Selective Micro Technologies®

Technical Bulletin
Disinfectant/Sanitizer/Virucide*
Fungicide^/Algaecide/Slimicide/Bactericide/Deodorizer

EPA Registration No. 74986-4 EPA Establishment No. 090569-OH-001

Activate CLO2BBER 100 according to "Directions for Use" on pouch [container] label. One pouch [container], activated as directed, contains one (1) liters of chlorine dioxide solution at a concentration of 100 ppm. Shake pouch [container] gently before use, and prepare diluted solutions using the table below.

[Room Temperature was effectiveness temperature for each concentration claim]

Dilution Instructions For CLO2BBER 100

To Achieve Use Concentration of:	Use Dilution Device or Sprayer With a Dilution Ratio of:
100 ppm	1:1 (no dilution of product)
50 ppm	1:2 (one part 100 ppm solution to 1 parts water)
20 ppm	1:5 (one part 100 ppm solution to 4 parts water)
5 ppm	1:20 (one part 100 ppm solution to 19 parts water)
0.25 ppm	1:400 (one part 100 ppm solution to 399 parts water)

Check concentration of solution using *Selective Micro® Chlorine Dioxide Test Strips.*
(See box on following page for instructions if check indicates concentration lower than desired)
Record activation date and concentration on stick-on label and affix to storage container.
Storage: Store unused solution according to "Directions for Use" on pouch [container] label.
Transfer unused solution from pouch [container] to approved storage container within 24 hours of activation.
After use, dispose of pouches [container] according to disposal instructions on pouch [container] label.

DURING USE (DILUTING, APPLYING, OR WORKING WITH ACTIVATED PRODUCT):

1. **Always work in well-ventilated area and avoid inhaling fumes of activated solution.**
2. **Wear protective gloves if hands will come in contact with activated solution.**
3. **Respiratory protection is not required under the limited exposure conditions of most normal use patterns. However, wear a NIOSH/MSHA-approved respirator under the following conditions:**
   a. **when applying activated solution with a high-pressure sprayer**
   b. **when working with the activated solution for an extended period of time in a closed facility or in a poorly-ventilated area**
   c. **when normal work shift duties entail uninterrupted periods of applying the activated solution with mop, sponge, or sprayer**
   d. **if OSHA inhalation exposure limits are reached or exceeded (see MSDS).**
4. **Do not use product in a manner inconsistent with the label.**

IF *TEST STRIPS* INDICATE CONCENTRATION (PPM) LOWER THAN DESIRED:

1. Check expiration date on *Test Strips* container. If expired, then recheck using a fresh *Test Strip* from a container that has not reached its expiration date.
2. If the original container has not expired OR if the recheck indicates a lower-than-desired concentration, THEN DO ONE OF THE FOLLOWING:
   2a. If the application solution was prepared directly to the end-concentration (not diluted from a higher concentration), discard the solution and activate a fresh (unused) CLO2BBER 100. Recheck concentration after waiting the prescribed time to activation.

   OR

   2b. If the application solution was prepared by diluting a solution of higher concentration, add small amounts of the higher-concentration solution to the application solution– about 10% of the volume of the application solution at a time–until the *Selective Micro® Chlorine Dioxide Test Strip* indicates the desired concentration. Stir or mix the solution gently after each addition. Use a fresh (unused) *Test Strip* for each test.

RECOMMENDED SPECIFICATIONS FOR CONTAINERS USED WITH *SELECTIVE MICRO* PRODUCTS

FOR USE IN GENERATING OR STORING ACTIVATED SOLUTIONS

- The container should be–or be comparable to–a UN-approved, liquid-resealable containment incorporating a gasket-sealing surface and locking mechanism.
- Construction should be of dark or opaque/UV-blocking (preferred) oxidation-resistant plastic or glass. Some materials recommended include:
  - High Density Polyethylene (HDPE)
  - Polypropylene (PP)
  - Polyethylene Terephthalate (PET)(PETE)
  - Polyvinyl Chloride (PVC)
  - Polycarbonate (PC)
  - Glass (UV-blocking preferred)
  - Gasket materials; silicone, viton or EPDM

  Users without containers comparable to the above may contact Selective Micro Technologies for recommendations or to purchase containers for their applications.

ATCC (OR OTHER) DESIGNATIONS FOR PATHOGENIC ORGANISMS
LISTED ON THE LABELS OF REGISTERED SELECTROCIDE PRODUCTS

—Always Consult Label to Verify Concentrations and Contact Times—

Bacteria (disinfection claims) 100 ppm/10-minute contact time for clean –in-place applications	
Pseudomonas aeruginosa	ATCC 15442
Staphylococcus aureus	ATCC 6538
Salmonella enterica (choleraesuis)	ATCC 10708
Methicillin-resistant *Staphlococcus aureus (MRSA)*	ATCC 33592
Vancomycin-resistant *Enterococcus faecalis (VRE*)	ATCC 51299
Candida albicans	ATCC 10231
Trichophyton mentagrophytes^	ATCC 9533
Listeria monocytogenes	ATCC 19111

