfill area.

*{Use 1}[[Swimming pools]*

**[WHY YOU SHOULD USE THIS PRODUCT:]** This is a highly effective, multi-purpose product that [sanitizes], [clarifies], [helps] prevent[s] algae and [shock treats your pool]. It is convenient, easy to use, and won't over-stabilize your pool. For crystal clean pool water, [the makers of HTH<sup>®</sup> recommend] {or} [follow] the following 4 step pool care program: Step 1: Test and adjust pool water balance, Step 2: Chlorinate and clarify, Step 3: Shock treat your pool at least once a week. Step 4: Add algaecide regularly [where needed]. Additional shocking to keep water clean and clear is recommended after: rain and heavy winds; high number of swimmers; increased water temperature; and/or increased frequency of pool usage.]

*{For commercial pool, municipal, and industrial labels:}*

[This product is a concentrated chlorinating agent in a dry, free-flowing form that controls the growth of algae, kills bacteria, and destroys organic contaminants in pools, spas and hot tubs.]

**DIRECTIONS FOR USE:** It is a violation of Federal law to use this product in a manner inconsistent with its labeling. *READ ALL PRECAUTIONARY STATEMENTS BEFORE USE.*

*{Small pools (500 gallons to less than 10,000 gallons) and pools 10,000 gallons and above}*

[How To Use: Add the recommended dosage of this product during evening hours while the filter 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 contents are in a resealable container} [Use a clean, dry [scoop] lid to measure this product]. [Do not use the [scoop] lid for any other purpose.]

[If contents are in a single use bag for use as a shock for pools 10,000 gallons or larger] [Use entire contents when opened]. If any granules settle to the bottom of the pool use brush to disperse.

**Water Balance:** For best product performance, swimmer comfort, and crystal clear water: Maintain pH in the range of 7.2 to 7.6. Maintain total alkalinity in the range of 60 to 120 {retail brands only} {Commercial brands for very large commercial or municipal pools will use [60 to 100]} parts per million (ppm). Maintain calcium hardness above 200 ppm. Use a reliable test kit that measures all these ranges. Use [HTH] (brand name) Pool Care Products to make adjustments. Follow label directions for each product. Do not enter pool until the free available chlorine residual is 1- 4 ppm for each of the below noted water treatment applications. {For Industrial/Municipal pool labels: [Reenter pool when residual is 1-4 ppm].

**OPENING YOUR POOL:** For best results, see the Water Balance section above before treatment. Always adjust and maintain pH in the 7.2 to 7.6 range. Follow "SHOCK TREATMENT" directions on this package. Allow 30 minutes for product to disperse. {The following statement added to protect consumers against vinyl liner bleaching due to low pH and chlorination} Allow the pH adjusters to dissolve and disperse before adding this product to the pool. 1. Follow "SHOCK TREATMENT" directions on this package. 2.

Allow 30 minutes for product to disperse. 3. Test free available chlorine residual with a pool test kit. 4. Repeat dosage, as needed, until the free available chlorine residual is 1–4 ppm. For best results during the season, follow the HTH 4 Step Program. Re-entry into treated pools is prohibited above levels of 4 ppm for risk of bodily injury. Test free available chlorine residual with a pool test kit. Repeat treatment as needed.

[Note: For all dosages, please refer to the tables to find your exact dosage for your pool or body of water that needs treatment.]

[ROUTINE CHLORINATION: For best results, see Water Balance section above before treatment. Throughout the pool season, adjust and maintain pH at 7.2–7.6. Check available chlorine with a suitable test kit.]

{The following statement added to protect consumers against vinyl liner bleaching due to low pH and chlorination} Allow the pH adjusters to dissolve and disperse before adding this product to the pool.

{For small pools 500 gallons to less than 10,000 gallons}

Add 8–11 ounces of this product per 10,000 gallons [Add 0.8–1.1 ounces of this product per 1,000 gallons] {or} [0.4–0.6 ounces per 500 gallons] of pool water daily or as often as needed to maintain the free available chlorine residual at 1 – 4 ppm. Follow "HOW TO USE" directions on this package. If you have stabilized your pool using HTH Stabilizer and Conditioner (or similar product) add 4–6 ounces per 10,000 gallons [add 0.4–0.6 ounces per 1,000 gallons] {or} [add 0.2–0.3 ounces per 500 gallons] every other day or as often as needed to maintain the free available chlorine residual at 1–4 ppm.

{For pools 10,000 gallons and larger}

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 occur when bather 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. Adjust and maintain pH to 7.2 to 7.6 with HTH pH Plus or HTH pH Minus. Follow label directions. Allow the pH adjusters to dissolve and disperse before adding this product to the pool. When adding this product to your pool, broadcast this product evenly over a wide area of the deepest part of the pool.

