

PM 32

5185-420  
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

1/7/98

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JAN 7 1998

BioLab, Inc.  
P.O. Box 1489  
Decatur, GA 30031

Attention: Mark Jernigan  
Federal Registration Manager

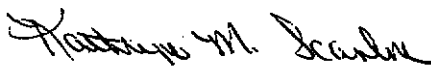
Subject: BioGuard Master BCDMH  
EPA Registration Number 5185-420  
Your Amendment Dated October 29, 1997

The amendment referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable provide that you make the labeling change listed below before you release the product for shipment bearing the amended labeling.

Under the "Environmental Hazards Statement" delete "Environmental hazards statement for swimming pool and spa products and toilet bowl tablets in sizes 50 pounds" and replace it with "Environmental hazards statement for end-use products in containers of less than 5 gallons (liquid) or less than 50 pounds (solid, dry weight).

If you have any questions concerning this letter, please contact me at (703) 308-6264.

Sincerely,



Robert S. Brennis  
Product Manager (32)  
Regulatory Management Branch II  
Antimicrobials Division (7504C)

CONCURRENCES							
SYMBOL							
SURNAME							
DATE							

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SECRET

**E-Field Amplitude**

ACCEPTED  
with COMMENTS  
in EPA Letter Dated:

JAN - 7 1998

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

5185-420

EPA REG. # 5185-420  
EPA EST. # 5185-GA-1

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**[POOL SANITIZATION:]**

This product, when used as directed, is effective as a swimming pool water sanitizer and disinfectant.

**DIRECTIONS FOR USE:** It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Read entire label and use strictly in accordance with precautionary statements and directions.

Ensure all pool equipment is working properly. Backwash the filter system following manufacturer's directions. Adjust pH to between 7.2-7.6. When using other products as outlined in directions for this product, always follow directions on those products. A bromine or chlorine residual of 1-2 ppm must first be established in the pool. If the residual is established with this product in a brominator, use the brominator at the highest feed rate following manufacturer's recommendations. When the bromine residual reaches 1-2 ppm, adjust the feeder accordingly. To maintain bromine residual, adjust the brominator feed rate to assure a constant treatment level of [optional text: either residential or commercial or both will be used on label] [1-3 ppm in residential pools] [and] [3-5 ppm in commercial pools]. Regular use of a test kit is necessary to maintain a bromine residual in the pool water.

**[SPA SANITIZATION:]**

When used as directed, this product is effective as a spa sanitizer and disinfectant.

**DIRECTIONS FOR USE:** It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Read entire label and use strictly in accordance with precautionary statements and directions.

Ensure all spa equipment is working properly. Backwash the filter system following manufacturer's directions. Adjust pH to between 7.2-7.6. When using other products as outlined in directions for this product, always follow directions on those products. Fill spa bromine feeder with this product and adjust feeder following manufacturer's directions to yield bromine residual between [optional text: either residential or commercial or both will be used on label] [2-4 ppm in residential spas] [and] [4-6 ppm in commercial spas]. Check feeder regularly and add additional product as needed to maintain the bromine residual. The pump and filter should be operated for at least three hours every day whether spa is used or not. Do not heat water above 102°F. Keep the spa free of leaves and other debris. To maintain clear, clear water and insure the performance of your spa chemicals, spas should be drained and refilled with fresh water [optional text: either residential or commercial or both will be used on label] [every 60 days in residential spas] [or] [a minimum of every 7 days in commercial spas].

**[FOR MINI PAK DISPENSER:]**

When used as directed, this product is effective as a spa sanitizer and disinfectant.

**DIRECTIONS FOR USE:** It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Read entire label and use strictly in accordance with precautionary statements and directions.

Ensure all spa equipment is working properly. Backwash the filter system following manufacturer's directions. Adjust pH to between 7.2-7.6. When using other products as outlined in directions for this product, always follow directions on those products. Place one or more of this product in skimmer basket. Do not allow this product to come in direct contact with the surface of the spa or damage to spa surface may result. A sufficient number of this product must be used to maintain bromine residual of 2-4 ppm in residential spas. Normally, one of this product for each 200 gallons, or fraction, of water will be sufficient to maintain proper bromine levels. The pump and filter should be operated for at least three hours every day. Do not heat water above 102°F. Keep the spa free of leaves and other debris. Backwash or clean the filter often. Residential spas and hot tubs should be drained and refilled with fresh water every 60 days.

**[CONTROL OF BIOLOGICAL GROWTH IN PHOTO PROCESSING WASH WATERS]**

When used as directed, this product will control microbiological growth in photo processing wash water.

**DIRECTIONS FOR USE:** It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Read entire label and use strictly in accordance with precautionary statements and directions.

The photo processing system should first be properly cleaned with a mild hypochlorite solution following manufacturer's instructions. The use of this product is not intended to remove an existing buildup of biological growth. To control biological growth, this product should be introduced into the water supply line after the water mixing valve and before the processor wash tanks. **IMPORTANT. DO NOT USE WATER FROM THIS LINE TO MIX CHEMICALS!** This may be accomplished by placing 4-5 of this product into an empty filter housing or chemical feeder plumbed in at that point. The feeder apparatus should be equipped with a regulating valve to control the introduction of bromine and chlorine into the water. Begin feeding this product with the regulating valve at a low setting. If biological

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growth is observed, increase the flow in small increments until growth is controlled. It is intended that 1-3 ppm of residual bromine be introduced into the water supply line. Actual use will depend on the amount of biological fouling. Avoid excess introduction of bromine/chlorine into the processor wash tanks, a bromine or chlorine test kit should be used to periodically test the water in the wash tanks. If a residual above 3.0 ppm bromine is indicated, the feed rate of this product should be reduced until the residual drops to 1.0 ppm.

