

748-308

1/13/2014

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

JAN 13 2014

Natalie A. Gaydos  
SR. EHS Specialist  
Axiall, LLC  
440 College Park Drive  
Monroeville, PA 15146

Subject: **PPG WW Tablets**  
EPA Registration Number: 748-308  
Application Date: October 25, 2013  
EPA Receipt Date: October 28, 2013

Dear Ms. Gaydos:

The following label amendment, submitted in connection with registration under section 3 of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended is accepted.

**Proposed Label Amendment:**

- Optional language

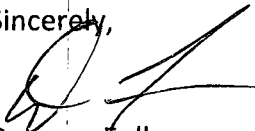
**General Comments:**

Based on the review of the information submitted, the labeling amendment is acceptable. A stamped copy of the label is enclosed for your records. This labeling supersedes all previously accepted ones. The next label printing of this product must use this labeling unless subsequent changes have been approved. You must submit one (1) copy of the final printed labeling before you release this product for shipment with the new labeling. In accordance with 40 CFR § 152.130(c), you must distribute or sell this product under the previously approved labeling for 18 months from the date of this letter. After 18 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR § 152.3.

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A copy of the stamped label is enclosed for your record. Should you have any questions or comments concerning this letter, please contact Adam Heyward by email at [heyward.adam@epa.gov](mailto:heyward.adam@epa.gov) or by telephone at (703) 347-0274 during the hours of 6:00 am to 2:30 pm EST.

Sincerely,



Demson Fuller  
Product Manager (32)  
Regulatory Management Branch II  
Antimicrobials Division (7510P)

*Enclosure: Stamped Labeling*

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**PPG WW TABLETS**  
Dry Chlorinating Tablets for Wastewater and  
Potable Water Treatment Applications

EPA Reg. No. 748-308  
EPA Est. No. 58401-IL-1

**ACTIVE INGREDIENT:**

Calcium Hypochlorite ..... 73%

**OTHER INGREDIENTS:** ..... 27%

**TOTAL:** ..... 100%

Minimum 70% Available Chlorine

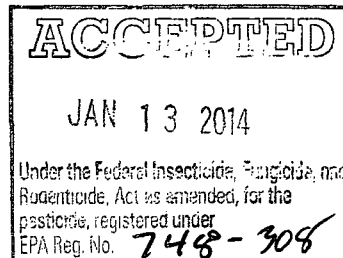
**KEEP OUT OF REACH OF CHILDREN**  
**DANGER**

**Do not mix with any other chemicals, including any other pool chemicals of any kind.**  
**Mixing with other chemicals could cause a fire or explosion.**  
**Always add product to large quantities of water to fully dissolve product.**  
**Do not pour water into product, always add product to water**  
**Do not use with stabilized chlorine or bromine tablet chemical feeders.**  
**See additional precautionary statements on back label.**

**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 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 the poison control center or doctor. Do not give anything by mouth to an unconscious person. **If inhaled**, move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by 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. **Contact 1-412-434-4515 or your poison control center for 24-hour emergency medical treatment information. Have the product container or label with you when calling a poison control center or doctor, or going for treatment.**

Manufactured by  
**PPG INDUSTRIES, INC.**  
One PPG Place  
Pittsburgh, PA 15272  
Emergency Telephone Number: 1-412-434-4515

NET WT. XXX lbs. (XXX Kgs.)



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

**DANGER** - Highly Corrosive. Causes irreversible eye damage and skin burns. Do not get in eyes, on skin, or on clothing. Wear goggles or face shield and rubber gloves when handling. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or going to the toilet. Remove and wash contaminated clothing and shoes before reuse. May be fatal if swallowed. Irritating to nose and throat. Avoid breathing dust.