**DOSAGE RATE:** {For all packaging except one time dose single use bags} **[SHOCK TREATMENT / SUPER CHLORINATION:** For best results, see "WATER BALANCE" and "HOW TO USE" section above before treatment. Every 7 days, or as necessary to prevent pool problems, shock treat / super chlorinate the pool by adding 14 to 28 ounces of this product per 10,000 gallons of water to yield 5 to 10 ppm available chlorine by weight. . Re-entry into treated pools is prohibited above levels of 4 ppm for risk of bodily injury.] {End of section -For all packaging except one time single use bags}

{For one time dose single use bags, use the following verbiage:}

{8 ounce bag:} **[SHOCK TREATMENT / SUPER CHLORINATION:** For best results, see "WATER BALANCE" and "HOW TO USE" section above before treatment. Every 7 days, or as necessary to prevent pool problems, shock treat / super chlorinate the pool by adding 8 to 16 ounces (one to two bags) per 5,700 gallons of water to yield 5 to 10 ppm available chlorine by weight. . Re-entry into treated pools is prohibited above levels of 4 ppm for risk of bodily injury.] {End of 8 ounce bag}

{10 ounce bag:} **[SHOCK TREATMENT / SUPER CHLORINATION:** For best results, see "WATER BALANCE" and "HOW TO USE" section above before treatment. Every 7 days, or as necessary to prevent pool problems, shock treat / super chlorinate the pool by adding 10 to 20 ounces (one to two bags) per 7,000 gallons of water to yield 5 to 10 ppm available chlorine by weight. . Re-entry into treated pools is prohibited above levels of 4 ppm for risk of bodily injury.] {End of 10 ounce bag}

{12 ounce bag:} **[SHOCK TREATMENT / SUPER CHLORINATION:** For best results, see "WATER BALANCE" and "HOW TO USE" section above before treatment. Every 7 days, or as necessary to prevent pool problems, shock treat / super chlorinate the pool by adding 12 to 24 ounces (one to two bags) per 8,500 gallons of water to yield 5 to 10 ppm available chlorine by weight. . Re-entry into treated pools is prohibited above levels of 4 ppm for risk of bodily injury.] {End of 12 ounce bag}

{14 ounce bag:} **[SHOCK TREATMENT / SUPER CHLORINATION:** For best results, see "WATER BALANCE" and "HOW TO USE" section above before treatment. Every 7 days, or as necessary to prevent pool problems, shock treat / super chlorinate the pool by adding 14 to 28 ounces (one to two bags) per 10,000 gallons of water to yield 5 to 10 ppm available chlorine by weight. . Re-entry into treated pools is prohibited above levels of 4 ppm for risk of bodily injury.] {End of 14 ounce bag}

{16 ounce bag;} **[SHOCK TREATMENT / SUPER CHLORINATION:** For best results, see "WATER BALANCE" and "HOW TO USE" section above before treatment. Every 7 days, or as necessary to prevent pool problems, shock treat /super chlorinate the pool by adding 16 to 32 ounces (one to two bags) per 11,500 gallons of water to yield 5 to 10 ppm available chlorine by weight. . Re-entry into treated pools is prohibited above levels of 4 ppm for risk of bodily injury.] {End of 16 ounce bag}

[Use entire contents of bag when opened.]

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

{For pools 10,000 gallons and larger}

**[SHOCK TREATMENT / SUPERCHLORINATION:** For best results, see "WATER BALANCE" and "HOW TO USE" section above before treatment. Every 7 days, or as necessary to prevent pool problems, shock treat / superchlorinate the pool by adding 14-28 ounces of this product per 10,000 gallons of water to provide 5 to 10 ppm available chlorine. Additional shock treatments may be required to correct problems which are caused by visible algae, high bathing loads, heavy wind and rainstorms. Additional shock treatments may also be required to correct problems such as unpleasant odors and eye irritation. Check the available chlorine with a suitable test kit. Do not reenter the pool until the chlorine residual is 1 to 4 ppm.]

{For pools 10,000 gallons and larger}

**ALGAE CONTROL:** 1. Follow "SHOCK TREATMENT" directions on this label. 2. Add this product as close as possible to any algae on the sides or bottom of the pool. 3. Do not enter pool until the free available chlorine residual is 1-4 ppm. 4. If necessary, repeat the treatment. 5. To prevent possible staining or bleaching, take the following steps immediately after treatment: Thoroughly clean pool by brushing surface of algae growth, vacuum and cycle through filter. For preventative algae control, use your preferred HTH algaecide product regularly. However, if problems persist use your preferred [HTH] (brand name) [spa] algaecide product regularly. Follow label directions on [the algaecide] {or} [that product.]