#### [FLOATER]

When used as directed, this product is effective as a residential spa and hot tub water sanitizer and disinfectant.

**DIRECTIONS FOR USE:** It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Read entire label and use strictly in accordance with precautionary statements and directions.

Ensure all spa equipment is working properly. Backwash the filter system following manufacturer's directions. Adjust pH to between 7.2-7.6. When using other products as outlined in directions for this product, always follow directions on those products. Place this product in spa and let it float freely in the spa or hot tub. Under normal use conditions, use one dispenser per 350 gallons of spa or hot tub water. However, under heavy bather loading or reduced water circulation, additional dispensers may be used to maintain constant active bromine residuals of 2-4 ppm in residential spas or hot tubs. To increase the bromine residual, turn the rotating cap to a higher number located in the flow indicator window. To decrease the bromine residual, turn to a lower number in the flow indicator window.

To a freshly filled spa or hot tub, begin with an indicator setting of #5. Check the bromine residual frequently. When a 2-4 ppm bromine residual is obtained, lower the flow indicator setting to maintain constant bromine residuals. The pump and filter should be operated for at least three hours per day. Do not heat water above 102°F. Keep the spa free of leaves and debris. Residential spas and hot tubs should be drained, cleaned and refilled with fresh water every 60 days.

[Clear Child Resistant - Outer Sleeve] REMOVE ALONG DOTTED LINE

**EASY DIRECTIONS:** Twist cap to setting #5. Put chemical dispenser in spa water. Test bromine residual frequently (approx. every 2 hours). Upon achieving 2-4 ppm reduce to maintenance setting #1-#2 for maximum longevity.

**TO ADJUST SETTING:** For ease of adjustment place in water. Grip cap firmly in one hand. With other hand, grip below windows firmly (Fingers should grip only bottom of canister.) Turn cap and outer sleeve in opposite directions.

#### [BROMINATING CARTRIDGE SYSTEM]

For use as a Disinfectant, Sanitizer, Bactericide, Slimicide, and Algicide in Swimming Pools.

The Brominating Cartridge System is part of an advanced Feeder/Cartridge Delivery System that efficiently controls bacteria and algae for weeks under normal conditions in a balanced pool. The convenient disposable cartridge lets you control the rate of delivery to meet changing conditions in your pool, by simply adjusting the control dial on the delivery system. You never have to touch the chemical. **USE ONLY IN BROMINATING CARTRIDGE SYSTEM.**

**DIRECTIONS FOR USE:** It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Read entire label and use strictly in accordance with precautionary statements and directions.

Ensure all pool equipment is working properly. Backwash the filter system following manufacturer's directions. Adjust pH to between 7.2-7.6. Superchlorinate if needed. When using other products as outlined in directions for this product, always follow directions on those products. **TO INSTALL CARTRIDGE:** Take feeder cap off. Remove cartridge tabs A and B where designated (see diagram). Hold cartridge so the open end faces down. Point the arrow in the direction of the water flow (towards pool). Insert into feeder with the male end of the cartridge aligned with the female end located inside the bottom of the feeder (see diagram). **DO NOT FORCE.** Replace feeder-cap and set the control dial to the appropriate setting. Begin with the control dial set on 2 for a 13,500 gallon pool with a pump running 8 hours/day. Check bromine residual in 24 hours and increase/decrease feeder setting to maintain 1-3 ppm bromine residual. During superchlorination of pool, turn setting to 0 before superchlorination. Establish bromine residual and return the feeder to the normal operating setting. Check the feeder canister periodically and replace when empty. Do not attempt to open or refill this cartridge.

#### [FOR SKIMMERS:]

When used as directed this product is effective as a swimming pool water sanitizer and disinfectant.

**DIRECTIONS FOR USE:** It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Read entire label directions and use strictly in accordance with precautionary statements and directions.

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The filtration system should be in proper working condition. Maintain the pH between 7.2 and 7.6, the total alkalinity between 120 to 150 ppm, and calcium hardness between 150 and 300 ppm. Regular use of a good test kit will help determine optimum operating conditions for your pool. Establish a 1.5 to 3.0 ppm active halogen (chlorine) residual with a granular hypochlorite product (e.g. calcium or lithium hypochlorite). Follow use directions on that product's label. Initially place in pool's plastic skimmer basket, two of this product per 5,000 gallons of water. Divide total number of pucks evenly for pools with multiple skimmers. Add additional product as needed to maintain a bromine level of 0.4 to 0.8 ppm. It is not necessary to remove partially dissolved product prior to adding additional product. Keep skimmer free of debris to maximize water flow over this product. This product may be used in plastic skimmers only if skimmer and the piping between skimmer and pump are plastic. Do not add other chemicals through the skimmer when using this product in skimmer as an explosion or fire may result. Do not turn pump off for more than 8 hours in vinyl pools when pucks are in skimmer. Operate pool recirculation system a minimum of 10 hours per day. The amount of product and frequency of addition will vary with the number of swimmers, water temperature, rain showers and pump operating time.

