



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

December 14, 2018

Abigail Downs Wacek  
Regulatory Consultant  
CDG Environmental, LLC  
361 West Cedar Street  
Allentown, PA 18102

Subject: PRIA Label Amendment – Addition of Non-Food Contact Sanitization Claims  
Product Name: CDG Solution 3000  
EPA Registration Number: 75757-2  
Application Date: June 22, 2018  
Decision Number: 547114

Dear Ms. Wacek:

The amended label referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act, as amended, is acceptable. This approval does not affect any conditions that were previously imposed on this registration. You continue to be subject to existing conditions on your registration and any deadlines connected with them.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. In accordance with 40 CFR 152.130(c), you may 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.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

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Your release for shipment of the product constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6. If you have any questions, please contact Wanda Henson by phone at (703) 308-6345, or via email at [henson.wanda@epa.gov](mailto:henson.wanda@epa.gov)

Sincerely,

A handwritten signature in black ink, appearing to read 'D. Fuller', with a long horizontal stroke extending to the right.

Demson Fuller, Product Manager 32  
Regulatory Management Branch I  
Antimicrobials Division (7510P)  
Office of Pesticide Programs

Enclosure

{Note to reviewer: [ ] - denotes optional label language.}

# CDG Solution 3000™

AN AQUEOUS SOLUTION OF CHLORINE DIOXIDE

This product is intended for the purification of water which has previously been treated in accordance with the Safe Drinking Water Act (SDWA), such as that provided by municipal water treatment facilities. Intended applications include: Treatment of Potable Water and Cooling Water in Hospitals & Healthcare Facilities, Nursing Homes, Hotels, Commercial Office Buildings, Government Buildings, Residential Buildings, and Ships; Treatment of Industrial Process Water, Food Processing Water, Livestock Drinking Water, Human and Animal Potable Water Systems, and Process Water Systems, and Control of Slime in Cooling Towers.

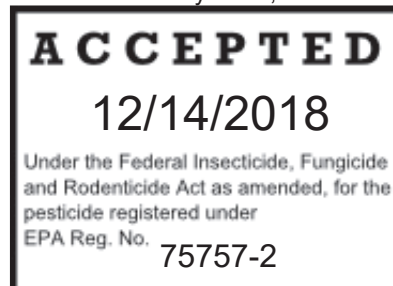
**ACTIVE INGREDIENTS**

Chlorine dioxide .....0.30%

**OTHER INGREDIENTS** .....99.70%

**TOTAL**.....100.00%

CDG Solution 3000™ contains 3000 ppm (3000 mg/L) chlorine dioxide



## KEEP OUT OF REACH OF CHILDREN CAUTION

FIRST AID	
<b>If in eyes</b>	• 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 immediately for treatment advice.
<b>If on skin or clothing</b>	• Remove contaminated clothing. • Rinse exposed skin immediately with plenty of water for 15 to 20 minutes. • Call a poison control center or doctor immediately for treatment advice.
<b>If swallowed</b>	• Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
<b>If inhaled</b>	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance then give artificial respiration. • Call a poison control center or doctor for further treatment advice.
<i>NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage.</i>	
<b>HOTLINE NUMBERS</b> For chemical spill information call CHEMTREC: 1-800-424-9300 For emergency medical information, call the National Pesticide Information Center at 1-800-858-7378.	

See insert booklet for additional precautionary statements and directions for use.

**EPA Reg. No.:** 75757-2  
**EPA Est. No.:** 75757-PA-1

**Manufactured for:**  
CDG Environmental, LLC  
361 W. Cedar St.  
Allentown, PA 18102

Net Contents: XXXXX

Registered under several US patents US 9,045,338, US 9,045,339, US 9,045,340, US 9,045,341, US 9,302,911, 9,580,317, 9,656,865 and patents pending

Lot# XXXX

Mfg. Date: XXXXXXXX

Expiry Date: XXXX

Made in [the] USA

{Note to reviewer: [ ] - denotes optional label language.}

## PRECAUTIONARY STATEMENTS

**HAZARDS TO HUMANS AND DOMESTIC ANIMALS: Caution:** Causes moderate eye irritation. Avoid contact with eyes, skin, or clothing. Harmful if swallowed, absorbed through the skin, or inhaled. Wash thoroughly with soap and water after handling, and before eating, drinking, chewing gum, using tobacco, or using the toilet.

Handlers applying chlorine dioxide in an occupational setting must wear gloves. Always work in a well-ventilated area and avoid inhaling chlorine dioxide fumes. Wear a half-face respirator with acid gas cartridge and N95 filter under the following conditions: When applying CDG Solution 3000 with a high-pressure sprayer, when working with CDG Solution 3000 for an extended period of time in a closed facility or poorly-ventilated area, when normal work shift duties entail uninterrupted periods of applying Solution 3000 with a mop, sponge or sprayer, if OSHA inhalation exposure limits of 0.1 ppm chlorine dioxide PEL or 0.3 ppm chlorine dioxide STEL are reached or exceeded (See SDS). Fruits and vegetables treated with chlorine dioxide must be blanched, cooked, or canned before consumption or distribution in commerce.

**ENVIRONMENTAL HAZARDS:** This product 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.

**PHYSICAL AND CHEMICAL HAZARDS:** Chlorine dioxide is a strong oxidizing agent. Contamination with materials such as acids, chlorine, and organic chemicals may cause a chemical reaction resulting in evolution of chlorine dioxide and heat. Keep all chemicals and foreign material away from this solution. DO NOT FREEZE.

## STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

**PESTICIDE STORAGE:** Keep containers tightly closed when not in use. Store in original container in a dark, dry place away from extremes of heat or freezing conditions. Do not store with easily oxidizable materials, acids, bases, or combustible materials.

**This product is to be used as directed within 9 months of the manufacture date indicated on the front panel of this label.**

**PESTICIDE DISPOSAL:** Pesticide wastes are acutely hazardous. Improper disposal of pesticide, prepared solutions, or rinsate is a violation of Federal law. If wastes cannot be disposed of according to label directions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative of your nearest EPA Regional Office for guidance.

**CONTAINER HANDLING:** Nonrefillable container. Do not reuse or refill this container, Triple rinse container (or equivalent) promptly after emptying. [For product 5 gallons or less] Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full of 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. [For product containers greater than 5 gallons] Triple rinse as follows: Empty remaining contents into application equipment or a mix tank. Fill the container ¼ full of 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 on 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, or puncture and dispose of in a sanitary landfill or by incineration.

{Note to reviewer: [ ] - denotes optional label language.}

## DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

[See [attached] booklet for details on specific uses]. (Note to reviewer: Several of the directions for use may be moved to a booklet which accompanies the product label. No claims beyond the uses listed below will be included in the booklet. All claims in the booklet are listed on the master label.)