{Labels of resealable containers (2 lbs. or more) used to treat pools 10,000 gallons and larger}

**WINTERIZING:** For best results, see "WATER BALANCE" section above before treatment. While the water is still clear and clean, prepare for long periods of disuse by gradually 42 ounces of this product per 10,000 gallons of pool water that is clear and clean. This provides 15 ppm free available chlorine. Follow "HOW TO USE" directions on this package. Run the filter until granules are completely dissolved. Cover the pool with a [plastic] pool cover. Prepare the heater, pump and filter components for winterizing by following manufacturer's directions.

**[TO DETERMINE YOUR POOL CAPACITY IN U.S. GALLONS, USE THE APPROPRIATE FORMULA BELOW:**

**POOL SHAPE FORMULA (Use measurements in feet only)**

**RECTANGULAR** - Length x Width x Average Depth x 7.5 = Total Gallons.

**ROUND** - Diameter x Diameter x Average Depth x 5.9 =Total Gallons.

**OVAL** - Maximum Length x Maximum Width x Average Depth x 5.9 = Total Gallons.

**FREE FORM** - Surface Area (Sq. Feet) x Average Depth x 7.5 = Total Gallons]

{Use 2} [[Spa & Hot Tubs]

[Spa & Hot Tubs][How To Use: For best results, see "WATER BALANCE" section below before treatment. Maintain these conditions for proper operation by frequent testing with a test kit. Do not allow cyanuric acid level to exceed 100 ppm. It is recommended that spas and hot tubs be drained every 30-90 days, more often under heavy use. Consult manufacturer's recommendations concerning the compatibility of chlorine sanitizers with their equipment. Some oils, lotions, fragrances, cleansers, etc., may cause foaming or cloudy water and may react with chlorine sanitizers to reduce their efficacy. If circulation is low, stir water after addition of chlorine or other chemicals.]

[Water Balance: For best product performance, comfort, and crystal clear water: Maintain pH in the range of 7.2 to 7.6. Maintain total alkalinity in the range of 60 to 120 parts per million (ppm). Maintain calcium hardness above 200 ppm. Use a reliable test kit that measures all these ranges. Use [HTH] (brand name) [Spa] Care Products to make adjustments. Follow label directions for each product. {The following statement added to protect consumers against vinyl liner bleaching due to low pH and chlorination} [Allow the pH adjusters to dissolve and disperse before adding this product to the pool. Maintain these conditions for proper spa and hot tub operation by frequent testing with a test kit.

It is recommended that spas and hot tubs be drained every 30-90 days, more often under heavy use. Consult manufacturer's recommendations concerning the compatibility of chlorine sanitizers with their equipment.]

Do not enter spa or hot tub until the free available chlorine residual is less than 5 ppm for the below noted spa applications.

[Opening Your Spa] Startup (Freshly Filled): For best results, see "WATER BALANCE" section above before treatment. Turn on circulation system and ensure that it is operating properly. Add one (1) ounce of this product to provide approximately 10 ppm available chlorine for each 500 gallons of water. Check the free available chlorine (FAC) and if less than 4-5 ppm, repeat as needed.

**[SPA/HOT-TUB: [Routine Chlorination For] Regular Use:** For best results, see "WATER BALANCE" section above before treatment. Turn on circulation system and ensure that it is operating properly. Scatter up to 0.7 ounces of this product per 500 gallons over the surface of the water to obtain 5 ppm free available chlorine. Test for free available chlorine and add additional product if necessary to maintain 3-5 ppm FAC while unit is in use. Do not enter the spa until chlorine residual reaches 1-5 ppm. Test for free available chlorine and add additional product if necessary to attain a chlorine concentration of 1-5 ppm FAC.

Shock Treatment: After each use, shock treat with 1.4 oz. of this product to provide approximately 10 ppm available chlorine per 500 gallons of water, to control odors and algae. Repeat as needed. [For preventative algae control: Shock treatment should control algae. However, if problems persist use your preferred [HTH] (brand name) [spa] algicide product regularly. Follow label directions on that product.]

**Extended Non-use Period:** For best results, see "WATER BALANCE" section above before treatment. During extended non-use periods when the spa or hot tub is not being used add 2 ounces of this product per 500 gallons twice a week with the circulation system running or as needed to maintain acceptable chlorine concentration.]



EPA Reg. # 1258-1237  
EPA Est. # 1258-TN-1

#### HTH HELPLINE

Toll-Free -800-HTH-POOL (800-484-7665) (866-4POOLFUN)

Call 7 days a week with your questions concerning pool water care.

8:00 a.m. - 10:00 p.m. Eastern Time

Please visit <http://www.hthpools.com> (www.hthpoolife.com)

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Clean 'n Scrub, Shock 'n Swim, and the HTH logo are trademarks of Arch Chemicals, Inc.

{additional ICM uses}

{Use 3}

**[HUBBARD AND IMMERSION TANKS** - Add 1.4 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 0.5 oz. to a bucket of water and circulate this solution through the agitator of the tank for 15 minutes and then rinse out the solution. Clean tank thoroughly and dry with clean cloths.]