***Viruses (virucidal claims at 100 ppm/10-minute contact time)**	
Coronavirus	ATCC VR-740, Strain 229E
Feline Calicivirus	ATCC VR-782, Strain F-9
Hepatitis A virus	Strain HM-175
Human Immunodeficiency Virus type 1 (*HIV-1*)	Strain HTLV-III_B
Poliovirus-1	ATCC VR-1000, Strain Brunhilde
Rotavirus	Strain WA
Influenza-A virus	ATCC VR-544, Strain Hong Kong
Rhinovirus type 37	ATCC VR-1147, Strain 151-1
Canine Parvovirus	ATCC VR-2017, Strain Cornell
Adenovirus type 5	ATCC VR-5, Strain Adenoid 75
Herpes Simplex virus type 2	ATCC VR-734, Strain G
Vaccinia virus	ATCC VR-119, Strain WR
Norovirus (*feline calicivirus* surrogate)	ATCC VR-782, Strain F-9
Pandemic 2009 H1N1 Influenza A virus	Reference *Influenza-A virus* (above)

Bacteria (sanitizer claim for hard, non-porous food contact surfaces) 5 ppm/1-minute contact time	
Staphylococcus aureus	ATCC 6538
Escherichia Coli	ATCC 11229
Escherichia coli O157:H7	ATCC 43895
Salmonella typhimurium (MDRS)	Cl 01005 (University of Maryland)

Bacteria (sanitizer claim for hard, non-porous non-food contact surfaces) 20 ppm/5-minute contact trouime	
Staphylococcus aureus	ATCC 6538
Klebsiella pneumonia	ATCC 4352
Listeria monocytogenes	ATCC 1911

Bacteria (disinfection claims) 800 ppm/10-minute contact time	
Carbapenem-resistant Enterobacteriaceae: Klebsiella pneumoniae (CRKP)	ATCC BAA-1705

GENERAL USE, PUBLIC HEALTH APPLICATIONS

A. SANITIZER

FOR HARD, NON-POROUS FOOD CONTACT SURFACES

As a sanitizer for stainless steel and other hard, non-porous food contact surfaces such as tanks, transfer lines, and other food processing equipment in food processing plants such as poultry, fish & meat, and in restaurants, dairies, beverage and bottling plants, breweries, wineries and commissaries:

1. Activate CLO2BBER 100 according to "Directions for Use" on pouch [container] label.
2. Remove all gross food particles and soil prior to sanitizing using a pre-flush, pre-scrape or pre-soak treatment.
3. Clean tank, line or surface thoroughly using a suitable detergent and rinse with clean, potable water before sanitizing.
4. Prepare a 5 ppm solution in accordance with instructions above OR use the undiluted contents of the activated CLO2BBER 100 pouch [container] with a 1:20 dilution device (one part activated solution to 19 parts water).
5. To apply: spray, mop, sponge or swab surfaces **OR** fill, flush, immerse or circulate in tanks, lines, and equipment, ensuring the target surfaces remain visibly wet for at least one minute. When applying these solutions using a high-pressure sprayer, wear a NIOSH/MSHA-approved respirator appropriate for chlorine dioxide.
6. After sanitizing, allow surfaces or equipment to air dry. Do not reuse solution. Do not rinse sanitized surface.
7. Dispose of pouch [container] according to instructions on pouch [container] label.

FOR HARD, NON-POROUS, NON-FOOD CONTACT SURFACES

As a sanitizer for non-porous, non-food contact surfaces and equipment such as sealed concrete and sealed, finished wood, backsplashes, counter tops, stainless steel or hard-surface equipment, glazed tile floors, walls, and ceilings:

1. Activate CLO2BBER 100 according to “Directions for Use” on pouch [container] label.
2. Clean all surfaces thoroughly with a suitable detergent and rinse with water prior to sanitizing.
3. Prepare a 20 ppm solution in accordance with instructions above **OR** use the undiluted contents of the activated CLO2BBER 100 pouch with a 1:5 dilution device (one part activated solution to 4 parts water).
4. To apply: spray, mop or sponge the 20 ppm solution onto the surfaces to be sanitized, ensuring the target surfaces remain visibly wet for at least five minutes. When applying these solutions using a high-pressure sprayer, wear a NIOSH/MSHA-approved respirator appropriate for chlorine dioxide.
5. After sanitizing, allow surfaces or equipment to air dry. Do not reuse solution. Do not rinse sanitized surfaces.

Dispose of pouch [container] according to instructions on pouch [container] label.

B. DISINFECTANT

To disinfect stainless steel and other hard, non-porous surfaces such as tanks, transfer lines and other food processing equipment in food processing plants such as poultry, fish & meat, and in restaurants, dairies, beverage and bottling plants, breweries, wineries and commissaries and to disinfect walls, floors and ceilings

1. Activate CLO2BBER 100 according to "Directions for Use" on pouch [container] label.
2. Remove all gross food particles and soil prior to disinfecting using a pre-flush, pre-scrape or pre-soak treatment.
3. Clean tank, line or surface thoroughly using a suitable detergent and rinse with clean, potable water before disinfecting.
4. Prepare a 100 ppm solution in accordance with the instructions above OR use the undiluted contents of the activated CLO2BBER 100.
5. To apply: spray, mop, sponge or swab surfaces **OR** fill, flush, immerse or circulate in tanks, lines, and equipment, ensuring the target surfaces remain visibly wet for at least ten (10) minutes. When applying these solutions using a high-pressure sprayer, wear a NIOSH/MSHA-approved respirator appropriate for chlorine dioxide.
6. After disinfecting allow surfaces or equipment to air dry. Do not reuse solution. Do not rinse disinfected surfaces.
7. Dispose of pouch [container] according to instructions on pouch [container] label.