#### [FOR UNIPAK]

This product is an easy and economical way to regulate the bromine that sanitizes your pool. When used as directed, this product continuously releases the correct amount of bromine in a constant flow to reduce the growth of harmful algae and micro-organisms in your pool.

**DIRECTIONS FOR USE:** It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Read entire label directions and use strictly in accordance with precautionary statements and directions.

The filtration system should be in proper working condition. Maintain the pH between 7.2 and 7.6, the total alkalinity between 120 to 150 ppm, and calcium hardness between 150 and 300 ppm. Regular use of a good test kit will help determine optimum operating conditions for your pool. Establish a 1.5 to 3.0 ppm active halogen (chlorine) residual with a granular hypochlorite product (e.g. calcium or lithium hypochlorite). Follow use directions on that product's label. Use a sharp knife and cut in direction away from your body and limbs to remove the appropriate number of bumps from the UniPak. For pools under 10,000 gallons, remove 2 "bumps" from Unipak and place Unipak in pool skimmer basket. If necessary, remove more bumps to maintain a bromine reading of 0.4 - 0.8 ppm. For pools above 10,000 gallons, remove all 4 "bumps" from Unipak and place Unipak in pool's skimmer basket. Make certain holes are wide open to allow water to flow through freely. If necessary add a second Uni-Pak to maintain a bromine reading of 0.4 - 0.8 ppm. Divide total number of filled Uni-Paks evenly for pools with multiple operating skimmers. This product is designed to be used with a Uni-Pak. It is not necessary to remove partially dissolved tablets prior to making subsequent tablet additions. Do not add any other chemical through the skimmer when using this product in the Uni-Pak. Keep skimmer free of debris to maximize water flow over product in the Uni-Pak. During superchlorination, remove UniPak from pool. Place UniPak in a empty clean, dry plastic container. Place it back in pool when the process is completed. Do not completely submerge UniPak or allow holes to become clogged. This could trap excess amount of bromine gas possibly resulting in a violent explosion.

After 24 hours check residual bromine level with a test kit. If residual bromine level is below 0.4 ppm cut-off one additional "bump" until bromine stabilizes at 0.4-0.8 ppm. If the residual bromine is too high, seal one set of holes with waterproof plastic tape. When ready for replacement, this product will float on its side. Operate pool recirculation system a minimum of 10 hours per day. The amount of product and frequency of addition will vary with the number of swimmers, water temperature, rain showers and pump operating time.

#### UNIPAK REFILL INSTRUCTIONS:

Remove UniPak from pool skimmer. Remove lid from UniPak and fill with product. It is not necessary to remove partially dissolved product prior to adding additional product. Replace lid and place Unipak in skimmer. Do not add any other chemicals to this Unipak.

#### [AIR WASHERS:]

When used as directed, this product effectively controls algal, bacterial, and fungal slime in commercial and industrial air washer systems.

**DIRECTIONS FOR USE:** It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Read entire label and use strictly in accordance with precautionary statements and directions.

If the system is noticeably fouled, drain, clean and refill prior to initial treatment. Add sufficient amount of this product to achieve a residual bromine level of up to 5 ppm or as needed to maintain control of the system.

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#### [SEWAGE SYSTEMS: ]

When used as directed, this product effectively controls algal, bacterial, and fungal slime in sewage systems including leach fields, tank lines, lagcons, and sewage effluent water, sewers, sewage effluent water, cesspools, septic tanks, sewage settling ponds, sludge beds, storm drains, and street culverts.

#### DIRECTIONS FOR USE:

It is a violation of federal law to use this product in any manner inconsistent with its labeling. Read entire label and use strictly in accordance with precautionary statements and directions.

The amount of this product necessary to disinfect depends on the concentration and conditions of the final effluent. Raw sewage should be treated before it has reached the septic state. Approximately 30% of the bromine demand of sewage is due to settled solids, 30% to dissolved solids and 40% to suspended and colloidal solids. Disinfection should be based on laboratory checks, including bacteriological checks, as a safeguard. Generally, disinfection can be achieved when the bromine residual (after 15 to 30 minutes contact time) is between 1-3 ppm. Residual bromine and time of contact can be used as the determining factors to assure disinfection. These factors can be used after experience with different types of treated sewage is sufficient to establish a relationship between the residual bromine content of the final effluent and the contact time necessary to ensure the desired bacteriological results. Bacteriological testing should be conducted periodically to ensure that conditions have not changed. Treat sewage near the influent detention basin. The feed rate for this product must be adjusted to the higher dosages usually required for sewage practices. Where temporary disinfection prior to dilution in a body of water is desired, the following will generally suffice: Raw sewage - 23-68 ppm bromine; Primary treated sewage - 11-45 ppm bromine; Sewage after primary and secondary treatment (or secondary treatment alone) - 5-11 ppm. Confirm the efficacy of these levels using bacteriological testing in your system.

#### [PASTEURIZERS/WARMER/CANNERY COOLING WATER SYSTEMS]

When used as directed, this product effectively controls algal, bacterial, and fungal slime in brewery pasteurizer water, brewery processing water, brewery warmer water, cannery cooling canal water, cannery package warmers, cannery pasteurizer water and retort cooling water.

**DIRECTIONS FOR USE:** It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Read entire label and use strictly in accordance with precautionary statements and directions.

If the system is noticeably fouled, drain, clean and refill prior to initial treatment. Add sufficient amount of this product to achieve a residual bromine level of up to 5 ppm or as needed to maintain control of the system.