**[HYDROTHERAPY TANKS** - Add 1.4 oz. of this product per 1,000 gallons of water to obtain a minimum chlorine residual of 1 ppm, as determined by a suitable chlorine test kit, after satisfying any chlorine demand. 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.]



{Use 4} **[SANITIZATION OF NONPOROUS NON-FOOD CONTACT SURFACES:] [RINSE METHOD]** - Prepare a sanitizing solution by thoroughly mixing 1.5 oz. of this product with 20 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 a immersion tank, 1.5 oz. of this product with 20 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.]

**[[COARSE] SPRAY METHOD]** - Preclean all surfaces after use. Prepare a 200 ppm available chlorine sanitizing solution of sufficient size by thoroughly mixing the product in a ratio of 1.5 oz. product with 20 gallons of water. Use spray equipment which can resist hypochlorite solutions. Prior to using equipment, thoroughly spray all surfaces until wet, allowing excess sanitizer to drain. Vacate area for at least 2 hours.]

{Use 5} **[DISINFECTION OF NONPOROUS NON-FOOD CONTACT SURFACES:] [RINSE METHOD]** - Prepare a disinfecting solution by thoroughly mixing 4.4 oz. of this product with 20 gallons of water to provide approximately 600 ppm available chlorine by weight. Clean equipment surfaces in the normal manner. Prior to use, rinse all surfaces thoroughly with the disinfecting solution, maintaining contact with the solution for at least 10 minutes. Do not rinse equipment with water after treatment and do not soak equipment overnight.]

**[IMMERSION METHOD]** - Prepare a disinfecting solution by thoroughly mixing, in an immersion tank, 4.4oz. of this product with 20 gallons of water to provide approximately 600 ppm available chlorine by weight. Clean equipment in the normal manner. Prior to use, immerse equipment in the disinfecting solution for at least 10 minutes and allow the sanitizer to drain. Do not rinse equipment with water after treatment.]

{Use 6} **[SANITIZATION OF POROUS NON-FOOD CONTACT SURFACES:] [RINSE METHOD]** - Prepare a sanitizing solution by thoroughly mixing 4.4 oz. of this product with 20 gallons of water to provide approximately 600 ppm available chlorine by weight. Clean surfaces in the normal manner. Prior to use, rinse all surfaces thoroughly with the sanitizing solution, maintaining contact with the sanitizer for at least 2 minutes. Do not rinse equipment with water after treatment and do not soak equipment overnight.]

**[IMMERSION METHOD]** - Prepare a sanitizing solution by thoroughly mixing, in an immersion tank, 4.4 oz. of this product with 20 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.]

**[[COARSE] SPRAY METHOD]** - After cleaning, sanitize non-food contact surfaces with 600 ppm available chlorine by thoroughly mixing the product in a ratio of 4.4 oz. of this product with 20 gallons of water. Use spray equipment which can resist hypochlorite solutions. Always empty and rinse spray equipment with potable water after use. Prior to using equipment, thoroughly spray all surfaces until wet, allowing excess sanitizer to drain. Vacate area for at least 2 hours.]

{Use 7} **[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. ] {Same text as 1237 ESL}

{Use 8} **[SEWAGE AND WASTEWATER TREATMENT:] [EFFLUENT SLIME CONTROL]** - Apply a 100 to 1,000 ppm available chlorine solution at a location which will allow complete mixing. Prepare this solution by mixing 3 to 29 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 0.5 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 23 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.]

{Use 9} **[DISINFECTION OF DRINKING WATER (EMERGENCY/PUBLIC/INDIVIDUAL SYSTEMS):] [PUBLIC SYSTEMS** - Mix a ratio of 1.5 oz. of this product to 6,000 gallons of water.] {or} [Mix a ratio of 10 oz. to 30 oz. of this product into 10 gallons of water to make a 0.5% to 1.5% solution. {added to provide a smaller quantity of feeder solution when needed}} Begin feeding this solution with a hypochlorinator until a free available chlorine residual of at least 0.2 ppm and no more than 0.6 ppm is attained throughout the distribution system. Check water frequently with a chlorine test kit. Bacteriological sampling must be conducted at a frequency no less than that prescribed by the National Primary Drinking Water Regulations. Contact your local Health Department for further details.]

**[INDIVIDUAL SYSTEMS: DUG WELLS** - Upon completion of the casing (lining) wash the interior of the casing (lining) with a 100 ppm available chlorine solution using a stiff brush. This solution can be made by thoroughly mixing 1.5 oz. of this product into 40 gallons of water. After covering the well, pour the sanitizing solution into the well through both the pipe sleeve 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. Contact 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 can be made by thoroughly mixing 1.5 oz. of this product into 40 gallons of water. Add 5 to 10 gallons of clean, chlorinated water to the well in order to force the sanitizer into the rock formation. Wash the exterior of pump cylinder with the sanitizer. Drop pipeline into well, start pump and pump water until strong odor of chlorine in water is noted. Stop pump and wait at least 24 hours. After 24 hours flush well until all traces of chlorine have been removed from the water. Deep wells with high water levels may necessitate the use of special methods for introduction of the sanitizer into the well. Consult your local Health Department for further details.]