*[NOTE TO EPA: The following statement will appear on package sizes 50 lbs or larger:]*

**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 sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

*[NOTE TO EPA: The following statement will appear on package sizes less than 50 lbs:]*

**ENVIRONMENTAL HAZARDS:** This pesticide is toxic to fish and aquatic organisms

**PHYSICAL AND CHEMICAL HAZARDS:** Strong oxidizing agent! Mix only with water. Do not mix this product with any other chemicals, including any other pool chemicals of any kind, such as other disinfection or "shock" pool products. Always add product to large quantities of water to dissolve product. Do not pour water into product. [The following statement shall not be used on small, single use packages: Use only a clean, dry utensil made of metal or plastic each time product is taken from the container.] Do not add this product to any dispensing device containing remnants of any other product or pool chemical. Such use may cause violent reaction leading to fire or explosion. Contamination with moisture, acids, organic matter, other chemicals (including, but not limited to cleaning chemicals and other pool chemicals), petroleum or paint products or other easily combustible materials may start a chemical reaction with generation of heat, liberation of hazardous gases and possible violent reaction leading to fire or explosion. If product becomes contaminated or decomposes do not reseal container. If possible isolate container in open air or well-ventilated area. Flood with large volumes of water, if necessary, to fully dissolve product.

*[NOTE TO EPA: The following Optional Marketing Claims and Symbols may be added to the product label:]*

Kills Bacteria, Controls Algae, Destroys Organic Contaminants  
Potable Water Chlorination

This product provides a steady source of available chlorine.  
Stop! Do not mix with other products or pre-dissolve before use

Controls odor

Reduces BOD

Reduces H<sub>2</sub>S odor

Reduces Hydrogen Sulfide odor

Contains Hi-Sil™ H303

For wastewater treatment systems

A dry chlorinating compound

Slow release

Slow dissolve rate

Inhibits bacteria re-growth in listed use sites

Maintains disinfection in low and intermittent system

Formulated for residential treatment systems

For use in all brands of aerobic treatment systems

Not for swimming pool use

Not for use in Accu-Tab chlorinators  
Not for use in Accu-Tab Systems  
Calcium Hypochlorite Tablets with Hi-Sil™ H303  
For small scale waste water treatment chlorinators  
For Domestic Use  
Not for Export.  
Disinfectant  
Bactericide  
Sanitizer  
Low insolubles  
For controlled release sanitization  
This product does not contain cyanuric acid  
This product does not contain aluminum stearate  
Predictable chlorine residual  
Consistent chlorine dose  
For use in standard 2 5/8-inch aerobic treatment systems



Certified to  
NSF/ANSI 60



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## Directions for Use

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

### DISINFECTION OF DRINKING WATER (POTABLE WATER)

#### PUBLIC WATER SYSTEMS

**Public Systems:** Mix a ratio of 1 ounce of this product to 6000 gallons of water. Begin feeding this solution with a hypochlorinator until a free available chlorine residual of at least 0.2 ppm and no more than 0.6 ppm is attained throughout the distribution system. Check water frequently with a chlorine test kit. Bacteriological sampling must be conducted at a frequency no less than that prescribed by the National Primary Drinking Water Regulations. Contact your local Health Department for further details.

**New Tanks, Basins, etc.:** Remove all physical soil from surfaces. Place 4 ounces of this product for each 5 cubic feet of working capacity (500 ppm available chlorine). Fill to working capacity and allow to stand for at least 4 hours. Drain and flush with potable water and return to service.

**New Filter Sand:** Apply 16 ounces 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.

**Reservoirs - Bacteria control:** Contamination of reservoirs is an ever-present possibility. In order to keep reservoir water bacteriologically acceptable, it is necessary to test regularly and chlorinate sufficiently to maintain a residual of 0.2 ppm free available chlorine. This is equivalent to 1.2 ounces of calcium hypochlorite per 30,000 gallons of water after chlorine demand has been satisfied. Where contamination is caused by overflowing streams, establish hypochlorinating stations upstream of the reservoir. Chlorinate the inlet water until the entire reservoir attains a 0.2 ppm available chlorine residual as determined by a chlorine test kit. Where contamination is from surface drainage, apply sufficient calcium hypochlorite directly to the reservoir to attain a 0.2 ppm available chlorine residual in all parts of the reservoir. Daily testing should be accomplished away from the water inlet. If samples must be taken near the inlet, allow them to stand at least 20 minutes before testing. Also, remember that chlorine demand will be higher during periods of heavy rainfall and extreme dryness or heat. Continuous feeding of calcium hypochlorite at the input source is usually the most effective means of maintaining an adequate chlorine residual. When applying calcium hypochlorite to surface water, take care to reach all parts of the reservoir with equal amounts of the product so that distribution is complete and equal throughout.