DISINFECTANT USES IN MEDICAL AND DENTAL OFFICES, LABORATORIES, HOSPITALS, CLINICS, MORGUES AND INSTITUTIONS

This product is not to be used as a terminal sterilant/high-level disinfectant on any surface or instrument that
(1) is introduced directly into the human body, either into or in contact with the blood stream or normally sterile areas of the body or
(2) contacts intact mucous membranes but which does not ordinarily penetrate the blood barrier or otherwise enter normally sterile areas of the body. This product may be used to pre-clean or decontaminate critical or semi-critical medical devices prior to sterilization or high-level disinfection.

A. To disinfect non-porous, hard surfaces such as stainless steel or hard-surface equipment, glazed tile floors, walls, ceilings, stainless steel cold rooms and walk-in incubators:

1. Activate CLO2BBER 100 according to "Directions for Use" on pouch label to prepare a 100 ppm solution in accordance with instructions.]
2. Clean all surfaces thoroughly with a suitable detergent and rinse with water prior to disinfection.
3. Prepare a 100 ppm solution in accordance with the instructions above OR use the undiluted contents of the activated CLO2BBER 100.
4. Spray, mop or sponge the 100 ppm solution onto surfaces to be disinfected. All surfaces must remain visibly wet for at least ten (10) minutes. When applying these solutions using a high-pressure sprayer, wear a NIOSH/MSHA-approved respirator appropriate for chlorine dioxide.

5. After disinfecting, allow surfaces or equipment to air dry. Do not reuse solution. Do not rinse disinfected surfaces.
6. Dispose of pouch [container] according to instructions on pouch [container] label.

B. To disinfect equipment tops, bench tops, biological hoods, incubators, stainless steel equipment and instruments:

1. Activate CLO2BBER 100 according to "Directions for Use" on pouch [container] label to prepare a 100 ppm solution in accordance with instructions.
2. Prepare a 100 ppm solution in accordance with the instructions above OR use the undiluted contents of the activated CLO2BBER 100.
3. Spray, mop or sponge the 100 ppm solution onto surfaces to be disinfected. All surfaces must remain visibly wet for at least ten (10) minutes. When applying these solutions using a high-pressure sprayer, wear a NIOSH/MSHA-approved respirator appropriate for chlorine dioxide.
4. After disinfecting, allow surfaces or equipment to air dry. Do not reuse solution. Do not rinse disinfected surfaces.
5. Dispose of pouch [container] according to instructions on pouch [container] label.

C. To disinfect commercial animal confinement facilities such as poultry houses, swine pens, calf barns and kennels:

1. Activate CLO2BBER 100 according to "Directions for Use" on pouch [container] label to prepare a 100 ppm solution in accordance with instructions.
2. Remove all litter and manure from floors, walls and surfaces of barns, pens, stalls, chutes and other structures occupied or traversed by animals.
3. Empty all troughs, racks and other feeding and watering appliances.
4. Prepare a 100 ppm solution in accordance with the instructions above OR use the undiluted contents of the activated CLO2BBER 100.

FOR GENERAL APPLICATION WITH SPRAYER:

5. With soap or detergent, thoroughly clean all surfaces and rinse with water.
6. Using a commercial sprayer, saturate all surfaces with the solution maintaining visible wetness for a period of at least ten (10) minutes. When applying these solutions using a high-pressure sprayer, wear a NIOSH/MSHA-approved respirator appropriate for chlorine dioxide.
7. After treatment, ventilate buildings, coops or other enclosed spaces before reentering. Do not house poultry or employ equipment until treatment has been absorbed, set, or dried.

AS A DISINFECTING SOAK:

5. With soap or detergent, thoroughly clean halters, ropes or other types of equipment used in handling and restraining animals and forks, shovels and scrapers used in removing litter and manure. Rinse with water.
6. Fill container or vat with 100 ppm solution and immerse items for a period of at least ten (10) minutes.
7. Discard solution in sanitary drain or as ordinary non-hazardous waste. Do not reuse solution.
8. Thoroughly scrub treated feed racks, troughs, automatic feeders, fountains and waterers with soap or detergent and rinse with potable water before reuse.
9. Dispose of pouch [container] according to instructions on pouch [container] label.