**[INDIVIDUAL WATER SYSTEMS: FLOWING ARTESIAN WELLS** - Artesian wells generally do not require disinfection. If analyses indicate persistent contamination, the well 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 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 2 grains of this product to 1 gallon of water. One grain is approximately the size of the letter "o" in this sentence. 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 for several times.]

{Use 10} **[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 3.6 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 surface.]

**[NEW FILTER SAND** - Apply 32 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 2 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 6 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 1.5 oz. of this product for each 5 gallons of water (approximately 1,000 ppm available chlorine). After drying, flush with water and return to service.]

{Use 11} **[EMERGENCY DISINFECTION AFTER FLOODS:] [WELLS** - Thoroughly flush contaminated casing with a 500 ppm available chlorine solution. Prepare this solution by mixing 1.5 oz. of this product with 10 gallons of water. Backwash the well to increase yield and reduce turbidity, adding sufficient chlorinating solution to the backwash to produce a 10 ppm available chlorine residual, as determined by a chlorine test kit. After the turbidity has been reduced and the casing has been treated, add sufficient chlorinating solution to produce a 50 ppm available chlorine residual. Agitate the well water for several hours and take a representative water sample. Treat well again if water samples are biologically unacceptable.]

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

**[BASINS, TANKS, FLUMES, ETC.** - Thoroughly clean all equipment, then apply 6 oz. of product per 5 cu. ft. of water to obtain 500 ppm available chlorine, as determined by a suitable test kit. After 24 hours drain, flush, and return to service. If the previous method is not suitable, spray or flush the equipment with a solution containing 1 oz. of this product for each 5 gallons of water (1,000 ppm available chlorine). Allow to stand for 2 - 4 hours, flush and return to service.]

**[FILTERS** - when the sand filter needs replacement, apply 24 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 24 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 back washed of mud and silt, apply 24 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 back washing.]

**[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.]

{Use 12} **[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.]

{Use 13} **[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 0.2 ppm after a 20 minute contact time. Use a chlorine test kit.]

**[WATER SHIPPED IN BY TANKS, TANK CARS, TRUCKS, ETC.** -Thoroughly clean all containers and equipment. Spray a 500 ppm available chlorine solution and rinse with potable water after 5 minutes. This solution is made by mixing 1.5 oz. of this product for each 10 gallons of water. During the filling of the containers, dose with sufficient amounts of this product to provide at least a 0.2 ppm chlorine residual. Use a chlorine test kit.]

{Use 14} **[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.]

{Use 15} **[COOLING TOWER/EVAPORATIVE CONDENSER WATER:] [SLUG FEED METHOD** - Initial dose: When system is noticeably fouled, apply 15-30 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 2 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 15-30 oz. of this product per 10,000 gallons of water in the system to obtain 5 to 10 ppm available chlorine. Apply half (or 1/3, 1/4, or 1/5) of this initial dose when half (or 1/3, 1/4, or 1/5) of the water in the system has been lost by blow down. Subsequent Dose: When microbial control is evident, add 4 oz. of this product per 10,000 gallons of water in the system to obtain a 1 ppm residual. Apply half (or 1/3, 1/4, or 1/5) of this initial dose when half (or 1/3, 1/4, or 1/5) of the water in the system has been lost by blow down. Badly fouled systems must be cleaned before treatment is begun.]

**[CONTINUOUS FEED METHOD** - Initial dose: when system is noticeably fouled, apply 15-30 oz. of this product per 10,000 gallons of water in the system to obtain 5 to 10 ppm available chlorine. Subsequent Dose: Maintain this treatment level by starting a continuous feed of 3 oz. of this product per 10,000 gallons of water lost by blow down to maintain a 1 ppm residual. Badly fouled systems must be cleaned before treatment is begun.]

{Use 16} **[LAUNDRY SANITIZERS:] [HOUSEHOLD LAUNDRY SANITIZERS-] [IN SOAKING SUDS** - Thoroughly mix 1.5 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 1.5 oz. of this product to 20 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 1.5 oz. of this product with 20 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.]

**[FEDERALLY INSPECTED MEAT & POULTRY PLANT LAUNDRY SANITIZERS** - Wet fabrics which contact meat or poultry products directly or indirectly should be spun dry prior to sanitization. Thoroughly mix 1.5 oz. of this product with 20 gallons of water to yield 200 ppm available chlorine. Promptly after mixing the sanitizer, add the solution into the prewash prior to washing fabrics 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. Thoroughly rinse fabrics with potable water at the end of the laundering operation.]