*CDG Solution 3000* is a chlorine dioxide product designed to purify water which has previously been treated in accordance with the Safe Drinking Water Act (SDWA) including: potable water and cooling water in hospitals & healthcare facilities, nursing homes, hotels, commercial office buildings, government buildings, residential buildings, and ships; industrial process water; food processing water; livestock drinking water. *CDG Solution 3000* also is designed to control slime in cooling towers. Pathogenic organisms controlled include *Klebsiella terrigena*, Poliovirus and Rotavirus. Concentration and contact times are application specific.

*CDG Solution 3000* may be used in the treatment of fruits and vegetables, poultry and red meat.

**Carefully read and follow the instructions for the *CDG Solution 3000* dosing equipment provided by the manufacturer or its authorized agent.**

*CDG Solution 3000* is intended for use in water systems which use as their source treated municipal water including:

- Hospitals
- Nursing homes
- Schools & public buildings
- Office Buildings
- Hotels
- Residential Buildings
- Animal facilities
- Food processing plants
- Beverage production facilities

*CDG Solution 3000* may also be used to treat water that is not subject to the SWDA for use as non-potable water or water not intended for human consumption.

*CDG Solution* is intended for use as sanitizing rinse on previously cleaned, food-contact surfaces and as a disinfectant for use in water. *CDG Solution* is intended for use against the following microorganisms:

### **[Non-Food Contact Sanitization]**

*Staphylococcus aureus* [ATCC 6538] (*S. aureus*)  
*Klebsiella pneumoniae* [ATCC 4352] (*K. pneumoniae*)

### **[Food Contact Sanitization]**

*Salmonella enterica* [(formerly typhi)] [ATCC 6539] (*S. Enterica*)  
*Staphylococcus aureus* [ATCC 6538] (*S. aureus*)

### **[Water Disinfection]**

*Raoultella terrigena* [ATCC 33257] (formerly designated as *Klebsiella terrigena*) (*R. terrigena*)  
*Legionella pneumophila* [ATCC 33152] (*L. pneumophila*)  
Poliovirus 1 [ATCC VR-59]  
Rotavirus SA-11 [ATCC VR-2018]

\* - NOT FOR USE IN CALIFORNIA

{Note to reviewer: [ ] - denotes optional label language.}

## **Agricultural Premises and Equipment**

TO DISINFECT WATER FOR CONSUMPTION BY POULTRY, SWINE, CATTLE AND OTHER ANIMALS

**(For use to treat water for human consumption, see specific directions.)**

Add *CDG Solution 3000* to the water at a dose of 5.0 ppm (5.0 mg/L) chlorine dioxide (a dilution ratio 1:600) to disinfect water for animal consumption.

If the water supply has heavy contamination (e.g. highly turbid, discolored, heavy organic load), prepare a solution of 5.0 ppm chlorine dioxide by adding *CDG Solution 3000* to water at a dose of 5.0 ppm (5.0 mg/liter) chlorine dioxide (a dilution ratio 600:1). Allow 15 minutes before delivery to poultry. This product is effective against *Klebsiella terrigena*, Poliovirus and Rotavirus. After 24 hours, the addition rate can be reduced to 1 ppm chlorine dioxide by adding *CDG Solution 3000* to water at a dose of 1 mg/liter chlorine dioxide (a dilution ratio 1:3000) as long as terminal concentration at end of waterline is not less than 0.5 ppm. Treat water continuously from day one. Remove *CDG Solution 3000* from drinking water 24 hours prior to vaccination, then resume treatment 24 hours after vaccinations.

TO CONTROL [ODOR], [AND] [STAIN] [CAUSING] BACTERIA, MOLD, AND MILDEW IN OF AGRICULTURAL STORAGE FACILITIES\*

Before treatment, all vehicles (containers, trailers, rail cars, vessels) must be cleaned with water to remove debris and dirt. Add *CDG Solution 3000* to water at a dose of 300 ppm (300 mg/L) chlorine dioxide (a dilution ratio 1:10). Pour 2.5 quarts of diluted *CDG Solution 3000* into a foaming wand tank capable of delivering 4-6 gallons of water per minute. Allow surfaces to remain wet for at least 10 minutes. The diluted *CDG Solution 3000* may be irritating if inhaled.

TO CONTROL [ODOR], [AND] [STAIN] [CAUSING] BACTERIA, MOLD, AND MILDEW IN ANIMAL CONFINEMENT FACILITIES

- 1) Remove all animals and feed from premises such as poultry houses, swine pens, calf barns and kennels.
- 2) Remove all litter and manure from premises of facilities.
- 3) Empty all troughs, racks and other feeding equipment/watering appliances.
- 4) Thoroughly clean all surfaces with soap or detergent and rinse with water.
- 5) Add *CDG Solution 3000* to water at a dose of 300-500 ppm (300 - 500 mg/L) chlorine dioxide (a dilution ratio 1:10 – 1:6).
- 6) Using a commercial sprayer, saturate all surfaces with the diluted *CDG Solution 3000*. Allow surfaces to remain wet for at least 10 minutes. Immerse all halters, ropes and other types of equipment used in handling and restraining animals as well as forks, shovels and scrapers used for removing litter and manure. The diluted *CDG Solution 3000* may be irritating if inhaled.
- 7) After treatment, ventilate buildings, coops or other enclosed spaces and allow to air dry.

TO CONTROL [ODOR], [AND] [STAIN] [CAUSING] BACTERIA, MOLD, AND MILDEW IN ANIMAL TRANSPORT VEHICLES\*

Before treatment, all vehicles must be cleaned with water to remove debris and dirt. Add *CDG Solution 3000* to water at a dose of 300.0 ppm (300.0 mg/L) chlorine dioxide (a dilution ratio 1:10). Pour 1 quart of diluted *CDG Solution 3000* into a foaming wand tank capable of delivering 4-6 gallons of water per minute. Allow surfaces to remain wet for at least 10 minutes. The diluted *CDG Solution 3000* may be irritating if inhaled.

DEODORIZATION OF ANIMAL HOLDING ROOMS, SICK ROOMS, MORGUES AND WORK ROOMS\*

Thoroughly clean all surfaces before treatment. Add *CDG Solution 3000* to water to a solution of 1000 ppm (1000 mg/L) chlorine dioxide (dilution ratio of 1:3). Spray the diluted *CDG Solution 3000* using a suitable spraying device onto walls, ceilings and floors, lightly dampening all surfaces. Allow surfaces to remain wet for at least 5 minutes. The diluted *CDG Solution 3000* may be irritating if inhaled. Allow surfaces to air dry and then ventilate the area. Treat as required.

TO CONTROL ODOR, SLIME FORMING BACTERIA, MOLD AND MILDEW FOR SHOE BATH USE

Add *CDG Solution 3000* to shoe bath water to make a 1 -5 ppm (1-5 mg/L) chlorine dioxide solution (dilution ratio of 1:3000 – 1:600) of shoe bath water. Circulate water treated with *CDG Solution 3000* in the bath for at least five minutes. Change shoe bath solution daily or when solution appears soiled.