#### [ONCE-THROUGH COOLING WATER SYSTEMS]

When used as directed, this product effectively controls algal, bacterial and fungal slime in open or closed-cycle, fresh or salt water, once-through cooling systems. Add this product to the system inlet water or before any other contaminated area in the system.

**DIRECTIONS FOR USE:** It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Read entire label and use strictly in accordance with precautionary statements and directions.

Add sufficient amount of this product to achieve a residual bromine level of up to 5 ppm or as needed to maintain control of the system.

#### [RECIRCULATING COOLING WATER SYSTEMS ]

When used as directed, this product effectively controls algal, bacterial, and fungal slime in commercial and industrial cooling towers, evaporative condensers, industrial water scrubbing systems, cooling ponds, influent water systems including flow through filters and lagoons, heat exchangers, industrial water scrubbing systems.

**DIRECTIONS FOR USE:** It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Read entire label and use strictly in accordance with precautionary statements and directions.

Add sufficient amount of this product to achieve a residual bromine level of up to 5 ppm or as needed to maintain control of the system.

#### [COMMERCIAL AIR CONDITIONER/REFRIGERATION CONDENSATE AND DEHUMIDIFIER BASINS OR DRIP PANS]

When used as directed, this product effectively controls algal, bacterial, and fungal slime in air conditioner/refrigeration condensate water systems (air conditioner water, pan coil drain water, refrigeration water, evaporative cool pads and air conditioner vats and dehumidifier basins).

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**DIRECTIONS FOR USE:** It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Read entire label and use strictly in accordance with precautionary statements and directions.

Place this product in the basin or drip pan close to the outlet drain. Add this product as necessary to maintain the cleanliness of the system. The amount of this product needed will vary with temperature, humidity, and condensate volume.

Add product to maintain up to 5 ppm bromine residual at the injection point in the disinfection contact chamber. Adjust the dosage to achieve disinfection and minimize the halogen concentration at the exit of the contact chamber.

**[WASTEWATER TREATMENT SYSTEMS]**

When used as directed, this product effectively controls algal, bacterial and fungal slime and offers rapid disinfection of primary, secondary and tertiary wastewater treatment systems.

**DIRECTIONS FOR USE:** It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Read entire label and use strictly in accordance with precautionary statements and directions.

Add product to maintain up to 5 ppm bromine residual at the injection point in the disinfection contact chamber. Adjust the dosage to achieve disinfection and minimize the halogen concentration at the exit of the contact chamber.

**[PULP AND PAPER MILLS]**

When used as directed this product effectively controls algal, bacterial, and fungal slime in pulp and paper mill fresh and sea water influent water systems; cooling water systems, wastewater treatment systems, service water systems, white water systems, and other process water.

**DIRECTIONS FOR USE:** It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Read entire label and use strictly in accordance with precautionary statements and directions.

[NOTE: Either one or both of the following treatment methods may be included on the label]

**[TREATMENT BY SYSTEM VOLUME]**

When a system is noticeably fouled: add 0.1 to 1.0 pounds of this product to 1,000 gallons or 12 to 120 parts per million of water in the system.

When biological control is evident: add 0.1 to 0.75 pounds of this product to 1,000 gallons or 12 to 90 parts per million of water in the system.]

**[TREATMENT BY RESIDUAL METHOD]**

Add sufficient amount of this product to maintain a measured residual up to 5 ppm as bromine. Once biological control is evident, the use of this product normally can be reduced to something less than 1 ppm as bromine. ]

**[OPTIONAL STATEMENT]**

[An alternate method of calculating the appropriate level of this product is to estimate the paper mill's daily production, then add, over a 24 hour period, up to 600 grams (1.3 pounds) of Bromicide per dry ton of paper produced over a twenty-four (24) hour period. Test for bromine to verify the level of 5 ppm is not being exceeded.]

**[TRANSPORTATION CLEANING:]**

When used as directed, this product effectively control algal, bacterial and fungal slime in automobile wash water systems. Badly fouled systems should be cleaned before treatment is begun.

**DIRECTIONS FOR USE:** It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Read entire label and use strictly in accordance with precautionary statements and directions.

If a heavily fouled system exists and physical cleaning is not possible, add 0.05 lbs. to 0.2 lbs. to 1000 gallons of product or 6-24 ppm of product for two weeks. Then reduce to maintenance levels. Effective control under normal circumstances is maintained by adding 0.025 lbs. to 0.1 lbs. per 1000 gallons of product or 3-12 ppm of product.

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**[SANITIZING TANKS, LINES, VATS, CIP SYSTEMS, UTENSILS AND EQUIPMENT USED IN FOOD PROCESSING, BEVERAGE AND EATING FACILITIES.]**

When used as directed, this product provides sanitization of tanks, lines, vats, CIP systems, utensils and equipment used in food processing, beverage and eating facilities.

**DIRECTIONS FOR USE:** It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Read entire label and use strictly in accordance with precautionary statements and directions.

Wash and rinse all items thoroughly. Add 0.07 oz. of this product to 3 gallons (2 grams per 11.4 liters) of warm water and stir vigorously for one minute. Add a sufficient amount of this solution by immersion, brush, mechanical spray device or other suitable means to thoroughly wet surface. Surfaces should remain wet for at least two minutes. Place sanitized utensils on a rack or drainboard to air dry. The sanitizing solution should be used promptly after mixing. It should be prepared daily or more often if the solution becomes diluted or soiled. If sanitizing use-solution is allowed to stand and or the concentration level of active ingredient has not been maintained, add more of this product to maintain a use-solution concentration of at least 115 ppm bromine.