D. For application in poultry operations:

DISINFECTION TREATMENT OF EGG ROOM (FOR USE IN CALIFORNIA):

1. Activate CLO2BBER 100 according to "Directions for Use" on pouch [container] label.
2. Prepare a 20 ppm solution in accordance with instructions above OR use the undiluted contents of the activated CLO2BBER 100 with a 1:5 dilution device (one part activated solution to 4 parts water).
3. Spray solution in a high-pressure sprayer as a prewash to remove gross filth or heavy soil. When applying the solution using a high-pressure sprayer, wear a NIOSH/MSHA-approved respirator appropriate for use with chlorine dioxide.
4. Prepare a 100 ppm solution in accordance with the instructions above OR use the undiluted contents of the activated CLO2BBER 100.
5. Spray hard non-porous surfaces within the entire area, being sure to cover walls, ceiling, floors, work tables and benches. All hard, non-porous surfaces should be wet for five (5) minutes. Allow surfaces to dry for at least 1 hour (or overnight, if possible) before resuming operations. Vacate the premises during this treatment. For spraying applications, wear a NIOSH/MSHA-approved respirator appropriate for use with chlorine dioxide. Washing and spraying operations should be conducted once a week, or more frequently in cases of heavy contamination during operations.
6. Allow treated surfaces to air dry and then ventilate the area. Do not rinse treated surfaces. Do not reuse solution.
7. Prepare and place a shoe bath at the entrance to the egg room for use upon entry. Also, prepare and place a hand/glove dip or rinse at the entrance to the egg room for use upon entering and exiting the room. For instruction in the preparation of shoe baths and hand/glove rinses, please refer to the "Use In Glove Dips And Shoe Baths" section of this document. Replace both the shoe bath and the hand/glove dip daily or when solution is soiled. Keep doors to the room closed at all times to prevent bacterial contamination.
8. Dispose of package(s) and spent envelope(s) according to instructions on package label.

DISINFECTION TREATMENT OF HATCHING ROOM (FOR USE IN CALIFORNIA):

Pre-Treatment

1. Separate chicks from Hatch and remove all poultry and feeds from premises.
2. Remove all trash containers with eggshells, down, etc. from the hatching area.
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. Rinse surfaces with water.

Treatment Process

6. Activate CLO2BBER 100 according to "Directions for Use" on pouch [container] label to prepare a 100 ppm solution in accordance with instructions.
7. Prepare a 100 ppm solution in accordance with the instructions above OR use the undiluted contents of the activated CLO2BBER 100. Spray hard non-porous surfaces within the entire area, being sure to cover walls, ceiling, floors, equipment and benches. All hard, non-porous surfaces should be wet for ten (10) minutes. Vacate the premises during this treatment. For spraying applications, wear a NIOSH/MSHA-approved respirator appropriate for use with chlorine dioxide.
8. Dispose of package(s) and spent envelope(s) according to instructions on package label. Do not reuse.

Post-Treatment

9. After treatment, ventilate buildings, coops, or other enclosed spaces. Do not house poultry or employ equipment until treatment has been absorbed, set or dried.
10. Thoroughly scrub treated feed racks, troughs, automatic feeders, fountains and waterers with soap or detergent and rinse with potable water before use.
11. Prepare hand/glove rinses for worker use. For instruction in the preparation of hand/glove rinses, please refer to the corresponding section of this document. Replace all hand/glove dips daily or when solution is soiled. Keep doors to the room closed at all times to prevent bacterial contamination.

DISINFECTION TREATMENT OF INCUBATOR ROOM:

1. Activate CLO2BBER 100 according to "Directions for Use" on pouch [container] label to prepare a 100 ppm solution in accordance with instructions.
2. Before treatment, spray incubator room a high-pressure water wash. Remove gross filth or soil from all surfaces.
3. Prepare a 100 ppm solution in accordance with the instructions above OR use the undiluted contents of the activated CLO2BBER 100.
4. Spray hard non-porous surfaces within the entire area, being sure to cover walls, ceiling, floors, equipment and benches. All hard, non-porous surfaces should be wet for ten (10) minutes. Vacate the premises during this treatment. For spraying applications, wear a NIOSH/MSHA-approved respirator appropriate for use with chlorine dioxide. Treat incubator room in this manner once a week.
5. Allow treated surfaces to air dry and then ventilate the area.
6. Prepare and place a shoe bath at the entrance to the egg room for use upon entry. Prepare a hand/glove bath. For instruction in the preparation of shoe baths and hand/glove rinses, please refer to the "Use In Glove Dips And Shoe Baths" section of this document. Replace the shoe bath and the hand/glove dip daily or when a solution is soiled. Keep doors to the room closed at all times to prevent bacterial contamination.
7. Each time eggs are removed from the incubator, submerge eggs in glove dip, then spray with spray bottle. Replace the hand/glove dip daily or when solution is soiled.
8. Dispose of package(s) and spent envelope(s) according to instructions on package label. Do not rinse treated surfaces. Do not reuse solution

TREATMENT OF TRAY WASHING ROOM:

Sanitizing Treatment of Tray Washing Equipment

1. Activate CLO2BBER 100 according to "Directions for Use" on pouch [container] label.
2. Spray the trays, carriages and other working equipment in a tray washing machine with water at a pressure of 300-500 psi to remove gross filth and soil.
3. Prepare a 20 ppm solution in accordance with instructions above OR use the undiluted contents of the activated CLO2BBER 100 pouch [container] with a 1:5 dilution device (one part activated solution to 4 parts water).
4. Spray trays, carriages, and other working equipment in a tray washing machine with solution. All hard, non-porous surfaces should be wet for five (5) minutes.
5. Store treated equipment in a closed area for reuse.