TREATMENT OF POULTRY CHILLER WATER/CARCASS SPRAY AND DIP WATER TO CONTROL SPOILAGE-CAUSING BACTERIA [AND EXTEND FRESHNESS]

{Note to reviewer: [ ] - denotes optional label language.}

When used in a prechiller or chiller tank, add *CDG Solution 3000* to water at a residual of 0.5 – 3 ppm (0.5 – 3.0 mg/L) chlorine dioxide (a dilution ratio 1:6000 – 1:1000).

When used as a carcass spray or dip solution, add *CDG Solution 3000* to water at a maximum dose of 100 ppm (100 mg/L) chlorine dioxide (a dilution ratio of 1:300) to maintain a 0.5 ppm (0.5 mg/L) to a maximum residual of 3 ppm (3.0 mg/L) chlorine dioxide (a dilution ratio of 1:1000). Handlers applying chlorine dioxide in an occupational setting must wear gloves.

#### TO CONTROL BACTERIA AND ODOR IN EGG ROOMS\*

Add *CDG Solution 3000* to water at a dose of 20.0 ppm (20.0 mg/L) chlorine dioxide (a dilution ratio 1:150) as a prewash to remove gross filth or heavy soil. If it is necessary to clean the floors by mopping, add *CDG Solution 3000* to water at a dose of 400 ppm (400 mg/L) chlorine dioxide (a dilution ratio 1:7.5). Allow *CDG Solution 3000* to dry on floor. Spray hard non-porous surfaces within the entire area with a 1000 ppm (1000 mg/L) solution of chlorine dioxide (1 gallon *CDG Solution 3000* per 3 gallons water) for 5 minutes, being sure to cover walls, ceiling, floors, work tables and benches. Allow to dry for 1 hour or overnight, if possible, before resuming operations.

Washing and spraying operations should be conducted once a week, or more frequently in cases of heavy contamination during operations.

A shoe or boot bath solution of 1000 ppm (1000 mg/L) chlorine dioxide (a dilution ratio of 1:3) is placed at the entrance to the egg room. Doors to the room should be kept closed at all times. A glove dip, or rinse tank or basin, containing 50 ppm (50 mg/L) chlorine dioxide (a dilution ratio of 1:60 to 1:15) is used on entering and exiting the room.

Both the shoe and boot bath and glove dip should be replaced daily or sooner if traffic is heavy.

Humidifier water is treated with 40 ppm (40 mg/L) chlorine dioxide (a dilution ratio of 1:75) to prevent the build-up and airborne spread of odor-causing microorganisms.

Provide 20 ppm (20 mg/L) chlorine dioxide (a dilution ratio of 1:150) to the water supply in the egg washing machine.

#### TO CONTROL [ODOR CAUSING] BACTERIA IN THE HATCHING ROOM\*

- 1) As soon as chicks are separated from hatch, remove all trash containers with eggshells, down, etc. from the hatching area.
- 2) Remove all poultry and feeds from premises, trucks, coops and crates.
- 3) Remove all litter and droppings from floors, walls and surfaces of facilities occupied or traversed by poultry.
- 4) Empty all troughs, racks and other feeding and watering appliances.
- 5) Thoroughly clean all surfaces with soap or detergent and rinse with water.
- 6) Spray hard, non-porous surfaces within the entire area with a 1000 ppm (1000 mg/L) solution of chlorine dioxide (a dilution ratio of 1:3). Allow a 10 minute contact time.
- 7) After treatment, ventilate buildings, coops or other enclosed spaces. Do not house poultry or employ equipment until treatment has been absorbed, set or dried.
- 8) Thoroughly scrub treated feed racks, troughs, automatic feeders, fountains and waterers with soap or detergent and rinse with potable water before reuse.
- 9) All workers in this area should use a hand dip or rinse containing 50 ppm (50 mg/L) chlorine dioxide (a dilution ratio of 1:60)

#### TO CONTROL [ODOR CAUSING] BACTERIA IN THE INCUBATOR ROOM\*

Remove gross filth or soil with a high-pressure water wash. Spray hard, non-porous surfaces within the area with 1,000 ppm (1000 mg/L) solution of chlorine dioxide once a week for 5 minutes. Wet all surfaces and allow to dry. The floors should be mopped daily with a solution containing 400 ppm (400 mg/L) chlorine dioxide (a dilution ratio 1:7.5). Allow *CDG Solution 3000* to dry on floor.

Humidifier water is treated with 20 ppm (20 mg/L) chlorine dioxide (a dilution ratio of 1:150) or air filters can be sprayed with 100 ppm (100 mg/L) chlorine dioxide (a dilution ratio of 1:30) to reduce airborne bacterial contamination.

Each time eggs are removed from the incubator, use a glove dip at 50 ppm (50 mg/L) chlorine dioxide (a dilution ratio of 1:60 to 1:15) followed by a spray of 100 ppm (100 mg/L) chlorine dioxide (a dilution ratio of

{Note to reviewer: [ ] - denotes optional label language.}

1:30) on eggs from a spray bottle.

The diluted *CDG Solution 3000* may be irritating if inhaled.

The doors to the incubator room should be kept closed as much as possible to avoid airborne contamination.

#### TREATMENT OF TRAY WASHING ROOM AND LOADING PLATFORM\*

Close all doors in the tray washing room to avoid contamination of other hatchery operations. Discard all chick downs, egg shells, and cast-off chicks into the trash barrels and transfer the covered containers to the loading platform for disposal.

Wash the trays, carriages and other working equipment in a tray washing machine with 300-500 psi water to remove gross filth and soil.

As a final rinse in the tray washing machine, use a solution containing 20 ppm (20 mg/L) chlorine dioxide (1 oz. *CDG Solution 3000* per 127 oz water) in high pressure water. Allow the trays, carriers and other working equipment to air dry. The walls, floors and carrying stands must also be treated with the same solution. Allow the equipment to air dry. Hold the treated equipment in a closed area for reuse.

Entrance and exit from the tray washing room must be through a foot rinse containing a 1,000 ppm (1000 mg/L) solution of chlorine dioxide. The rinse must be at least ½ inch deep and should be changed daily. More often if traffic is heavy.

After use, the tray washing room is washed with high pressure water to remove gross filth and soil. Spray the entire area with a 1000 ppm (1000 mg/L) solution of chlorine dioxide (a dilution ratio of 1:3) for 15 minutes and allow to air dry. This treatment is repeated after each use of the tray wash room.

The loading platform is washed to remove gross filth and soil. The trash containers are washed after discarding the contents to remove gross filth and soil and then sprayed with a 1000 ppm (1000 mg/L) solution of chlorine dioxide (a dilution ratio of 1:3) and stored.

The diluted *CDG Solution 3000* may be irritating if inhaled.