**New and Newly Cleaned Reservoirs:** New or recently cleaned reservoirs must be completely disinfected with calcium hypochlorite before use. Spray all parts and surfaces with a 0.5%, 5000 ppm solution (1 ounce calcium hypochlorite to 1 gallon of water). When the reservoir is filled, chlorinate as described above. NOTE: As a safety precaution, do not store calcium hypochlorite solution. When mixed, use immediately.

**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 Wells:** Flush the casing with a 50 ppm available chlorine solution of water containing 1 ounce 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.

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**Existing Equipment:** Remove equipment from service, thoroughly clean surfaces of all physical soil. Sanitize by placing 4 ounces 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 ounce of this product for each 5 gallons of water (approximately 1000 ppm available chlorine). After drying, flush with water and return to service.

**Reservoirs/Algae control:** Rapid algae growth in reservoirs is an indication of increased chlorine demand. When algae become a problem, special action is necessary. There are several methods of treatment. One of these is to hypochlorinate streams feeding the reservoir. Suitable feeding points must be selected on each stream at least 50 yards upstream from the point of entry into the reservoir. Continuous chlorination is usually effective in destroying algae where a sufficient amount of sanitizer is fed to produce a chlorine residual of 0.2 to 0.5 ppm free available chlorine. Where continuous feeding is not possible, scheduled, intermittent feeding should be practiced. In doing so, broadcast calcium hypochlorite evenly over the surface of the reservoir, taking special care to treat shallows and edges. As it descends, the product dissolves, distributing a chlorinating action to all depths. Introduce a sufficient amount of calcium hypochlorite to provide a residual of from 0.2 to 1.5 ppm for up to 24 hours.

**Small Treatment Plants:** Calcium hypochlorite may be used as a disinfectant in water treatment plants when the system is too small to use gas chlorination equipment or to supplement well or reservoir chlorination. Please refer to the treatment instructions at the beginning of this section under "Public Systems."

**Small Treatment Plants/Algae Control:** Treatment plants also rely on calcium hypochlorite to add in algae control. As algae may be the source of many objectionable odors, cause mud balls and slime in filters, pipes and pumps, as well as reduce pipeline capacity, its control through chlorination is an important factor. The presence of algae is often indicated by a slimy, gelatinous film on the inside of pumps, lines and mixers, etc. It may be eliminated by adding a sufficient quantity of calcium hypochlorite to the forebay or pump well to obtain a 5.0 to 10.0 ppm residual chlorine reading after 20 minutes contact time. The dosage necessary to provide this reading will vary with conditions, i.e. hot weather will increase the need for treatment. Algae control must be verified by testing.

#### **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 ounce 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.

**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 ounce 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.

After the initial treatment, feed calcium hypochlorite into the intake line of the well pump. This also helps keep any filters free of slime. Automatic hypochlorinating equipment for this purpose is readily available and easy to use. If it is not possible to locate a feed at the intake line, feed calcium hypochlorite anywhere in the well pump discharge line. Feed sufficient calcium hypochlorite to produce a free chlorine

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residual of at least 0.2 ppm and no more than 0.6 ppm after a 20-minute contact period. Regular testing is necessary and a record of test readings should be kept.

**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. After initial treatment, follow the practice of maintaining a free chlorine residual of 0.2 ppm to 0.6 ppm in the water outlets after a minimum 20-minute contact period as directed previously.