Disinfecting Treatment of Tray Washing Room

6. Activate CLO2BBER 100 according to "Directions for Use" on pouch [container] label.
7. 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
8. Spray tray washing room a high-pressure water wash. Remove gross filth or soil from all surfaces.
9. Prepare a 100 ppm solution in accordance with the instructions above OR use the undiluted contents of the activated CLO2BBER 100.
10. Spray hard non-porous surfaces in the tray washing room, being sure to cover walls, ceiling, floors, equipment and benches. All hard, non-porous surfaces should be wet for fifteen (15) minutes. Vacate the premises during this treatment. For spraying applications, wear a NIOSH/MSHA-approved respirator appropriate for use with chlorine dioxide. Treat tray washing room in this manner after every use.
11. After treatment, ventilate buildings, coops or other enclosed spaces. Do not re-house equipment until treatment has been absorbed, set or dried. Do not rinse treated surfaces. Do not reuse solution. Keep doors to the room closed at all times to prevent bacterial contamination.
12. Dispose of package(s) and spent envelope(s) according to instructions on package label.

Cleaning the Loading Platform

13. Spray loading platform with a high-pressure water wash to remove gross filth or soil from all surfaces.
14. Scrub loading platform with soap or detergent.
15. Rinse loading platform with water.

DISINFECTION TREATMENT OF CHICK ROOM, CHICK GRADING BOX, AND SEXING ROOM: (NOT FOR USE IN CALIFORNIA)

Pre-Treatment

1. Activate CLO2BBER 100 according to "Directions for Use" on pouch [container] label.
2. Prepare a 100 ppm solution in accordance with the instructions above OR use the undiluted contents of the activated CLO2BBER 100.
3. Remove all poultry and feeds from premises, trucks, coops, and crates.
4. Empty all troughs, racks and other feeding and watering appliances.
5. Remove all litter and droppings from floors, walls and surfaces of facilities occupied or traversed by poultry.
6. Thoroughly clean all surfaces with soap or detergent and rinse with water.

Treatment Process

7. Spray the solution onto walls, ceilings, floors, and other hard, non-porous surfaces until surfaces are lightly damp. For spraying applications, wear a NIOSH/MSHA-approved respirator appropriate for use with chlorine dioxide. Using a commercial sprayer, saturate all hard, non-porous surfaces. Vacate the premises during this treatment. For all spraying applications, wear a NIOSH/MSHA-approved respirator appropriate for use with chlorine dioxide.
8. Allow treated surfaces to air dry and then ventilate the area. Do not reuse solution. Do not rinse treated surfaces. Keep doors to the room closed at all times to prevent bacterial contamination.
9. Dispose of package(s) and spent envelope(s) according to instructions on package label.

E. To disinfect drinking fountains, chalkboards, chairs, desks, tabletops, kitchens, dishes, silverware, high chairs, toys, other hard, non-porous surfaces in daycares and schools:

1. Activate CLO2BBER 100 according to "Directions for Use" on pouch [container] label to prepare a 100 ppm solution in accordance with instructions.
2. Clean all surfaces thoroughly with a suitable detergent and rinse with water prior to disinfection.
3. Prepare a 100 ppm solution in accordance with the instructions above OR use the undiluted contents of the activated CLO2BBER 100.
4. Spray, mop or sponge the 100 ppm solution onto surfaces to be disinfected. All surfaces must be visibly wet for at least ten (10) minutes. When spraying disinfectant solution, use an appropriate spraying device. When applying these solutions using a high-pressure sprayer, wear a NIOSH/MSHA-approved respirator appropriate for chlorine dioxide.
5. After disinfecting, allow surfaces or equipment to air dry. Do not reuse solution. Do not rinse disinfected surfaces.
6. Dispose of package and spent envelope according to instructions on package label.

F. To disinfect display screens, scales and measures, keyboards, CPR dummies, backboards, AEDs, and other hard, non-porous surfaces found in acute care centers, emergency rooms, and ambulances:

1. Activate CLO2BBER 100 according to "Directions for Use" on pouch label to prepare a 100 ppm solution in accordance with instructions.]
2. Clean all surfaces thoroughly with a suitable detergent and rinse with water prior to disinfection.
3. Prepare a 100 ppm solution in accordance with the instructions above OR use the undiluted contents of the activated CLO2BBER 100.
4. Spray, mop or sponge the 100 ppm solution onto surfaces to be disinfected. All surfaces must be visibly wet for at least ten (10) minutes. When spraying disinfectant solution, use an appropriate spraying device. When applying these solutions using a high-pressure sprayer, wear a NIOSH/MSHA-approved respirator appropriate for chlorine dioxide.
5. After disinfecting, allow surfaces or equipment to air dry. Do not reuse solution. Do not rinse disinfected surfaces.
6. Dispose of package and spent envelope according to instructions on package label.

G. To disinfect bleachers, lockers, padded mats, weights and weight benches, balls, exercise equipment, and other hard, non-porous surfaces found in training rooms, weight rooms, gymnasiums, and other athletic facilities:

1. Activate CLO2BBER 100 according to "Directions for Use" on pouch [container] label to prepare a 100 ppm solution in accordance with instructions.
2. Clean all surfaces thoroughly with a suitable detergent and rinse with water prior to disinfection.