#### TO CONTROL [ODOR CAUSING] BACTERIA IN THE CHICK ROOM, CHICK GRADING BOX AND SEXING ROOM\*

- 1) Remove all poultry and feeds from premises, trucks, coops and crates.
- 2) Remove all litter and droppings from floors, walls and surfaces of facilities occupied or traversed by poultry.
- 3) Empty all troughs, racks and other feeding and watering appliances.
- 4) Thoroughly clean all surfaces with soap or detergent and rinse with water.
- 5) Spray hard, non-porous surfaces within the entire area for 5 minutes with a dose of 1000 ppm (1000 mg/L) chlorine dioxide. Allow a 10 minute contact time.
- 6) After treatment, ventilate buildings, coops or other enclosed spaces. Do not house poultry or employ equipment until treatment has been absorbed, set or dried.
- 7) Thoroughly scrub treated feed racks, troughs, automatic feeders, fountains and waterers with soap or detergent and rinse with potable water before reuse.
- 8) All workers in this area should use a hand dip or rinse containing 50 ppm (50 mg/L) chlorine dioxide.
- 9) Use a spray bottle containing a solution of 1 gallon *CDG Solution 3000* per 3 gallons water (1000 ppm (1000 mg/L) chlorine dioxide) on hands, wire mesh and in empty chick boxes to control contamination and odors from litter.
- 10) Clean floor by mopping daily with a solution of 400 ppm (400 mg/L) chlorine dioxide (a dilution ratio 1:7.5). Allow *CDG Solution 3000* to air dry on floor.
- 11) The diluted *CDG Solution 3000* may be irritating if inhaled.

#### GLOVE DIP FOR AGRICULTURAL WORKERS

Add *CDG Solution 3000* to hand dip or rinse water to make the chlorine dioxide 50 ppm (50 mg/L) chlorine dioxide of hand dip water. Change the solution daily or when solution appears soiled. Handlers applying chlorine dioxide in an occupational setting must wear gloves.



{Note to reviewer: [ ] - denotes optional label language.}

## **Horticultural Premises and Equipment**

### **ALGAECIDE AND FUNGISTAT FOR HORTICULTURAL AND GREENHOUSE APPLICATIONS**

For horticultural applications, this product may be used with a solution of (250 ppm (250 mg/L) chlorine dioxide for 10 minutes – a dilution ratio of 1:12) to treat, control, and prevent funguses, odor-, stain- causing, and spoilage bacteria, and algae, slimes, rusts, leaf spot and mildews. To remove slimes dose with (50 ppm (50 mg/L) chlorine dioxide for 12 hours continuous treatment- dilution ratio of 1:60). To inhibit reemergence dose with a solution of 0.25 ppm (0.25 mg/L) chlorine dioxide continuous treatment (dilution rate of 1:12000) in irrigation, drip irrigation and other non-potable water systems.

#### **TO CONTROL [ODOR], [AND] [STAIN] [CAUSING] BACTERIA, MOLD, AND MILDEW IN HORTICULTURE WORK AREA AND BENCHES\***

Remove all gross filth and soil and thoroughly clean all surfaces with soap or detergent and rinse with clean water. Add *CDG Solution 3000* to water to make a solution of 250 ppm (250 mg/L) (dilution ratio of 1:12) chlorine dioxide. Using a commercial sprayer, saturate all surfaces with the diluted *CDG Solution 3000*. Allow surfaces to remain wet for at least 10 minutes. The diluted *CDG Solution 3000* may be irritating if inhaled.

#### **TO CONTROL [ODOR], [AND] [STAIN] [CAUSING] BACTERIA, MOLD, AND MILDEW OF HORTICULTURE POTS AND FLATS\***

Remove all gross filth and soil and thoroughly clean all surfaces with soap or detergent and rinse with clean water. Add *CDG Solution 3000* to water to make a solution of 500 ppm (500 mg/L) chlorine dioxide (dilution ratio of 1:6). Using a commercial sprayer, saturate all surfaces with the diluted *CDG Solution 3000*. Allow surfaces to remain wet for at least 10 minutes. The diluted *CDG Solution 3000* may be irritating if inhaled.

#### **TO CONTROL [STAIN] [AND] [SLIME] [CAUSING] BACTERIA, MOLD, AND MILDEW OF HORTICULTURE CUTTING TOOLS\***

Remove all gross filth and soil and thoroughly clean all surfaces with soap or detergent and rinse with clean water. Add *CDG Solution 3000* to water to make a solution of 250 ppm (250 mg/L) chlorine dioxide (dilution ratio of 1:12). Immerse tools in diluted *CDG Solution 3000* or spray to saturate all surfaces. Allow surfaces to remain wet for at least 10 minutes. The diluted *CDG Solution 3000* may be irritating if inhaled.

#### **TO CONTROL [STAIN] [CAUSING] BACTERIA, MOLD, AND MILDEW OF HORTICULTURE BULBS\***

Add *CDG Solution 3000* to water to make a solution of 250-500 ppm (250-500 mg/L) chlorine dioxide (dilution ratio of 1:12 – 1:6).

#### **TO CONTROL [STAIN] [AND] [SLIME] [CAUSING] BACTERIA, MOLD, AND MILDEW OF GREENHOUSE GLASS, WALKWAYS AND UNDER BENCH AREAS\***

Remove all gross filth and soil and thoroughly clean all surfaces with water. Add *CDG Solution 3000* to water to make a solution of 125-250 ppm (125-250 mg/L) chlorine dioxide (dilution ratio of 1:24 – 1:12). Using a commercial sprayer, saturate all surfaces with the diluted *CDG Solution 3000*. Allow surfaces to remain wet for at least 10 minutes. The diluted *CDG Solution 3000* may be irritating if inhaled.

#### **TREATMENT OF HORTICULTURE BULBS\***

Add *CDG Solution 3000* to water to make the chlorine dioxide 250-500 ppm (dilution ratio of 1:12 – 1:6). Immerse bulbs in diluted *CDG Solution 3000* or spray to lightly dampen all bulbs. Allow surfaces to remain wet for at least 10 minutes. The diluted *CDG Solution 3000* may be irritating if inhaled.

#### **TO CONTROL [STAIN] [AND] [SLIME] [CAUSING] BACTERIA, MOLD, AND MILDEW FOR TREATMENT OF EVAPORATIVE COOLERS\***

Remove gross filth or soil with a water wash. Spray the area with 125-250 ppm (125-250 mg/L) chlorine dioxide (dilution ratio of 1:24 – 1:12) for 5 minutes. Wet all surfaces and allow to dry. The floors should be mopped with a solution containing 400 ppm (400 mg/L) chlorine dioxide (a dilution ratio 1:7.5). Allow *CDG Solution 3000* to air dry on floor.