**Private Storage Tanks:**

**Bacteria Control:** Contamination of tanks is an ever-present possibility. In order to keep potable tank water bacteriologically acceptable, it is necessary to test regularly and chlorinate sufficiently to maintain a residual of 0.2 ppm free available chlorine. This is equivalent to 0.2 ounces of calcium hypochlorite per 5000 gallons of water after chlorine demand has been satisfied. Where contamination is caused by water supply sources, establish hypochlorinating stations upstream of the tank. Chlorinate the inlet water until the entire tank attains a 0.2 ppm available chlorine residual as determined by a chlorine test kit. Daily testing should be accomplished away from the water inlet. If samples must be taken near the inlet, allow them to stand at least 20 minutes before testing. Also, remember that chlorine demand may be higher during periods of heavy rainfall and extreme dryness or heat. Continuous feeding of calcium hypochlorite at the input source is usually the most effective means of maintaining adequate chlorine residual. When applying calcium hypochlorite to the water surface in the tank, take care to reach all parts of the tank with equal amounts of the product so that distribution is complete and equal throughout.

**EMERGENCY DISINFECTION:**

When boiling of water for 1 minute is not practical, water can be made potable by using this product. Prior to addition of the sanitizer, remove all suspended material by filtration or by allowing it to settle to the bottom. Decant the clarified, contaminated water to a clean container and add 1 grain 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.

**Emergency Disinfection After Floods**

**Wells:** Thoroughly flush contaminated casing with a 500 ppm available chlorine solution. Prepare this solution by mixing 1 ounce 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. Re-treat well if water samples are biologically unacceptable.

**Reservoirs:** In case of contamination by overflowing streams, establish hypochlorinating stations upstream of the reservoir. Chlorinate the inlet water until the entire reservoir obtains a 0.2 ppm available chlorine residual, as determined by a suitable chlorine test kit. In 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 and flumes:** Thoroughly clean all equipment, then apply 4 ounces of product per 5 cubic feet 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 ounce of this product for each 5 gallons of water (1000 ppm available chlorine). Allow water to stand for 2 to 4 hours, then flush and return to service.

**Filters:** When the sand filter needs replacement, apply 16 ounces 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 16 ounces per 20 square feet. Water should stand at a depth of 1 foot above the surface of the filter bed for 4 to 24 hours. When filter beds can be backwashed of mud and silt, apply 16 ounces of this product per each 50 square feet, allowing the water to stand at a depth of 1 foot above the filter sand. After 30 minutes, drain water to the level of the filter. After 4 to 6 hours, drain and proceed with normal backwashing.

**Distribution system:** Flush repaired or replaced section with water. Establish a hypochlorinating station and apply sufficient product until a consistent available chlorine residual of at least 10 ppm remains after a 24-hour retention time. Use a chlorine test kit.

#### **Emergency Disinfection After Fires**

**Cross connections or emergency connections:** Hypochlorination or gravity feed equipment must be set up near the intake of the untreated water supply. Apply sufficient product to give a chlorine residual of at least 0.1 to 0.2 ppm at the point where the untreated supply enters the regular distribution system. Use a chlorine test kit.

#### **Emergency Disinfection After Droughts**

**Supplementary water supplies:** Gravity or mechanical hypochlorite feeders must 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 and trucks:** 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 0.5 ounce of this product for each 5 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.

#### **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.

### **SEWAGE TREATMENT USES**

#### **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, to ensure that chlorinated effluent has been reduced to or below the maximum permitted by the controlling regulatory jurisdiction.

On the average, satisfactory disinfection of secondary waste water 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 waste water 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.

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2. Contacting: Upon flash mixing, the flow through the system must be maintained.

3. Dosage/Residual Control: Successful disinfection is extremely dependent on response to fluctuating chlorine demand to maintain a predetermined, desirable chlorine level. Secondary effluent should contain 0.2 to 1.0 ppm chlorine residual after a 15 to 30 minute contact time. A reasonable average of residual chlorine is 0.5 ppm after 15 minutes contact time.

**Effluent slime control:** Apply a 100 to 1000 ppm available chlorine solution at a location which will allow complete mixing. Prepare this solution by mixing 2 to 19 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 0.3 oz. of this product with 100 gallons of water.

**Filter Beds – Slime Control:** Remove the filter from service, drain it to a depth of 1 foot above the filter sand, and add 16 ounces of this product per 20 square feet 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 the filter.