**[SANITIZATION OF NON-POROUS FOOD CONTACT SURFACES.]**

This product is recommended for use in food and beverage processing, food service, and other institutional facilities where sanitization of tanks, lines, counters, utensils and other equipment is required. Gross food particles and soil must be removed by prior cleaning with potable water. For effective sanitization all surfaces must be wet thoroughly. Application by immersion or flooding is best. A high pressure spray is acceptable if applied to stationary equipment.

**DIRECTIONS FOR USE:** It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Read entire label and use strictly in accordance with precautionary statements and directions.

**RINSE METHOD**

Wash and rinse all items thoroughly. Add 0.05 oz. of this product to each measured gallon of water (4.25 grams per 11.4 liters). Stir thoroughly for at least two minutes. Apply sanitizer solution by immersion, cloth brush, mechanical spray device or other suitable means to thoroughly wet surface. Surfaces should remain wet for at least two minutes and then allowed to air dry. Do not rinse equipment with water after treatment. Do not soak equipment overnight. The sanitizing solution should be used promptly after mixing. It should be prepared daily or more often if the solution becomes diluted or soiled. If sanitizing use-solution is allowed to stand and or the concentration level of active ingredient has not been maintained, add more of this product to maintain a use-solution concentration of at least 225 ppm bromine.

**CLEAN-IN-PLACE METHOD**

Thoroughly clean equipment after use. Add 0.05 ounces of this product to each measured gallon of water to prepare a volume of sanitizing solution equal to 110 % of equipment volume capacity. Pump solution through the system until full flow is obtained at all extremities with system being completely filled with sanitizer and all air 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 the drain valve and test with a bromine test kit. Repeat entire cleaning/sanitizing process if effluent contains less than 225 ppm bromine. Surfaces should remain wet for at least one minute and then allowed to air dry. The sanitizing solution should be used promptly after mixing. It should be prepared daily or more often if the solution becomes diluted or soiled. If sanitizing use-solution is allowed to stand and or the concentration level of active ingredient has not been maintained, add more of this product to maintain a use-solution concentration of at least 225 ppm bromine.

**[SANITIZATION OF NON-POROUS NON-FOOD CONTACT SURFACES.]**

This product is recommended for use in pharmaceutical, cosmetic, or medical device manufacturing facilities and other industrial facilities where sanitization is required, on tanks, lines, vats, CIP systems, equipment and other hard surfaces.

**DIRECTIONS FOR USE:** It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Read entire label and use strictly in accordance with precautionary statements and directions.

**RINSE METHOD**

Wash and rinse equipment surfaces in the normal manner. Add 0.05 oz. of this product to each measured gallon of water (4.25 grams per 11.4 liters). Stir vigorously for at least two minutes. Apply sanitizer solution by immersion, cloth brush, mechanical spray device or other suitable means to thoroughly wet surface. Surfaces should remain in contact with sanitizer for at least two minutes. Do not soak equipment overnight. An optional potable water rinse may be used. The sanitizing solution should be used promptly after mixing. It



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should be prepared daily or more often if the solution becomes diluted or soiled. If sanitizing use-solution is allowed to stand and or the concentration level of active ingredient has not been maintained, add more of this product to maintain a use-solution concentration of at least 225 ppm bromine.

#### CLEAN-IN-PLACE METHOD

Thoroughly clean equipment after use. Add 0.05 ounces per gallon of water to prepare a volume of sanitizing solution equal to 110 % of equipment volume capacity. Pump solution through the system until full flow is obtained at all extremities with system being completely filled with sanitizer and all air 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 the drain valve and test with a chlorine test kit. Repeat entire cleaning/sanitizing process if effluent contains less than 225 ppm bromine. An optional potable water rinse may be used. The sanitizing solution should be used promptly after mixing. It should be prepared daily or more often if the solution becomes diluted or soiled. If sanitizing use-solution is allowed to stand and or the concentration level of active ingredient has not been maintained, add more of this product to maintain a use-solution concentration of at least 225 ppm bromine.

#### [SANITIZING RINSE FOR ANIMAL PREMISE USE:]

This product is recommended for use in animal quarters, kennels and poultry facilities for sanitization of animal cages, feeding and watering equipment, utensils, and other types of equipment used in handling and housing animals and poultry. Remove all animals, poultry and feed from premises. Remove all litter and manure from hard surfaces to be sanitized.

**DIRECTIONS FOR USE:** It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Read entire label and use strictly in accordance with precautionary statements and directions.

Thoroughly clean all surfaces with soap or detergent and rinse with water. Add 0.05 oz. of this product to each measured gallon of water (4.25 grams per 11.4 liters). Stir vigorously for at least two minutes. Saturate all surfaces with sanitizing solution by immersion, cloth brush, mechanical spray device or other suitable means for at least two minutes. Do not house animals or poultry, or employ equipment until halogen (odor) has dissipated. All feeder and watering equipment should be rinsed with potable water before reuse. The sanitizing solution should be used promptly after mixing. It should be prepared daily or more often if the solution becomes diluted or soiled. If sanitizing use-solution is allowed to stand and or the concentration level of active ingredient has not been maintained, add more of this product to maintain a use-solution concentration of at least 225 ppm bromine.