{Use 17} **[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 1,000 ppm available chlorine for a period of 10 minutes. A 1,000 ppm solution can be made by thoroughly mixing 3 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.]

{Use 18} **[PULP AND PAPER MILL PROCESS WATER SYSTEMS:] [SLUG FEED METHOD** - Initial Dose: When system is noticeably fouled, apply 15-30 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 2.9 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 15-30 oz. of this product per 10,000 gallons of water in the system to obtain 5 to 10 ppm available chlorine. Apply half (or 1/3, 1/4, or 1/5) of this initial dose when half (or 1/3, 1/4, or 1/5) of the water in the system has been lost by blow down. Subsequent Dose: When microbial control is evident, add 2.9 oz. of this product per 10,000 gallons of water in the system to obtain a 1 ppm residual. Apply half (or 1/3, 1/4, or 1/5) of this initial dose when half (or 1/3, 1/4, or 1/5) of the water in the system has been lost by blow down. Badly fouled systems must be cleaned before treatment is begun.]

**[CONTINUOUS FEED METHOD** - Initial dose: When system is noticeably fouled, apply 15-30 oz. of this product per 10,000 gallons of water in the system to obtain 5 to 10 ppm available chlorine. Subsequent Dose: Maintain this treatment level by starting a continuous feed of 2.9 oz. of this product per 10,000 gallons of water lost by blow down to maintain a 1 ppm residual. Badly fouled systems must be cleaned before treatment is begun.]

{Use 19} **[AQUACULTURAL USES:] [FISH PONDS** - Remove fish from containerized ponds prior to treatment. Thoroughly mix 30 oz. of this product to 10,000 gallons of water to obtain 10 ppm available chlorine. Add more product to the water if the available chlorine level is below 1 ppm after 5 minutes. Return fish to pond after the available chlorine level reaches zero.]

**[FISH POND EQUIPMENT** - Thoroughly clean all equipment prior to treatment. Thoroughly mix 1.5 oz. of this product to 20 gallons of water to obtain 200 ppm available chlorine. Porous equipment should soak for one hour.]

**[MAINE LOBSTER PONDS** - Remove lobsters, seaweed etc. from ponds prior to treatment. Drain the pond. Thoroughly mix 1,900 oz. of this product to 10,000 gallons of water to obtain at least 600 ppm available chlorine. Apply so that all barrows, gates, rock and dam are treated with product. Permit high tide to fill the pond and then close gates. Allow water to stand for 2 to 3 days until the available chlorine level reaches zero. Open gates and allow 2 tidal cycles to flush the pond before returning lobsters to pond.]

**[CONDITIONING LIVE OYSTERS** - Thoroughly mix 1.5 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 of available chlorine by mixing 1.5 oz. of product with 20 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.]

{Use 20} **[SANITIZATION OF DIALYSIS MACHINES** - Flush equipment thoroughly with water prior to using this product. Thoroughly mix 10.2 oz. of this product to 60 gallons of water to obtain at least 600 ppm available chlorine. Immediately use this product in the hemodialysate system allowing for a minimum contact time of 15 minutes at 20°C. Drain system of the sanitizing solution and thoroughly rinse with water. Discard and DO NOT reuse the spent sanitizer. Rinsate must be monitored with a suitable test kit to 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 AOAC and EPA test methods. This product may not totally eliminate all vegetative microorganisms in hemodialysate delivery systems due to their construction and/or assembly, but can be relied upon to reduce the number of microorganisms to acceptable levels when used as directed. 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 available from the Hepatitis Laboratories, CDC, Phoenix, AZ 85021.]

{Use 21} **[TOILET BOWL SANITIZERS** These products are marketed as individual packages for placement in the toilet. Therefore, use directions are not appropriate.][Claims are limited to sanitization. No claims for disinfection are permitted]

{Use 22} **[ASPHALT OR WOOD ROOFS AND SIDINGS** - To control fungus and mildew, first remove all physical soil by brushing and hosing with clean water, and apply a 5,000 ppm available chlorine solution. Mix 1.5 oz. of this product per gallon of water and brush or spray roof or siding. After 30 minutes, rinse by hosing with clean water.]

{Use 23} **[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 5 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.]

{Use 24} **[ARTIFICIAL SAND BEACHES** - To sanitize the sand, spray a 500 ppm available chlorine solution containing 1.5 oz per 10 gallons of water at frequent intervals. Small areas can be sprinkled with a watering can.]