**SEPTIC TANKS:**

To fill a residential, or small scale wastewater treatment chlorinator, remove tubes holding tablets, if applicable, and fill as follows:

1. Remove caps and rinse tubes. Clean with water.
2. Fill each tube to top, one tablet at a time.
3. Tablets must lie flat, or tubes will clog.
4. Replace caps and install tubes so they rest in channel in floor of chlorinator.
5. See Manufacturer's chlorinator brochures for additional instructions.

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

**B.O.D. REDUCTION:**

B.O.D., or Biochemical Oxygen Demand, is the quantity of oxygen required to oxidize the polluting substance to a biochemically inert material. As little as 1 ppm of chlorine may bring about a reduction of 2 to 3 ppm in B.O.D. Calcium hypochlorite for this purpose may be added at virtually any point in the system. To achieve maximum results in terms of desirable aerobic action and retardation of anaerobic decomposition, hypochlorination should be complete. The treatment will still be of value, however, even if the amount of calcium hypochlorite applied is less than the total amount which could be utilized.

**ODOR CONTROL:**

The most offensive odor encountered in sewage treatment is due to hydrogen sulfide. It is caused by the sulphate-splitting bacteria normally present in sewage. Hydrogen sulfide can be very effectively controlled by calcium hypochlorite hypochlorination of the fresh sewage, which destroys the sulfide-producing bacteria. If the treatment of fresh sewage is not practical, calcium hypochlorite may be added at any point where the odors become objectionable. The amount required will, however, be increased, as the available chlorine in calcium hypochlorite will react not only with hydrogen sulfide, but also with other bacteria and organic material. For a sulfide reduction of 1 ppm, from 8 to 10 ppm of available chlorine probably will be required.

**AID IN FLOCCULATION:**

The value of calcium hypochlorite's available chlorine as an aid in flocculation is due primarily to its oxidizing power – a property which is of particular value in sewage treatment because there is almost no oxygen in sewage. Hypochlorination with calcium hypochlorite is particularly helpful when iron salts are used as the primary flocculent. Ferric iron, in the absence of oxygen, tends to revert to ferrous iron, which is of little value as a precipitant. Calcium hypochlorite supplies sufficient oxygen to retard or prevent this change. It should be used just before the primary flocculent in a proportion of 3 to 5 ppm.

Optional language:

For specific literature on these and other accepted uses, write to the address on the front label.

[And/or]

For specific literature on other accepted uses, contact Axiall.

[And/or]

For additional directions for use, including Service Bulletins, visit [www.axiall.com/calciumhypochloriteuse](http://www.axiall.com/calciumhypochloriteuse).

## STORAGE AND DISPOSAL:

Do not contaminate food or feed by storage, disposal, or cleaning of equipment.

### Pesticide Storage

Keep this product dry in a tightly closed container when not in use. Store in a cool, dry, well ventilated area away from heat or open flame. In case of decomposition, isolate container (if possible) and flood area with large amounts of water to dissolve all materials before discarding this container.

### Pesticide Disposal

Pesticide wastes may be hazardous. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

### Container Handling

Nonrefillable container. Do not reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

*[NOTE TO EPA: This language is for containers with capacities less than 5 gallons]*

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or place in trash collection.

*[NOTE TO EPA: This language is for containers with capacities greater than 5 gallons or 50 lbs.]*

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available or place in trash collection.

**LIMITED WARRANTY:** The Manufacturer warrants, for a period of 1 year from purchase, that when this Product is stored and used, all in accordance with label directions, it will be fit for its intended purpose. THE MANUFACTURER EXPRESSLY DISCLAIMS ALL OTHER EXPRESS OR IMPLIED WARRANTIES. TO THE EXTENT THIS DISCLAIMER IS PROHIBITED BY APPLICABLE LAW, ANY IMPLIED WARRANTIES ON THIS PRODUCT ARE LIMITED IN DURATION TO THE DURATION OF THIS WARRANTY. If this Product fails to conform to this Limited Warranty, the Manufacturer will refund your purchase price or furnish you with replacement product, at Manufacturer's option. This is the Manufacturer's sole liability and in no event will Manufacturer be liable for direct, indirect, special, incidental or consequential damages. To make a claim under this Limited Warranty, contact the store/dealership where you purchased this Product. This Limited Warranty gives you specific legal rights, and you may also have other legal rights which vary from state to state.