3. Prepare a 100 ppm solution in accordance with the instructions above OR use the undiluted contents of the activated CLO2BBER 100.
4. Spray, mop or sponge the 100 ppm solution onto surfaces to be disinfected. All surfaces must be visibly wet for at least ten (10) minutes. When spraying disinfectant solution, use an appropriate spraying device. When applying these solutions using a high-pressure sprayer, wear a NIOSH/MSHA-approved respirator appropriate for chlorine dioxide.
5. After disinfecting, allow surfaces or equipment to air dry. Do not reuse solution. Do not rinse disinfected surfaces.
6. Dispose of package and spent envelope according to instructions on package label.

For the sanitization of bottles used to feed calves and other livestock:

1. Activate CLO2BBER 100 according to "Directions for Use" on the pouch [container] label.
2. Remove any gross food particles and debris from bottle surface prior to sanitizing using a pre-flush, pre-scrape or pre-soak treatment.
3. Clean bottle thoroughly using a suitable detergent and rinse with clean, potable water before sanitizing.
4. Prepare a 5 ppm solution in accordance with instructions above OR use the undiluted contents of the activated CLO2BBER 100 pouch [container] with a 1:20 dilution device (one part activated solution to 19 parts water).]
5. To apply: spray solution onto surface/inside of bottle. Ensure that the target surfaces remain visibly wet for at least one (1) minute. If applying sanitizer using an existing water supply system, inject the 5 ppm chlorine dioxide solution into the system using a Dosatron® dilution/dispenser, or another dilution/dispensing system. This will sanitize the water system, as well as calf bottles.
6. After sanitizing, allow surfaces or equipment to air dry. Do not reuse solution. Do not rinse sanitized surface.
7. Dispose of package and spent envelope according to instructions on package label.

As a sanitizer for stainless steel and other hard, non-porous food contact surfaces such as tanks, transfer lines, and other food processing equipment in food processing plants and in restaurants, dairies, beverage and bottling plants, and commissaries:

1. Activate CLO2BBER 100 according to "Directions for Use" on pouch [container] label.
2. Remove all gross food particles and soil prior to sanitizing using a pre-flush, pre-scrape or pre-soak treatment.
3. Clean tank, line or surface thoroughly using a suitable detergent and rinse with clean, potable water before sanitizing.
4. Prepare a 5 ppm solution in accordance with instructions above OR use the undiluted contents of the activated CLO2BBER 100 pouch [container] with a 1:20 dilution device (one part activated solution to 19 parts water).
5. To apply: spray, mop, sponge, or swab surfaces **OR** fill, flush, immerse, or circulate in tanks, lines, and equipment, ensuring the target surfaces remain visibly wet for at least one minute. When applying these solutions using a high-pressure sprayer, wear a NIOSH/MSHA-approved respirator appropriate for chlorine dioxide.
6. After sanitizing, allow surfaces or equipment to air dry. Do not reuse solution. Do not rinse sanitized surface.
7. Dispose of pouch [container] according to instructions on pouch [container] label.

Selective Micro Technologies

TO CLEAN, SANITIZE OR DISINFECT SHELL EGGS INTENDED FOR FOOD OR FOOD PRODUCTS:

This product will help clean or sanitize or disinfect eggshells

1. Activate CLO2BBER 100 according to "Directions for Use" on pouch label to prepare solution in accordance with the desired concentration between 3 ppm and 100 ppm.

FOR DISINFECTION TREATMENT AT A CONCENTRATION OF 100 PPM (NOT FOR USE IN CALIFORNIA):

2. Prepare a 100 ppm solution in accordance with the instructions above OR use the undiluted contents of the activated CLO2BBER 100. Minimum contact time is 10 minutes.

FOR SANITIZATION TREATMENT AT A CONCENTRATION OF 5.0 PPM (NOT FOR USE IN CALIFORNIA):

2. Prepare a 5 ppm solution in accordance with instructions above OR use the undiluted contents of the activated CLO2BBER 100 pouch with a 1:20 dilution device (one part activated solution to 19 parts water). Minimum contact time is 5 minutes.

[FOR CLEANING TREATMENT AT A CONCENTRATION OF 3.0 PPM:] [THIS IS A CLEANING APPLICATION, NON-PUBLIC HEALTH USE.]

2. Dilute activated CLO2BBER 100 until solution reaches a concentration of 3.0 ppm. Minimum contact time is 5 minutes.

FOR TREATMENT AT ALL CONCENTRATIONS:

3. Spray eggs thoroughly with activated solution, making sure that surface area is thoroughly wet. Solution should be equal to or warmer than the eggs, but not to exceed 130° F.
4. Dispose of package(s) and spent envelope(s) according to instructions on package label. Do not rinse treated surfaces. Do not reuse solution.

Eggs that have been sanitized with this chlorine dioxide compound may be broken in the manufacture of egg products without a prior potable water rinse. Eggs must be reasonably dry before casing or breaking.

USES IN INDUSTRIAL FLUID LINES AND SYSTEMS

This product can be used in the sanitization treatment of milking equipment and pasteurizers, stainless steel transfer lines, hydro coolers, and ice-making machinery.

For each below application, sanitization of all hard non-porous surfaces requires at least 5 ppm and 1 minute contact time.

A. Sanitization of milking equipment:

Prior to sanitization, ensure that milking equipment is adequately cleaned according to manufacturer specifications. Milking equipment should be treated within thirty (30) minutes before each milking cycle.