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[Dosage Tables:

Available Chlorine		Dosage of calcium hypochlorite required to reach given level of free available chlorine:							
		47.6%							
		Routine Chlorination				Winterization		Effluent Slime Control	
Gallons of water		1 ppm	2 ppm	3 ppm	4 ppm	5 ppm	10 ppm	15 ppm	10 ppm
500		0.14 ounces	0.3 ounces	0.4 ounces	0.6 ounces	0.7 ounces	1.4 ounces	2.1 ounces	1.4 ounces
1,000		0.3 ounces	0.6 ounces	0.8 ounces	1.1 ounces	1.4 ounces	2.8 ounces	4.2 ounces	2.8 ounces
1,500		0.4 ounces	0.8 ounces	1.3 ounces	1.7 ounces	2.1 ounces	4.2 ounces	6.3 ounces	4.2 ounces
2,000		0.6 ounces	1.1 ounces	1.7 ounces	2.2 ounces	2.8 ounces	5.6 ounces	8.4 ounces	5.6 ounces
2,500		0.7 ounces	1.4 ounces	2.1 ounces	2.8 ounces	3.5 ounces	7.0 ounces	10.5 ounces	7.0 ounces
3,000		0.8 ounces	1.7 ounces	2.5 ounces	3.4 ounces	4.2 ounces	8.4 ounces	12.6 ounces	8.4 ounces
3,500		1.0 ounces	2.0 ounces	2.9 ounces	3.9 ounces	4.9 ounces	9.8 ounces	14.7 ounces	9.8 ounces
4,000		1.1 ounces	2.2 ounces	3.4 ounces	4.5 ounces	5.6 ounces	11.2 ounces	1.1 pounds	11.2 ounces
4,500		1.3 ounces	2.5 ounces	3.8 ounces	5.0 ounces	6.3 ounces	12.6 ounces	1.2 pounds	12.6 ounces
5,000		1.4 ounces	2.8 ounces	4.2 ounces	5.6 ounces	7.0 ounces	14.0 ounces	1.3 pounds	14.0 ounces
5,500		1.5 ounces	3.1 ounces	4.6 ounces	6.2 ounces	7.7 ounces	15.4 ounces	1.4 pounds	15.4 ounces
6,000		1.7 ounces	3.4 ounces	5.0 ounces	6.7 ounces	8.4 ounces	1.1 pounds	1.6 pounds	1.1 pounds
6,500		1.8 ounces	3.6 ounces	5.5 ounces	7.3 ounces	9.1 ounces	1.1 pounds	1.7 pounds	1.1 pounds
7,000		2.0 ounces	3.9 ounces	5.9 ounces	7.9 ounces	9.8 ounces	1.2 pounds	1.8 pounds	1.2 pounds
7,500		2.1 ounces	4.2 ounces	6.3 ounces	8.4 ounces	10.5 ounces	1.3 pounds	2.0 pounds	1.3 pounds
8,000		2.2 ounces	4.5 Ounces	6.7 ounces	9.0 ounces	11.2 ounces	1.4 pounds	2.1 pounds	1.4 pounds
9,000		2.5 ounces	5.0 Ounces	7.6 ounces	10.1 ounces	12.6 ounces	1.6 pounds	2.4 pounds	1.6 pounds
10,000		2.8 ounces	5.6 Ounces	8.4 ounces	11.2 ounces	14.0 ounces	1.8 pounds	2.6 pounds	1.8 pounds
11,000		3.1 ounces	6.2 Ounces	9.3 ounces	12.3 ounces	15.4 ounces	1.9 pounds	2.9 pounds	1.9 pounds
12,000		3.4 ounces	6.7 Ounces	10.1 ounces	13.5 ounces	1.1 pounds	2.1 pounds	3.2 pounds	2.1 pounds
13,000		3.6 ounces	7.3 Ounces	10.9 ounces	14.6 ounces	1.1 pounds	2.3 pounds	3.4 pounds	2.3 pounds
14,000		3.9 ounces	7.9 Ounces	11.8 ounces	15.7 ounces	1.2 pounds	2.5 pounds	3.7 pounds	2.5 pounds
15,000		4.2 ounces	8.4 ounces	12.6 ounces	1.1 pounds	1.3 pounds	2.6 pounds	3.9 pounds	2.6 pounds
16,000		4.5 ounces	9.0 ounces	13.5 ounces	1.1 pounds	1.4 pounds	2.8 pounds	4.2 pounds	2.8 pounds
17,000		4.8 ounces	9.5 ounces	14.3 ounces	1.2 pounds	1.5 pounds	3.0 pounds	4.5 pounds	3.0 pounds
18,000		5.0 ounces	10.1 ounces	15.1 ounces	1.3 pounds	1.6 pounds	3.2 pounds	4.7 pounds	3.2 pounds
19,000		5.3 ounces	10.7 ounces	1.0 pounds	1.3 pounds	1.7 pounds	3.3 pounds	5.0 pounds	3.3 pounds
20,000		5.6 ounces	11.2 ounces	1.1 pounds	1.4 pounds	1.8 pounds	3.5 pounds	5.3 pounds	3.5 pounds
25,000		7.0 ounces	14.0 ounces	1.3 pounds	1.8 pounds	2.2 pounds	4.4 pounds	6.6 pounds	4.4 pounds
30,000		8.4 ounces	1.1 pounds	1.6 pounds	2.1 pounds	2.6 pounds	5.3 pounds	7.9 pounds	5.3 pounds
35,000		9.8 ounces	1.2 pounds	1.8 pounds	2.5 pounds	3.1 pounds	6.1 pounds	9.2 pounds	6.1 pounds