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## SERVICE BULLETINS

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### Directions for Use

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

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### PPG WW TABLETS (EPA Reg. No. 748-308) DISINFECTION OF DRINKING WATER (POTABLE WATER)

#### PUBLIC WATER SYSTEMS

**Public Systems:** Mix a ratio of 1 ounce of this product to 6000 gallons of water. Begin feeding this solution with a hypochlorinator until a free available chlorine residual of at least 0.2 ppm and no more than 0.6 ppm is attained throughout the distribution system. Check water frequently with a chlorine test kit. Bacteriological sampling must be conducted at a frequency no less than that prescribed by the National Primary Drinking Water Regulations. Contact your local Health Department for further details.

**New Tanks and Basins:** Remove all physical soil from surfaces. Place 4 ounces of this product for each 5 cubic feet of working capacity (500 ppm available chlorine). Fill to working capacity and allow to stand for at least 4 hours. Drain and flush with potable water and return to service.

**New Filter Sand:** Apply 16 ounces 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.

**Reservoirs - Bacteria control:** Contamination of reservoirs is an ever-present possibility. In order to keep reservoir water bacteriologically acceptable, it is necessary to test regularly and chlorinate sufficiently to maintain a residual of 0.2 ppm free available chlorine. This is equivalent to 1.2 ounces of calcium hypochlorite per 30,000 gallons of water after chlorine demand has been satisfied. Where contamination is caused by overflowing streams, establish hypochlorinating stations upstream of the reservoir. Chlorinate the inlet water until the entire reservoir attains a 0.2 ppm available chlorine residual as determined by a chlorine test kit. Where contamination is from surface drainage, apply sufficient calcium hypochlorite directly to the reservoir to attain a 0.2 ppm available chlorine residual in all parts of the reservoir. Daily testing should be accomplished away from the water inlet. If samples must be taken near the inlet, allow them to stand at least 20 minutes before testing. Also, remember that chlorine demand will be higher during periods of heavy rainfall and extreme dryness or heat. Continuous feeding of calcium hypochlorite at the input source is usually the most effective means of maintaining an adequate chlorine residual. When applying calcium hypochlorite to surface water, take care to reach all parts of the reservoir with equal amounts of the product so that distribution is complete and equal throughout.

**New and Newly Cleaned Reservoirs:** New or recently cleaned reservoirs must be completely disinfected with calcium hypochlorite before use. Spray all parts and surfaces with a 0.5%, 5000 ppm solution (1 ounce calcium hypochlorite to 1 gallon of water). When the reservoir is filled, chlorinate as

described above. NOTE: As a safety precaution, do not store calcium hypochlorite solution. When mixed, use immediately.

**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 Wells:** Flush the casing with a 50 ppm available chlorine solution of water containing 1 ounce 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 4 ounces 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 ounce of this product for each 5 gallons of water (approximately 1000 ppm available chlorine). After drying, flush with water and return to service.

**Reservoirs/Algae control:** Rapid algae growth in reservoirs is an indication of increased chlorine demand. When algae become a problem, special action is necessary. There are several methods of treatment. One of these is to hypochlorinate streams feeding the reservoir. Suitable feeding points must be selected on each stream at least 50 yards upstream from the point of entry into the reservoir. Continuous chlorination is usually effective in destroying algae where a sufficient amount of sanitizer is fed to produce a chlorine residual of 0.2 to 0.5 ppm free available chlorine. Where continuous feeding is not possible, scheduled, intermittent feeding should be practiced. In doing so, broadcast calcium hypochlorite evenly over the surface of the reservoir, taking special care to treat shallows and edges. As it descends, the product dissolves, distributing a chlorinating action to all depths. Introduce a sufficient amount of calcium hypochlorite to provide a residual of from 0.2 to 1.5 ppm for up to 24 hours.