#### [OIL RECOVERY DRILLING MUDS AND PACKER FLUIDS: ]

When used as directed, this product will control the growth of bacteria such as: anaerobic sulfate-forming bacteria (*Desulforibrio desulfuricans*) and aerobic slime-forming bacteria (*Pseudomonas sp.* and *Bacillus sp.*) which impair the efficiency of the muds and fluids.

**DIRECTIONS FOR USE:** It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Read entire label and use strictly in accordance with precautionary statements and directions.

Add up to 1800 ppm of bromine directly to the drilling muds and packer fluids depending on the severity of the problem. Fracturing fluids may be added and premixed prior to the fracturing operation or may be added directly by means of a proportioning pump to the blender during the operation. Check bromine levels periodically as muds and fluids are unstable upon standing.

#### [SECONDARY OIL RECOVERY SYSTEMS: ]

This product may be used in secondary oil recovery water systems, such as oil field water flood or salt water disposal systems for the control of sulfate-reducing bacteria and aerobic slime forming bacterial, which impair the efficiency of the system.

**DIRECTIONS FOR USE:** It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Read entire label and use strictly in accordance with precautionary statements and directions.

Thoroughly clean badly fouled systems by suitable means prior to the addition of this product. Add product to achieve 560 ppm bromine residual and repeat until control is achieved. Once control has been achieved add product to achieve 280 ppm bromine residual to control the formation of slime causing microbial contamination. Monitor bromine daily and add this product as needed.

#### [REFUSE/SOLID WASTE CONTAINERS:]

When used as directed, this product may be used to sanitize refuse/solid waste containers.

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**DIRECTIONS FOR USE:** It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Read entire label and use strictly in accordance with precautionary statements and directions.

Preclean all surfaces with a suitable cleaner prior to treatment to remove gross filth and heavy soil. Add 0.07 ounces of this product to 3 gallons of water to sanitize precleaned surfaces. All solutions should be freshly prepared. Keep in properly labeled containers to protect against contamination. Unused solution should be discarded and the container rinsed well. Treatment of porous surfaces, such as grout or scarred surfaces, may require a higher concentration of this product than non-porous surfaces, such as porcelain, metal or tile. Do not rinse after sanitization.

**[NON-POTABLE WATER:]**

When used as directed, this product effectively controls algal, bacterial, and fungal slime in non-potable water.

**DIRECTIONS FOR USE:** It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Read entire label and use strictly in accordance with precautionary statements and directions.

Add 0.07 ounces of this product to 3 gallons of water to sanitize non-potable water. All solutions should be freshly prepared. Unused solution should be discarded and the container rinsed well.

**[LAKES, PONDS, RESERVOIRS, ORNAMENTAL PONDS AND FOUNTAINS (WITHOUT HUMANS OR WILDLIFE)]**

When used as directed, this product effectively disinfects and controls algal, bacterial, and fungal slime in lakes, ponds, reservoirs, ornamental ponds and fountains.

**DIRECTIONS FOR USE:** It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Read entire label and use strictly in accordance with precautionary statements and directions.

Ensure all equipment is working properly. Backwash the filter system (if present) following manufacturer's directions. Adjust pH to between 7.2-7.6. Add sufficient amount of this product to achieve a residual bromine level of up to 5 ppm or as needed to maintain control of the system. If the residual is established with this product in a brominator, use the brominator at the highest feed rate following manufacturer's recommendations. When the bromine residual reaches 2-3 ppm adjust the feeder accordingly. To maintain bromine residual, adjust the brominator feed rate to assure a constant treatment level of up to 5 ppm.

**[BATHROOM DISINFECTION: ]**

When used as directed, this product will disinfect and control mold and mildew on surfaces.

**DIRECTIONS FOR USE:** It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Read entire label and use strictly in accordance with precautionary statements and directions.

Add 0.45 ounces of this product to 3 gallons of water to disinfect precleaned surfaces. All solutions should be freshly prepared. Keep in properly labeled containers to protect against contamination. Unused solution should be discarded and the container rinsed well. Treatment of porous surfaces, such as grout or scarred surfaces, may require a higher concentration of this product than non-porous surfaces, such as porcelain, metal or tile. Allow solution to remain in contact with surfaces for at least 10 minutes. Surfaces may then be rinsed to avoid metal corrosion.

**[BATHROOM SANITIZATION:]**

This product may be used to sanitize bathroom premises (floors, walls, sinks, bathtubs, shower stalls, toilet seats, toilet bowl surfaces, urinals, and fixtures). Preclean all surfaces with a suitable cleaner prior to treatment to remove gross filth and heavy soil.

**DIRECTIONS FOR USE:** It is a violation of federal law to use this product in any manner inconsistent with its labeling. Read entire label and use strictly in accordance with precautionary statements and directions.

Add 0.07 ounces of this product to 3 gallons of water to sanitize bathroom premises. All solutions should be freshly prepared. Keep in properly labeled containers to protect against contamination. Unused solution should be discarded and the container rinsed well. Treatment of porous surfaces, such as grout or scarred surfaces, may require a higher concentration of this product than non-porous surfaces, such as porcelain, metal or tile. Do not rinse after sanitization.

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#### [HOUSEHOLD LAUNDRY SANITIZER]

**DIRECTIONS FOR USE:** It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Read entire label and use strictly in accordance with precautionary statements and directions.