40,000	11.2 ounces	1.4 pounds	2.1 pounds	2.8 pounds	3.5 pounds	7.0 pounds	10.5 pounds	7.0 pounds	70.1 pounds
45,000	12.6 ounces	1.6 pounds	2.4 pounds	3.2 pounds	3.9 pounds	7.9 pounds	11.8 pounds	7.9 pounds	78.9 pounds
50,000	14.0 ounces	1.8 pounds	2.6 pounds	3.5 pounds	4.4 pounds	8.8 pounds	13.1 pounds	8.8 pounds	87.7 pounds
55,000	15.4 ounces	1.9 pounds	2.9 pounds	3.9 pounds	4.8 pounds	9.6 pounds	14.5 pounds	9.6 pounds	96.4 pounds
60,000	1.1 pounds	2.1 pounds	3.2 pounds	4.2 pounds	5.3 pounds	10.5 pounds	15.8 pounds	10.5 pounds	105.2 pounds
65,000	1.1 pounds	2.3 pounds	3.4 pounds	4.6 pounds	5.7 pounds	11.4 pounds	17.1 pounds	11.4 pounds	114.0 pounds
70,000	1.2 pounds	2.5 pounds	3.7 pounds	4.9 pounds	6.1 pounds	12.3 pounds	18.4 pounds	12.3 pounds	122.7 pounds
75,000	1.3 pounds	2.6 pounds	3.9 pounds	5.3 pounds	6.6 pounds	13.1 pounds	19.7 pounds	13.1 pounds	131.5 pounds
80,000	1.4 pounds	2.8 pounds	4.2 pounds	5.6 pounds	7.0 pounds	14.0 pounds	21.0 pounds	14.0 pounds	140.3 pounds
85,000	1.5 pounds	3.0 pounds	4.5 pounds	6.0 pounds	7.5 pounds	14.9 pounds	22.4 pounds	14.9 pounds	149.0 pounds
90,000	1.6 pounds	3.2 pounds	4.7 pounds	6.3 pounds	7.9 pounds	15.8 pounds	23.7 pounds	15.8 pounds	157.8 pounds
95,000	1.7 pounds	3.3 pounds	5.0 pounds	6.7 pounds	8.3 pounds	16.7 pounds	25.0 pounds	16.7 pounds	166.5 pounds
100,000	1.8 pounds	3.5 pounds	5.3 pounds	7.0 pounds	8.8 pounds	17.5 pounds	26.3 pounds	17.5 pounds	175.3 pounds
200,000	3.5 pounds	7.0 pounds	10.5 pounds	14.0 pounds	17.5 pounds	35.1 pounds	52.6 pounds	35.1 pounds	350.6 pounds
300,000	5.3 pounds	10.5 pounds	15.8 pounds	21.0 pounds	26.3 pounds	52.6 pounds	78.9 pounds	52.6 pounds	525.9 pounds
400,000	7.0 pounds	14.0 pounds	21.0 pounds	28.1 pounds	35.1 pounds	70.1 pounds	105.2 pounds	70.1 pounds	701.3 pounds
500,000	8.8 pounds	17.5 pounds	26.3 pounds	35.1 pounds	43.8 pounds	87.7 pounds	131.5 pounds	87.7 pounds	876.6 pounds
600,000	10.5 pounds	21.0 pounds	31.6 pounds	42.1 pounds	52.6 pounds	105.2 pounds	157.8 pounds	105.2 pounds	1051.9 pounds
700,000	12.3 pounds	24.5 pounds	36.8 pounds	49.1 pounds	61.4 pounds	122.7 pounds	184.1 pounds	122.7 pounds	1227.2 pounds
800,000	14.0 pounds	28.1 pounds	42.1 pounds	56.1 pounds	70.1 pounds	140.3 pounds	210.4 pounds	140.3 pounds	1402.5 pounds
900,000	15.8 pounds	31.6 pounds	47.3 pounds	63.1 pounds	78.9 pounds	157.8 pounds	236.7 pounds	157.8 pounds	1577.8 pounds
1,000,000	17.5 pounds	35.1 pounds	52.6 pounds	70.1 pounds	87.7 pounds	175.3 pounds	263.0 pounds	175.3 pounds	1753.2 pounds

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