**Small Treatment Plants:** Calcium hypochlorite may be used as a disinfectant in water treatment plants when the system is too small to use gas chlorination equipment or to supplement well or reservoir chlorination. Please refer to the treatment instructions at the beginning of this section under "Public Systems."

**Small Treatment Plants/Algae Control:** Treatment plants also rely on calcium hypochlorite to add in algae control. As algae may be the source of many objectionable odors, cause mud balls and slime in filters, pipes and pumps, as well as reduce pipeline capacity, its control through chlorination is an important factor. The presence of algae is often indicated by a slimy, gelatinous film on the inside of pumps, lines and mixers, etc. It may be eliminated by adding a sufficient quantity of calcium hypochlorite to the forebay or pump well to obtain a 5.0 to 10.0 ppm residual chlorine reading after 20 minutes contact time. The dosage necessary to provide this reading will vary with conditions, i.e. hot weather will increase the need for treatment. Algae control must be verified by testing.

**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 ounce 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.

**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 ounce 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.

After the initial treatment, feed calcium hypochlorite into the intake line of the well pump. This also helps keep any filters free of slime. Automatic hypochlorinating equipment for this purpose is readily available and easy to use. If it is not possible to locate a feed at the intake line, feed calcium hypochlorite anywhere in the well pump discharge line. Feed sufficient calcium hypochlorite to produce a free chlorine residual of at least 0.2 ppm and no more than 0.6 ppm after a 20-minute contact period. Regular testing is necessary and a record of test readings should be kept.

**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. After initial treatment, follow the practice of maintaining a free chlorine residual of 0.2 ppm to 0.6 ppm in the water outlets after a minimum 20-minute contact period as directed previously.

**Private Storage Tanks:**

**Bacteria Control:** Contamination of tanks is an ever-present possibility. In order to keep potable tank water bacteriologically acceptable, it is necessary to test regularly and chlorinate sufficiently to maintain a residual of 0.2 ppm free available chlorine. This is equivalent to 0.2 ounces of calcium hypochlorite per 5000 gallons of water after chlorine demand has been satisfied. Where contamination is caused by water supply sources, establish hypochlorinating stations upstream of the tank. Chlorinate the inlet water until the entire tank attains a 0.2 ppm available chlorine residual as determined by a chlorine test kit. Daily testing should be accomplished away from the water inlet. If samples must be taken near the inlet, allow them to stand at least 20 minutes before testing. Also, remember that chlorine demand may be higher during periods of heavy rainfall and extreme dryness or heat. Continuous feeding of calcium hypochlorite at the input source is usually the most effective means of maintaining adequate chlorine residual. When applying calcium hypochlorite to the water surface in the tank, take care to reach all parts of the tank with equal amounts of the product so that distribution is complete and equal throughout.

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**PPG WW TABLETS (EPA Reg. No. 748-308) EMERGENCY DISINFECTION**

When boiling of water for 1 minute is not practical, water can be made potable by using this product. Prior to addition of the sanitizer, remove all suspended material by filtration or by allowing it to settle to the bottom. Decant the clarified, contaminated water to a clean container and add 1 grain 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.

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**PPG WW TABLETS (EPA Reg. No. 748-308) EMERGENCY DISINFECTION AFTER FLOODS**

**Wells:** Thoroughly flush contaminated casing with a 500 ppm available chlorine solution. Prepare this solution by mixing 1 ounce 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. Re-treat well if water samples are biologically unacceptable.

**Reservoirs:** In case of contamination by overflowing streams, establish hypochlorinating stations upstream of the reservoir. Chlorinate the inlet water until the entire reservoir obtains a 0.2 ppm available chlorine residual, as determined by a suitable chlorine test kit. In 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 4 ounces of product per 5 cubic feet 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 ounce of this product for each 5 gallons of water (1000 ppm available chlorine). Allow water to stand for 2 to 4 hours, then flush and return to service.