1. Activate CLO2BBER 100 pouch according to "Directions for Use" on pouch label.
2. Disassemble from milking equipment all parts that require sanitization by-hand.
3. Prepare a 5 ppm solution in accordance with instructions above OR use the undiluted contents of the activated CLO2BBER 100 pouch with a 1:20 dilution device (one part activated solution to 19 parts water).
4. Dip parts in solution. Do not rinse. Minimum contact time is 5 minutes.
5. Reattach sanitized parts to milking equipment.
6. Using a dosing pump, cycle 5 ppm solution of activated CLO2BBER 100 through pipeline for 5 minutes immediately before milking cycle. Ensure that the temperature of the activated CLO2BBER 100 is between 100°F and 110°F.
7. Fully drain solution from pipeline.
8. Dispose of package(s) and spent envelope(s) according to instructions on package label. Do not reuse solution.

B. Sanitization of stainless steel transfer lines, hydro coolers, and pasteurizers:

1. Activate CLO2BBER 100 pouch [container] according to "Directions for Use on pouch label.
2. Prepare a solution of a suitable detergent. Run solution through lines for preliminary cleaning.
3. Run a rinse of potable water through the line.
4. Prepare a 20 ppm solution in accordance with instructions above OR use the undiluted contents of the activated CLO2BBER 100 pouch with a 1:5 dilution device (one part activated solution to 4 parts water).
5. Fill lines with solution. Minimum contact time is 5 minutes.
6. Dip parts in solution. Do not rinse.
7. Fill lines with solution and let sit overnight.
8. Fully drain solution from lines and allow to air dry before next use.
9. Dispose of package(s) and spent envelope(s) according to instructions on package label. Do not reuse solution. Do not rinse treated surfaces.

C. Sanitization of ice-making machinery:

1. Activate CLO2BBER 100 pouch [container] according to "Directions for Use" on pouch [container] label.
2. Disassemble ice-making machinery.
3. Clean parts using a suitable detergent. Rinse parts with potable water and let air dry. Minimum contact time is 5 minutes. Reassemble machinery.
4. Using a dosing pump, add activated CLO2BBER 100 to incoming waterline of ice-making machinery directly in accordance with instructions OR prepare a 100 ppm activated CLO2BBER 100 solution to add to the incoming waterline of ice-making machinery ensuring that any residual chlorine dioxide is at or below 0.8 ppm in accordance with EPA SDWA.
5. Dispose of package(s) and spent envelope(s) according to instructions on package label. Do not reuse solution. Do not rinse treated surfaces.

LABORATORY EQUIPMENT SURFACES OF WATER BATHS

This product can be used in the disinfecting treatment of surfaces of water baths meant for use in laboratories.

1. Activate CLO2BBER 100 according to "Directions for Use" on the pouch [container] label.
2. Disconnect water bath from power source and drain bathwater.
3. Scrub hard, nonporous surfaces of bath with soap or other detergent until visible filth is removed. Rinse hard, nonporous surfaces of bath with potable water. Drain bath once more and allow hard, nonporous surfaces to dry. Drain. Allow to air dry just prior to next run start-up.
4. Prepare a 100 ppm solution in accordance with the instructions above OR use the undiluted contents of the activated CLO2BBER 100.
5. Spray or sponge activated solution on hard, nonporous surfaces of bath. For spraying applications, wear a NIOSH/MSHA-approved respirator appropriate for use with chlorine dioxide. All surfaces must be visibly wet for at least ten (10) minutes.
6. Allow surfaces to air dry. Do not reuse solution. Do not rinse disinfected surfaces.
7. Dispose of package(s) and spent envelope(s) according to instructions on package label.

SANITIZING FINAL RINSE OF PRE-CLEANED OR NEW RETURNABLE OR NON-RETURNABLE CONTAINERS

This product may be used as a final sanitizing rinse for plastic, glass or metal returnable and non-returnable bottles, cans, caps, kegs, and beverage containers.

For a 30 ppm rinse:

1. Activate CLO2BBER 100 according to "Directions for Use" on the pouch [container] label.
2. Wash bottles, cans or containers with detergent or cleaning solution and rinse with potable water.
3. Starting with the 100 ppm solution, use a 30:100 dilution device (thirty parts 100 ppm solution to 70 parts water) to achieve an application concentration of 30 ppm. The table below presents the number of CLO2BBER 100 pouches [containers] necessary to product the associated volume of 30 ppm application solution.]

VOLUME OF 30 PPM SOLUTION USING CLO2BBER 100 POUCHES [CONTAINERS]

Number of CLO2BBER 100 Pouches [Containers]	Volume of Water Specified To Generate 100 ppm Stock Solution	Volume of 30 ppm Solution Created Using a Single CLO2BBER 100 Pouch [Container]	
	Liters	Liters[1]	Gallons[1]
1	1	3	0.75

2	2	6.5	1.75
3	3	10	2.5
4	4	13	3.5
5	5	16.5	4

[1]Rounded to nearest liter or tenths of gallon

4. To apply: rinse interior and exterior surfaces with the 30 ppm solutions by spraying, sponging, swabbing, or swirling, or immersing in a manner that ensures the target surfaces become visibly wet for a contact time of 1 minute (including drying time). (If applying these solutions using a high-pressure sprayer, wear a NIOSH/MSHA-approved respirator appropriate for chlorine dioxide).
5. Allow to drain dry.