#### **TO CONTROL [STAIN] [AND] [SLIME] [CAUSING] BACTERIA, MOLD, AND MILDEW IN RETENTION BASINS AND PONDS**

Add *CDG Solution 3000* to the water at a dose of 2-5 ppm (2-5 mg/L) chlorine dioxide (a dilution ratio 1:1500 – 1:600), and circulate or let stand overnight. Drain and rinse with clean water before re-use. To prevent slime growth after initial treatment, add *CDG Solution 3000* to the water at a dose of 5.0 ppm (5.0 mg/L) chlorine dioxide (a dilution ratio of 1:600). Do not use where fish are present.

{Note to reviewer: [ ] - denotes optional label language.}

#### FOR TREATMENT OF SEEDS NOT INTENDED FOR HUMAN OR ANIMAL CONSUMPTION:

Apply to seeds as directed to control seedborne microorganisms that cause plant disease or spoilage and decay of developing seedlings. Mix CDG Solution 3000 with clean water either batch wise or continuously to no more than 100 ppm (100 mg/L) chlorine dioxide. The volume of treatment solution must be at least two times greater than the volume of seeds to be treated. The seeds must be submerged in the treatment solution and agitated for 30 minutes. Following treatment, remove seeds from treatment solution and dry.

#### TO CONTROL ODOR, MOLD, MILDEW AND [SLIMEFORMING] BACTERIA OF DECORATIVE POOLS, FOUNTAINS AND WATER DISPLAYS

Add *CDG Solution 3000* to the water at a dose of 5 -10 ppm (5 -10 mg/L) chlorine dioxide (a dilution ratio 1:600 –1:300), and circulate or let stand overnight. Drain and rinse with clean water before re-use. To prevent slime growth after initial treatment, add *CDG Solution 3000* to the water supply at a dose of 5.0 ppm (5.0 mg/L) chlorine dioxide (a dilution ratio of 1:600). Do not use where fish are present.

#### **Food Processing Plants, Food –Handling Establishments and Restaurants**

This product can be used to control microbial contamination, slime and odor in food processing waters and to sanitize previously cleaned hard, non-porous, food and non-food contact surfaces.

##### SANITIZING SOLUTION FOR FOOD CONTACT SURFACES

Prior to sanitization, remove all gross food particles and soil by use of a pre-flush, pre-scrape or pre-soak treatment.

Prepare a solution of 25- 50 ppm (25-50 mg/L) chlorine dioxide by using a dilution ratio of 1:120 to 1:60. Immerse, circulate, fill, wipe or spray to saturate all surfaces with the diluted *CDG Solution 3000*. Allow surfaces to remain wet for at least 1 minute. After sanitizing, allow surfaces to air dry. The diluted *CDG Solution 3000* may be irritating if inhaled.

##### SANITIZING SOLUTION FOR NON-FOOD CONTACT SURFACES

Prior to sanitization, remove all gross food particles and soil. Prepare a solution of 110-500 ppm (110-500 mg/L) chlorine dioxide by using a dilution ratio of 1:27 to 1:6. Immerse, circulate, fill, wipe or spray to saturate all surfaces with the diluted *CDG Solution 3000*. Allow surfaces to remain wet for at least 5 minutes. After sanitizing, allow surfaces to air dry. The diluted *CDG Solution 3000* may be irritating if inhaled.

##### SANITIZER FOR FOOD-PROCESSING EQUIPMENT IN DAIRY FARMS, DAIRIES, BREWERIES AND MEAT, POULTRY AND BOTTLING PLANTS

Prior to sanitization, remove all gross food particles and soil by use of a pre-flush, pre-scrape or pre-soak treatment.

Clean all lines, tanks, or surfaces with a suitable detergent followed by a potable water rinse. Prepare a solution of 25-50 ppm (25-50 mg/L) chlorine dioxide of *CDG Solution 3000* by using a dilution ratio of 1:120 to 1:60. Fill, immerse, circulate, wipe or spray the target surface with the food contact sanitizing solution to make sure surfaces are thoroughly wet for at least one minute. Hard to reach in-place equipment, pipes, closed vessels, etc., must be filled with the sanitizing solution to ensure contact with all surfaces. For spraying operations, user must wear a half-face respirator with acid gas cartridge and N95 filter.

Allow the food contact sanitizing solution to drain from all treated surfaces and air dry. DO NOT rinse treated surface. The food contact sanitizing solution may not be reused for sanitizing.

##### SANITIZER FOR NON-FOOD CONTACT SURFACES IN DAIRY FARMS, DAIRIES, BREWERIES AND MEAT, POULTRY AND BOTTLING PLANTS

Prior to sanitization, remove all gross filth from areas to be sanitized and thoroughly clean surfaces with a suitable detergent. Prepare a solution of 110-500 ppm (110-500 mg/L) chlorine dioxide by using a dilution ratio of 1:27 to 1:6. Apply the non-food contact sanitizing solution to hard, non-porous surfaces, thoroughly wetting surfaces with a cloth, mop, sponge, sprayer, or immersion. Treated surfaces must remain wet for at least five minutes.

Allow the non-food contact sanitizing solution to drain from all treated surfaces and air dry. DO NOT rinse treated surface. The non-food contact sanitizing solution may not be reused for sanitizing.

Treat as required. Always apply freshly prepared *CDG Solution 3000*. DO NOT reuse solution.

{Note to reviewer: [ ] - denotes optional label language.}

#### CLEANING AND TREATMENT OF ICE MAKING PLANTS AND MACHINERY TO CONTROL [ODOR], [AND] [STAIN] [CAUSING] BACTERIA, MOLD, AND MILDEW AND [ALGAE]

Ice making machinery should be disassembled and thoroughly cleaned using a suitable detergent followed by a potable water rinse. Add *CDG Solution 3000* to the incoming water line of the ice machine via a chemical feed pump or injector system at a dose of 20 ppm (20 mg/L) chlorine dioxide (dilution ratio of 1:150).

#### CLEANING AND TREATMENT OF CANNING RETORT AND PASTEURIZER COOLING WATER TO CONTROL [ODOR], [AND] [STAIN] CAUSING BACTERIA, MOLD, AND MILDEW [AND ALGAE]

All tanks, tunnels, conveyor chains, heat exchangers, heat exchange towers, lines, spray bars and nozzles should be thoroughly cleaned, when possible, and completely rinsed using clean, potable water prior to treatment. Add *CDG Solution 3000* to water systems, including the cooling or warming tanks or spray systems, towers, lines and all water containing parts of the system dose at start up, 5 ppm (5 mg/L) chlorine dioxide (dilution ratio of 1:600). To maintain the 5ppm (5 mg/L) chlorine dioxide concentration in the water system, a timed or electronically controlled chemical feed pump or injector system can be used for additions to the system or for treating the make-up water. Fresh *CDG Solution 3000* should be used daily.