**IN SOAKING SUDS:** Thoroughly mix 0.5 ounces of this product to 10 gallons of wash water. 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 0.5 ounces of this product to 10 gallons of wash water containing clothes. Wait 5 minutes, then add soap or detergent and start the wash/rinse cycle.

#### [TOILET BOWL CLEANER]

Keeps bowl fresh and clean. Fights stain build-up. Consistent release formula. Kills 99.9% of all odor causing germs in the bowl. Continuous real bleach cleaning and deodorizing. Tablet wrapped for skin protection. Child Resistant Package. Harmless to plumbing or septic tanks. Phosphate Free. Contains No Dyes. Safe for Colored Toilets.

**DIRECTIONS FOR USE:** It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Read entire label and use strictly in accordance with precautionary statements and directions.

1. For best results, start with a clean bowl.
  2. Remove toilet tank top. Peel blister from card OR using scissors cut open blister. **DO NOT REMOVE PROTECTIVE WRAPPER** from tablet -- it will dissolve in tank.
  4. Flush toilet. When water level is low and valve is closed, drop tablet in tank near the right sidewall and not near the water inlet. (See diagram).
  5. No removal necessary. When tablet is gone, add a new tablet to your tank.
- Tablets should be used in toilets that are flushed daily.

#### [HOSPITALS, COMMERCIAL AND INSTITUTIONAL LAUNDRY SANITIZER:]

This product may be used to sanitize laundry (that is, washable fabrics such as clothing, linens, sheets, towels, blankets, uniforms, etc.) in commercial, institutional, and medical establishments, such as schools, restaurants, hotels, motels, athletic facilities, and hospitals.

**DIRECTIONS FOR USE:** It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Read entire label and use strictly in accordance with precautionary statements and directions.

Add 0.07 ounces of this product to 3 gallons of water for sanitizing laundry. Wet fabrics should be spin dried before adding solution. Add the solution of this product, prepared according to directions, in the pre-wash cycle, followed by the regular wash cycle with a good detergent. Use prepared solution promptly after mixing.

#### [INDUSTRIAL PROCESSING WATER:]

When used as directed, this product effectively controls algal, bacterial and fungal slime in industrial processing water (immersion ultrasonic tank water, leather processing water, hide-brine curing solutions, photo processing wash water, photographic rinse tanks).

**DIRECTIONS FOR USE:** It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Read entire label and use strictly in accordance with precautionary statements and directions.

The system should first be properly cleaned following manufacturer's instructions. Add this product up to 5 ppm in small increments until growth is controlled. It is intended that up to 5 ppm residual bromine be introduced into the water supply line. Actual use will depend on the amount of biological fouling. A bromine or chlorine test kit should be used to periodically test the water in the wash tanks. If a residual above 5 ppm is indicated, the dosage of this product should be reduced.

#### [HOSPITAL PREMISES AND EQUIPMENT:]

For use in hospitals, nursing homes, doctor and dentist offices, laboratories, sanitariums, and other medical facility premises. This product may be used to sanitize floors, walls, ceilings, fixtures, environmental and other hard surfaces, furniture, bedframes, telephones, tables, carts, physical therapy equipment, bedpans, basins, and janitorial equipment. Not intended for use on hospital conductive floors.

#### DIRECTIONS FOR USE:

It is a violation of federal law to use this product in any manner inconsistent with its labeling. Read entire label and use strictly in accordance with precautionary statements and directions.

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Add 0.07 ounces of this product to 3 gallons of water for sanitizing precleaned equipment and utensils. All sanitizing solutions should be freshly prepared. Keep in properly labeled containers to protect against contamination. Unused solution should be discarded and the container rinsed well. Preclean all surfaces to remove gross filth and heavy dirt.

**SPRAY METHOD:** The spray (or fog) method is generally preferred for the treatment of large, non-porous surfaces that have already been pre-cleaned. Prepare a solution according to the directions for use above. If possible, use pressure spraying or fogging equipment designed to resist chlorine-containing solutions (e.g., rubber-coated, plastic or stainless steel). When using any other kind of spraying equipment, be sure to empty and rinse thoroughly with fresh water immediately after use. Thoroughly spray all surfaces to be treated. If fogging, make certain that all surfaces are wetted by the mist. Allow excess solution to drain thoroughly. Do not rinse surfaces after sanitization. Allow solution to air dry.

**MOP SPONGE, BRUSH, OR CLOTH METHOD:** Prepare a fresh solution according to the directions for use above. Thoroughly wet all surfaces generously with the solution. Do not rinse surfaces after sanitization. Allow solution to air dry.

[The following statement is for use on products with spa directions.]

**[FOR SPAS:** Reentry into treated spas is prohibited above levels of 8 ppm bromine due to risk of body injury.]

[The following statement is for use on products with swimming pool directions.]

**[FOR POOLS:** Reentry into treated swimming pools is prohibited above levels of 8 ppm bromine due to risk of body injury.]

[Storage and Disposal instructions for products intended primarily for homeowner use, e.g. swimming pool products]

**[STORAGE AND DISPOSAL** Keep this product dry in original tightly closed container when not in use. Store in a cool, dry, well ventilated area away from heat or open flame. Moisture may decompose this product and cause a violent reaction leading to fire and explosion. In case of decomposition, isolate container if possible and flood area with large amounts of water to dissolve all material before discarding this container. Do not contaminate food or feed by storage or disposal. **CONTAINER DISPOSAL:** Do not reuse container, but place in trash collection. Rinse thoroughly before discarding in trash.]