**Filters:** When the sand filter needs replacement, apply 16 ounces 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 16 ounces per 20 square feet. Water should stand at a depth of 1 foot above the surface of the filter bed for 4 to 24 hours. When filter beds can be backwashed of mud and silt, apply 16 ounces of this product per each 50 square feet, allowing the water to stand at a depth of 1 foot above the filter sand. After 30 minutes, drain water to the level of the filter. After 4 to 6 hours, drain and proceed with normal backwashing.

**Distribution system:** Flush repaired or replaced section with water. Establish a hypochlorinating station and apply sufficient product until a consistent available chlorine residual of at least 10 ppm remains after a 24-hour retention time. Use a chlorine test kit.

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### **PPG WW TABLETS (EPA Reg. No. 748-308) EMERGENCY DISINFECTION AFTER FIRES**

**Cross connections or emergency connections:** Hypochlorination or gravity feed equipment must 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.

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### **PPG WW TABLETS (EPA Reg. No. 748-308) EMERGENCY DISINFECTION AFTER DROUGHTS**

**Supplementary water supplies:** Gravity or mechanical hypochlorite feeders must 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 0.5 ounce of this product for each 5 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.

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## PPG WW TABLETS (EPA Reg. No. 748-308) 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.

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## PPG WW TABLETS (EPA Reg. No. 748-308) 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, to ensure that chlorinated effluent has been reduced to or below the maximum permitted by the controlling regulatory jurisdiction.

On the average, satisfactory disinfection of secondary waste water 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 waste water disinfection:

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

**Effluent slime control:** Apply a 100 to 1000 ppm available chlorine solution at a location which will allow complete mixing. Prepare this solution by mixing 2 to 19 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 0.3 oz. of this product with 100 gallons of water.

**Filter Beds – Slime Control:** Remove the filter from service, drain it to a depth of 1 foot above the filter sand, and add 16 ounces of this product per 20 square feet 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 the filter.

### **SEPTIC TANKS:**

To fill a residential, or small scale wastewater treatment chlorinator, remove tubes holding tablets, if applicable, and fill as follows:

1. Remove caps and rinse tubes. Clean with water.
2. Fill each tube to top, one tablet at a time.
3. Tablets must lie flat, or tubes will clog.
4. Replace caps and install tubes so they rest in channel in floor of chlorinator.



5. See Manufacturer's chlorinator brochures for additional instructions.

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

**B.O.D. REDUCTION:**

B.O.D., or Biochemical Oxygen Demand, is the quantity of oxygen required to oxidize the polluting substance to a biochemically inert material. As little as 1 ppm of chlorine may bring about a reduction of 2 to 3 ppm in B.O.D. Calcium hypochlorite for this purpose may be added at virtually any point in the system. To achieve maximum results in terms of desirable aerobic action and retardation of anaerobic decomposition, hypochlorination should be complete. The treatment will still be of value, however, even if the amount of calcium hypochlorite applied is less than the total amount which could be utilized.

**ODOR CONTROL:**

The most offensive odor encountered in sewage treatment is due to hydrogen sulfide. It is caused by the sulphate-splitting bacteria normally present in sewage. Hydrogen sulfide can be very effectively controlled by calcium hypochlorite hypochlorination of the fresh sewage, which destroys the sulfide-producing bacteria. If the treatment of fresh sewage is not practical, calcium hypochlorite may be added at any point where the odors become objectionable. The amount required will, however, be increased, as the available chlorine in calcium hypochlorite will react not only with hydrogen sulfide, but also with other bacteria and organic material. For a sulfide reduction of 1 ppm, from 8 to 10 ppm of available chlorine probably will be required.

**AID IN FLOCCULATION:**

The value of calcium hypochlorite's available chlorine as an aid in flocculation is due primarily to its oxidizing power – a property which is of particular value in sewage treatment because there is almost no oxygen in sewage. Hypochlorination with calcium hypochlorite is particularly helpful when iron salts are used as the primary flocculent. Ferric iron, in the absence of oxygen, tends to revert to ferrous iron, which is of little value as a precipitant. Calcium hypochlorite supplies sufficient oxygen to retard or prevent this change. It should be used just before the primary flocculent in a proportion of 3 to 5 ppm.