#### CLEANING AND TREATMENT OF STAINLESS STEEL TRANSFER LINES, HYDROCOOLERS AND PASTEURIZERS TO CONTROL [ODOR], [AND] [STAIN] [CAUSING] BACTERIA, MOLD, AND MILDEW [AND ALGAE]

Clean equipment or line thoroughly using a suitable detergent followed by a clean, potable water rinse before treatment. Add *CDG Solution 3000* to potable make up water at a dose of 20 ppm (20 mg/L) chlorine dioxide (dilution ratio of 1:150) for each ten gallons of volume in lines and/or equipment. Mix and fill lines and equipment overnight. Drain and allow to air dry just prior to next run start-up.

#### TO SANITIZE CLEAN SHELL EGGS INTENDED FOR FOOD OR FOOD PRODUCTS

- 1) Preparation of sanitizing solution of 100 ppm (100 mg/L) chlorine dioxide by diluting at a ratio of 1:30.
- 2) Spray eggs thoroughly with solution making sure surface area is thoroughly wet for at least one (1) minute and allow to drain. Solution must be equal to or warmer than the eggs but not to exceed 130°F
- 3) Eggs that have been sanitized with chlorine dioxide may be broken in the manufacture of egg products without a prior potable water rinse. Eggs must be dry before casing or breaking.

#### FOR MICROBIAL CONTROL IN PROCESS WATER FOR VEGETABLE RINSES, TANKS AND LINES

All tanks, flumes and lines must be thoroughly cleaned with a suitable detergent and completely rinsed using clean, potable water prior to treatment. Chill tanks or vegetable rinse tanks may be batch loaded at start-up with a maximum dose of 5 ppm (5 mg/L) chlorine dioxide (dilution ratio of 1:600 ) for use on raw agricultural commodities. Make-up waters should be treated using a chemical feed pump or injector system and applied at the same rate per 25 gallons of potable water. Fresh *CDG Solution 3000* should be used daily.

For fruit and vegetables that will be processed (i.e. chopped, sliced, peeled, cooked, canned, pasteurized, homogenized, froze, etc.) the residual chlorine dioxide concentration is not to exceed 3.0 ppm (3 mg/L) (dilution ratio of 1:1000) and not less than .5 ppm chlorine dioxide (dilution ratio of 1:6000). This product is effective against *Klebsiella terrigena*, Poliovirus and Rotavirus.

*Note: Chemical feed pumps and injectors must be chlorine dioxide resistant for best operation. Available chlorine dioxide levels should be confirmed using an approved chlorine dioxide test kit.*

#### FOR MICROBIAL CONTROL [AND TO EXTEND THE SHELF LIFE] OF RED MEAT INCLUDING PARTS AND ORGANS, READY TO EAT MEATS OR FORMED MEATS

When used as a spray or dip solution to red meat parts including meat parts and organs, processed, comminuted, or formed meat products, add *CDG Solution 3000* to water at a maximum dose of 100 ppm (100 mg/L) chlorine dioxide (a dilution ratio of 1:30) to achieve a residual of between 0.5 and 3 ppm (0.5 mg/L and 3.0 mg/L) chlorine dioxide (a dilution ratio of 1:6000 to 1:1000) measured immediately following the spray or the dip solution immersion. Handlers applying chlorine dioxide in an occupational setting must wear gloves.

#### FOR MICROBIAL CONTROL OF WATER AND ICE THAT ARE USED TO RINSE, WASH, TRANSPORT, OR STORE SEAFOOD

Add *CDG Solution 3000* to water or ice at a maximum dose of 100 ppm (100 mg/L) chlorine dioxide (a dilution ratio of 1:30) to achieve a residual of between 0.5 ppm (0.5 mg/L) and 3 ppm (3.0 mg/L) chlorine

{Note to reviewer: [ ] - denotes optional label language.}

dioxide (a dilution ratio of 1:6000 to 1:1000). Handlers applying chlorine dioxide in an occupational setting must wear gloves.

#### FOR MICROBIAL CONTROL AND TO EXTEND FRESHNESS AND SHELF LIFE OF UNCUT AND UNPEELED FRUITS AND VEGETABLES\*

- 1) Before treatment, whole fruits and vegetables should be washed and thoroughly rinsed with clean, potable water.
- 2) Add *CDG Solution 3000* to water in an immersion tank or sink to achieve a residual of between 0.5 and 3 ppm (0.5-3 mg/L) chlorine dioxide.
- 3) Immerse the previous cleaned fruit and vegetables and allow them to soak for at least 1 minute. A potable water rinse is not required.

#### FOR USE AS A LUBE ADDITIVE TO CONTROL BACTERIAL SLIME AND ODOR ON MOVING CONVEYORS AND CHAINS IN FOOD PROCESSING FACILITIES.\*

- 1) Prior to beginning application of *CDG Solution 3000* to the diluted lube mixture, all conveyors, lube lines, spray nozzle heads, conveyor surfaces, and other associated structures should be thoroughly cleaned and sanitized.
- 2) *CDG Solution 3000* should be added to the water dilution step of the lube system just prior to its injection into the distribution system. Addition of *CDG Solution 3000* into the lube/water mixture should be at a dose of 10 – 20 ppm (10 – 20 mg/L) chlorine dioxide, a dilution ratio of 1:300 to 1:150.
- 3) For best results use with natural (fatty acid, soap based) lubricant products. For advice on lube compatibility contact your distributor.

#### FOR MICROBIAL CONTROL [AND TO EXTEND FRESHNESS] OF FRUIT AND VEGETABLE WASHES

When used as a fruit and vegetable wash or spray, add *CDG Solution 3000* to water at a maximum dose of 100 ppm (100 mg/L) chlorine dioxide (a dilution ratio of 1:30) to achieve a residual of between 0.5 and 3 ppm (0.5 and 3.0 mg/L) chlorine dioxide (a dilution ratio of 1:6000 to 1:1000). Adjust feed dosage to maintain residual measured immediately following the spray or the dip solution immersion. A potable water rinse is not required for those fruits and vegetables that are not further processed by blanching, cooking, or canning.

#### Human water systems

In preliminary laboratory tests, *CDG Solution 3000* also has been shown to inactivate pure cultures of *Legionella* bacteria. However, the ability of *CDG Solution 3000* to control the growth of, or inactivate *Legionella* bacteria in institutional drinking water systems or other operating environments in which the water may be exposed to UV light, organic material, other microbial contamination and aeration, has not been documented. These preliminary findings, however, do not address the problem of long-term preventative maintenance of efficacy of the drinking water systems, cooling water systems, process water systems and other systems for which application of this product is intended.

The use of this product is one component of a Legionella risk reduction strategy that may be included as part of an overall strategy for managing Legionella risk in building water systems, which is recommended by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Standard 188-2015, a practice standard that establishes minimum legionellosis risk management requirements for building water systems. Under actual operating conditions, chemical treatment alone may not be an effective approach for Legionella control.