[Storage and Disposal instructions for toilet bowl tablets.]

**[STORAGE AND DISPOSAL** Store in a cool dry place. Do not open package until ready to use. Keep away from children.]

[Storage and Disposal instructions for institutional and industrial applications.]

**[STORAGE** [Pails, drums, bags] Keep this product dry in original tightly closed container when not in use. Store in a cool, dry, well ventilated area away from heat or open flame. Moisture may decompose this product and cause a violent reaction leading to fire and explosion. In case of decomposition, isolate container if possible and flood area with large amounts of water to dissolve all material before discarding this container. Do not contaminate food or feed by storage or disposal. ]

**[DISPOSAL** [Pails/drums] Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. **DO NOT REUSE EMPTY CONTAINER.** Triple rinse the container (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incinerate. Burn only if allowed by state and local authorities. If burned, stay out of smoke.]

**[DISPOSAL** [Bags] Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.]

[Storage and Disposal instructions for industrial brominator.]

**[STORAGE AND HANDLING DISPOSAL**

**STORAGE.** Keep product dry in tightly closed original container when not in use. Store in a cool, dry, well ventilated area away from heat, open flames, organic chemicals and sunlight. Do not contaminate water, food or feed by storage or disposal. Open dumping is prohibited.

The application to water is accomplished using the returnable, closed system Transportable Brominator.

**Installation Procedure:** Keep all valves in closed position. Attach level indicator/pressure relief valve to flange on upper side of brominator. Attach quick connect fittings to distribution header. Open both distributor header valves. Slowly open service water line and adjust to desired flow.

**Flushing Procedure:** Close off water supply line. Close effluent valve on brominator. Detach quick connect fitting from effluent side and attach it to the center drain connection. Open drain to position valve. Open service water to allow for maximum flow through the unit for 15 minutes to assure all product is dispensed from the brominator into the treated water system.

**Disconnect Procedure:** Shut off supply water. Make sure all valves on brominator are in closed position. Use center drain to empty the container completely of all water and product residual. Close center drain to position valve and disconnect all lines. Remove level indicator and pressure relief valve from flange on upper side of brominator. Attach the flange cap.

**DISPOSAL.** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Return Transportable Brominator for refilling.]

## PRECAUTIONARY STATEMENTS

**HAZARDS TO HUMANS AND DOMESTIC ANIMALS DANGER:** Highly corrosive. Causes skin and eye damage. May be fatal if swallowed. Do not get in eyes, on skin or on clothing. Wear goggles or safety glasses and rubber gloves when handling this product. Irritating to nose and throat. Avoid breathing dust and fumes. Remove and wash contaminated clothing before reuse.

[Physical and chemical hazard instructions for toilet bowl tablets.]

**[PHYSICAL OR CHEMICAL HAZARDS DANGER: STRONG OXIDIZING AGENT:** Do not mix with other chemicals. Do not use with other cleaning or household chemicals including acids and ammonia. ]

[Physical and chemical hazard instructions for all products except toilet bowl tablets and brominators.]

**[PHYSICAL OR CHEMICAL HAZARDS STRONG OXIDIZING AGENT:** Do not mix with other chemicals. Mix only with water. Never add water to product. Always add product to large quantities of water. Use clean dry utensils. Do not add this product to any dispensing device containing remnants of any other product. Such use may cause a violent reaction leading to fire or explosion. Contamination with moisture, organic matter or other chemicals will start a chemical reaction and generate heat, hazardous gas, possible fire and explosion. In case of contamination or decomposition, do not reseal container. If possible, isolate container in open air or well ventilated area. Flood area with large volumes of water.]

[Physical and chemical hazard instructions for brominator.]

**[PHYSICAL AND CHEMICAL HAZARDS STRONG OXIDIZING AGENT.** Mix only with water. Use clean, dry utensils and equipment. DO NOT ADD OTHER PRODUCT TO THIS DISPENSING DEVICE. Such use may cause a violent reaction leading to fire and explosion. Contamination with moisture, organic matter or other chemicals may start a chemical reaction with generation of heat, hazardous gases and possible fire and explosion. In case of contamination or decomposition, do not reseal container. If possible, isolate container in open air or well ventilated area. If necessary, flood with large volumes of water.]

[Environmental hazards statement for swimming pool and spa products and toilet bowl tablets in sizes less than 50 pounds.]

**[ENVIRONMENTAL HAZARDS** This pesticide is toxic to fish and aquatic organisms.]

[Environmental hazards statement for all other products.]

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

**NOTE:** Buyer assumes all responsibility for safety and use not in accordance with directions.

## [OPTIONAL TEXT :]

[Treatment levels can be measured with test kits for either bromine or chlorine. Tests should be made immediately after drawing water samples from the system. Use test kits according to directions.

1. When a bromine test kit is used, results can be read directly as ppm bromine.
2. When a chlorine test kit is used, results can be expressed in terms of bromine by multiplying chlorine values by the conversion factor 2.25.]

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[CONVERSION FACTORS]

[The following conversion factors may be substituted and or added as appropriate to use directions. The number of tablets may be added as appropriate.

CUPS	TABLESPOONS	TEASPOONS	OUNCES
1	16	48	8
0.5	8	24	4
0.25	4	12	2
	2	6	1
	1	3	0.5
		2	0.33
		1	0.17
		0.75	0.13
		0.5	0.08
		0.25	0.04]

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