#### DISINFECTION OF POTABLE WATER FOR HUMAN CONSUMPTION

This product is intended for use to treat water which has been previously treated in accordance with the Safe Drinking Water Act (SDWA), such as that provided by municipal water treatment facilities. For most municipal and other potable water systems, add *CDG Solution 3000* to the water at a dose of between 1.5 ppm (1.0 mg/L) and 2.0 ppm (2.0 mg/L) chlorine dioxide (a dilution ratio 1:000 to 1:1500). **Under US EPA regulations, drinking water intended for human consumption may not contain more than 0.8 ppm (0.8 mg/L) residual chlorine dioxide no more than 1.0 ppm (1.0 mg/L) chlorite ion.**

#### DISINFECTION OF WATER STORAGE SYSTEMS ABOARD AIRCRAFT BOATS, RV'S AND OFF-SHORE OIL RIGS

Add *CDG Solution 3000* to the water at a dose of between 1.5 ppm (1.5 mg/L) and 2.0 ppm (2.0 mg/L) chlorine dioxide (a dilution ratio 1:2000 to 1:1500). **Under US EPA regulations, drinking water intended for human consumption may not contain more than 0.8 ppm (0.8 mg/L) residual chlorine dioxide no more than 1.0 ppm (1.0 mg/L) chlorite ion.**

{Note to reviewer: [ ] - denotes optional label language.}

## DISINFECTION OF MUNICIPAL WELL WATERS

For most municipal water systems, add *CDG Solution 3000* to the water at a dose of between 1.5 ppm (1.5 mg/L) and 2.0 ppm (2.0 mg/L) chlorine dioxide (a dilution ratio 1:2000 to 1:1500). **Under US EPA regulations, drinking water intended for human consumption may not contain more than 0.8 ppm (0.8 mg/L) residual chlorine dioxide no more than 1.0 ppm (1.0 mg/L) chlorite ion.**

### Industrial Processes and Water Systems

#### TREATMENT OF COOLING WATER SYSTEMS, PROCESS WATER SYSTEMS, FLUME WATERS AND COOLING TOWERS TO CONTROL [SLIME-FORMING] [BACTERIA], [AND/OR] [ALGAE] [AND/OR] [MOLLUSKS]

Add *CDG Solution 3000* to the water at a dose of 50 ppm (50 mg/L) chlorine dioxide (a dilution ratio 1:60), and circulate or let stand overnight. Drain and rinse with clean water before re-use. To prevent slime growth after initial treatment, add *CDG Solution 3000* to the water at a dose of 2.0 to 5.0 ppm (2.0 to 5.0 mg/L) chlorine dioxide (a dilution ratio of 1:1500 to 1:600). 2-5 ppm (2-5 mg/L) chlorine dioxide dose may be fed intermittently or continuously.

#### TREATMENT OF REVERSE OSMOSIS, [NANOFILTRATION, AND ULTRAFILTRATION]\* MEMBRANES TO CONTROL [SLIME-FORMING] [BACTERIA] [AND] [BIOFOULING]

Using typical oxidizing agents on these membranes can cause irreparable damage due to the presence of free chlorine. However, testing has shown total chlorine content of *CDG Solution 3000* is less than 10 ppm (10 mg/L), thus it is possible to use diluted *CDG Solution 3000* upstream of the membrane without damaging the membrane. Depending on the quality of the water, continuous [or intermittent] dosage rates between 0.1 ppm (0.1 mg/L) and 0.5 ppm (0.5 mg/L) chlorine dioxide will be sufficient to prevent biofilm fouling of the membrane. A dosage rate above 0.5 ppm (0.5 mg/L) chlorine dioxide may adversely affect the membrane due to the oxidation strength of *CDG Solution 3000*. The variation depends on the feed water composition and the amount of organic material present in the feed water. The appropriate dosage rate must be determined by laboratory testing. **Caution:** the dosage rate of *CDG Solution 3000* should never exceed a level of 0.5 ppm (0.5 mg/L) chlorine dioxide and should always be a minimum of 0.1 ppm (1 mg/L) chlorine dioxide. While using *CDG Solution 3000* there will be no increase in the amount of salts passing through an RO membrane. This is a valid indicator that the membrane is not damaged. An automatic sensor should be used to regulate the *CDG Solution 3000* level in the system. Either a chlorine dioxide sensor or potentiostatic analyzer with the ability to measure in the level of sub-part per million should be used. To avoid damage to the membrane, the dosing system to inject *CDG Solution 3000* into the feed water should be controlled by the monitoring sensor and should automatically stop dosing if levels exceed the maximum levels. Appropriate testing by the customer is recommended. *CDG Solution 3000* can be used in the permeate for normal disinfection control and replace existing disinfectants (e.g. chlorine). Follow label directions for either potable or non-potable water.

**Care should be used when using *CDG Solution 3000* on cellulose-based membranes. Be sure to always use a very dilute solution. Never use undiluted *CDG Solution 3000* solution. This product is not for kidney dialysis equipment.**

**NOTE: To avoid neutralization of the active ingredient, do not add *CDG Solution 3000* in the presence of sodium bisulfite or any other reducing agent which may be added to the feedwater.**

#### FOR MICROBIAL CONTROL IN SWEETWATER COOLING SYSTEMS

*CDG Solution 3000* may be batch loaded or metered into sweetwater cooling systems at the rate of 3.0 ppm (3.0 mg/L) chlorine dioxide, a dilution ratio of 1:1000. Concentrations should be monitored to maintain the 3 ppm (3.0 mg/L) chlorine dioxide dose.

### Residential and Public Access

#### DEODORIZER FOR RESTROOMS/BATHROOMS, REFUSE CONTAINERS, DIAPER PAILS, STORAGE LOCKERS\*

Thoroughly clean all surfaces before treatment. Add *CDG Solution 3000* to water to make a solution of 50 ppm (50 mg/L) chlorine dioxide (dilution ratio of 1:60). Spray the diluted *CDG Solution 3000* using a suitable spraying device onto walls, ceilings, floors, and surfaces, until lightly damp. The diluted *CDG Solution 3000* may be irritating if inhaled. Allow surfaces to air dry and then ventilate the area. Treat as required.

### Swimming Pools

#### TO CONTROL SLIME FORMING BACTERIA AND ALGAE OF SWIMMING POOLS [AND HOT TUBS]

Add *CDG Solution 3000* to swimming pools and hot tub waters to make the chlorine dioxide 1 ppm (1 mg/L)

{Note to reviewer: [ ] - denotes optional label language.}

-5 ppm ( 5 mg/L0 (dilution ratio of 1:3000 – 1:600). Maintain the swimming pool water pH from 7.2 to 7.6.

## **Ventilation Systems**

### TREATMENT OF VENTILATION SYSTEMS

To treat non-porous hard surfaces for odor causing bacteria associated with ventilation and air conditioning duct work in residential and commercial settings. Prior to inspecting, cleaning, treating or working on a ventilation system or its components, the system must be turned off or disconnected from any part of the system not isolated.

Mechanically clean, vacuum, or blow free of dirt, dust, mold and debris all duct work using a commercial duct cleaning system or service prior to treatment. The air ducts to be treated must be mechanically sound and free of air leaks.

#### Method of Application

Add *CDG Solution 3000* to the water at a dose of 500 ppm (500 mg/L) chlorine dioxide (a dilution ratio 1:6). Prepare in a well-ventilated area. Spray on surfaces, keep wet for 10 minutes, and allow to air dry. The diluted *CDG Solution 3000* may be irritating if inhaled. *CDG Solution 3000* must be sprayed into openings at intervals throughout the duct systems or on components that are accessible through removable panels or access doors. Spray into openings every 8 feet at a minimum. Existing supply openings can be used where they provide a clear view of the surfaces being sprayed so that uniform application can be achieved. However, additional penetrations will have to be made as needed, so enough openings will be available to achieve total and uniform coverage. Spray application is not an acceptable technique where openings are greater than 8 feet apart, additional openings cannot be made and properly sealed, and/or the duct geometry does not allow for uniform coverage. In such cases, application from within the HVAC system is necessary.

#### Application from Within the HVAC System

When *CDG Solution 3000* cannot be sprayed into openings at intervals throughout the duct system, you must gain entry into the system and spray the product onto interior duct and other surfaces until they are thoroughly and uniformly covered using hand or powered spray equipment. This is the most frequently used technique and is the technique of choice for air handlers, other components with access panels or doors and large diameter (generally 20" x 20" minimum) ducts where direct access can be gained to surfaces being treated.

#### Frequency of Application

This product must only be used in those cases where visible microbial growth has been detected in the system and then only after removing that growth and identifying and correcting the conditions that led to that growth. Prior to reapplication in such cases, investigate to determine the cause of re-growth and correct that problem prior to reapplication. Make sure the reoccurrence of microbial growth does not have another cause such as persistently high humidity, standing water or hidden leaks.

Prior to reapplication, the interior of the ducts and other surfaces must be inspected and found to be free of accumulated soil. If soil or growth is found, the cause should be determined and corrected and then the ducts cleaned in accordance with accepted industry practice.

#### Returning the System to Operation following Application

Fans and blowers in the section of duct being treated must be turned off during application of *CDG Solution 3000*. If the system cannot be shut down, the section of duct being treated must be isolated until treatment is complete. This will prevent the spray from being blown away from the surface that is being treated.

The system can be returned to full operation as soon as treatment is completed or at any time following completion of treatment. *CDG Solution 3000* will dry on surfaces within 15 minutes following application. Extended drying time does not have an impact on effectiveness or treatment.

When the above directions are followed properly, there will not be significant concentrations of *CDG Solution 3000* released to the spaces served by a system being treated. It is recommended that affected areas of the building be unoccupied during treatment.

## **TO CONTROL [SLIME FORMING] BACTERIA, MOLD, AND MILDEW IN OF INDUSTRIAL AIR WASHERS, HUMIDIFIERS, AND EVAPORATIVE COOLERS**

*CDG Solution 3000* should be added to the air washer sump with the use of a metering pump. *CDG Solution 3000* can be added on a continuous basis or intermittently as necessary to maintain control. For the control of bacteria and fungi that cause fouling in industrial air washer systems add at a rate of 1 – 5

{Note to reviewer: [ ] - denotes optional label language.}

ppm (1 – 5 mg/L) chlorine dioxide, a dilution ratio of 1:3000 to 1:600.

NOTE: For use only in industrial air washer systems that maintain effective mist eliminating components.

### **Prevention of Corrosion and Slime Causing Bacteria in Oil and Gas Wells During Secondary Recovery Operations\***

Prepare a 500 ppm (500 mg/L) chlorine dioxide stock solution by diluting each gallon of this product used with 150 gallons of the injection water.

Proportion 1 part of the above working solution into 150 parts of reinjected) water. Add *CDG Solution 3000* at a rate of 2 ppm (2 mg/L) chlorine dioxide per 1 ppm (1 mg/L) of H<sub>2</sub>S.

Monitor microbial content of the water and increase or decrease the addition rate of the working solution as necessary.

### **ENHANCED OIL RECOVERY SYSTEMS:\***

When used as directed *CDG Solution 3000* effectively controls slime-forming and sulfate-reducing bacteria in injection and produced water systems, water disposal systems, and other oilfield water systems. Treat water at critical points in the system such as water or oil storage tanks, surge tanks, oil-water separators, before or after injection pumps, and injection well headers.

### **HYDRO-TESTING:**

Water used to hydro-test pipelines or vessels should contain 100-1000 ppm (100-1000 mg/L) chlorine dioxide, depending on water quality and length of time the equipment will remain idle.

### **PIPELINE PIGGING AND SCRAPING OPERATIONS\***

Add *CDG Solution 3000* to a slug of water immediately following the scraper (ideally this water volume can be kept to a minimum and contained between the scraper and a trailing pig). Sufficient product should be added to produce a concentration of 100-1000 ppm (100-1000 mg/L) chlorine dioxide in the water at the discharge point or pig trap depending on the length of the pipeline and the severity of biofouling.

### **DRILLING, PACKER, COMPLETION, WORK OVER AND FRACTURING FLUIDS:\***

*CDG Solution 3000* should be added to these fluids at a point where uniform mixing will occur. Add 100-1000 ppm (100-1000 mg/L) chlorine dioxide to a freshly prepared fluid depending on the severity of contamination.

### **CONDITIONS OF SALE AND WARRANTY**

CDG Environmental, LLC ("CDG"), its Supplemental Distributors and the Seller warrant that this product conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the Directions for Use.

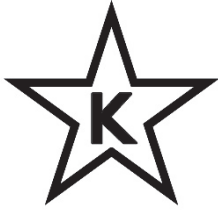
TO THE EXTENT PERMITTED BY LAW, NEITHER CDG NOR ITS SUPPLEMENTAL DISTRIBUTORS MAKE ANY OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE OR OF MERCHANTABILITY OR ANY OTHER EXPRESS OR IMPLIED WARRANTY. THIS WARRANTY DOES NOT EXTEND TO, AND THE BUYER SHALL BE SOLELY RESPONSIBLE FOR, ANY AND ALL LOSS OR DAMAGE WHICH RESULTS FROM THE USE OF THIS PRODUCT IN ANY MANNER WHICH IS INCONSISTENT WITH THE LABEL DIRECTIONS.

CDG, its Supplemental Distributors, and the Seller offer this product, and the Buyer accepts it, subject to the foregoing Conditions of Sale and Warranty. No employee or agent of CDG, its Supplemental Distributor, or the Seller is authorized to vary or exceed the terms of this Warranty in any manner.

### **OPTION MARKETING LOGOS:**

[Star-K Kosher]

{Note to reviewer: [ ] - denotes optional label language.}



[NSF Certification(s)]



**Certified to  
NSF/ANSI 60**



**Nonfood compounds Program listed (G-5, G-7) (Registration # C1073954)**