6.

For a 5 ppm rinse:

1. Activate CLO2BBER 100 according to "Directions for Use" on the pouch [container] label.
2. Wash bottles, cans or containers with detergent or cleaning solution and rinse with potable water.
3. Prepare a 5 ppm solution in accordance with instructions above OR use the undiluted contents of the activated CLO2BBER 100 pouch with a 1:20 dilution device (one part activated solution to 19 parts water).

VOLUME OF 5 PPM SOLUTION USING CLO2BBER 100 POUCHES [CONTAINERS]

Number of CLO2BBER 100 Pouches [Containers]	**Volume of Water Specified To Generate 100 ppm Stock Solution**	**Volume of 5 ppm Solution Created Using a Single CLO2BBER 100 Pouch [Container]**	
	Liters	Liters[1]	Gallons[1]
1	1	20	5
2	2	40	10
3	3	60	16
4	4	80	21
5	5	100	26

[1]Rounded to nearest liter or tenths of gallon

4. To apply: rinse interior and exterior surfaces with the 5 ppm solutions by spraying, sponging, swabbing, or swirling, or immersing in a manner that ensures the target surfaces become visibly wet for a contact time of 1 minute (including drying time). (If applying these solutions using a high-pressure sprayer, wear a NIOSH/MSHA-approved respirator appropriate for chlorine dioxide).
5. Allow to drain dry.

NOTE: Use products from the *Selectrocide® G-Series* for larger-volume applications.

DISINFECTING, SANITIZING/ANTIMICROBIAL AND GENERAL CLEANING APPLICATIONS FOR WINERIES

This product will disinfect, sanitize, and clean winemaking equipment and environmental surfaces in wineries. It is effective against microbes and spoilage organisms on all non-porous surfaces including: picking bins, crushers, transfer lines/hoses/pipes, tanks, drains, pumps, presses, de-stemmers, sealed concrete floors and walls, steel cutting boards/surfaces, sumps, valves and tri-clover fittings, pruning shears, and steel wine barrels.

NOTE: 1. For additional information on label applications or to discuss other winery-specific application issues, contact Selective Micro Technologies' service personnel.
2. This product does not produce Trichloroanisol (TCA) or precursor Trichlorophenol (TCP) by chemical reaction in red wine or in cooperage oak, and therefore does not contribute to the off odors associated with the former.

A. Disinfecting and sanitizing applications for winery equipment and environmental surfaces (including all non-porous materials and surfaces, such as transfer hoses and pipes, and other items listed above):

1. Activate CLO2BBER 100 according to "Directions for Use" on pouch [container] label.
2. Disinfecting Applications. For disinfecting applications, prepare a 100 ppm solution in accordance with the instructions above OR use the undiluted contents of the activated CLO2BBER 100.
3. Sanitizing Applications on hard, food-contact surfaces. For sanitizing applications on hard, food-contact surfaces, prepare a 5 ppm solution in accordance with instructions above OR use the undiluted contents of the activated CLO2BBER 100 pouch [container] with a 1:20 dilution device (one part activated solution to 19 parts water).
4. Sanitizing Applications on hard, non-food-contact surfaces. For sanitizing applications on hard, non-food-contact surfaces, prepare a 20 ppm solution in accordance with instructions above OR use the undiluted contents of the activated CLO2BBER 100 pouch [container] with a 1:5 dilution device (one part activated solution to 4 parts water).
5. Apply to target surfaces with mop, sponge, or spray **OR** fill, flush, immerse or circulate in tanks, lines and equipment, ensuring surfaces remain visibly wet for the following contact times:
   — Disinfection (100 ppm): 10 minutes
   — Sanitizing hard food-contact surfaces (5 ppm): 1 minute

— Sanitizing hard non-food contact surfaces (20 ppm): 5 minutes

6. Dispose of pouch [container] according to instructions on pouch [container] label.

B. For sanitizing and cleaning tanks and associated connections, pipes, and hoses:

Use products from the *Selectrocide® G-Series* for these large-volume applications.

DISINFECTING, SANITIZING/ANTIMICROBIAL AND GENERAL CLEANING APPLICATIONS IN BREWERIES

This product will disinfect, sanitize, and clean brewing equipment and environmental surfaces in breweries. It is effective against microbes and spoilage organisms on all non-porous surfaces including tanks, bins, transfer lines/hoses/pipes, drains, fittings, pumps, sealed concrete floors and walls, steel surfaces, sumps, and valves.

NOTE: For additional information on label applications or to discuss other brewery-specific application issues, contact Selective Micro Technologies' service personnel.

A. Disinfecting and sanitizing applications for brewery equipment and environmental surfaces (including all non-porous materials and surfaces, such as transfer hoses and pipes, and other items listed above):

1. Activate CLO2BBER100 according to "Directions for Use" on pouch [container] label.
2. Disinfecting Applications. For disinfecting applications, prepare a 100 ppm solution in accordance with the instructions above OR use the undiluted contents of the activated CLO2BBER 100.
3. Sanitizing Applications on hard, food-contact surfaces. For sanitizing applications on hard, food-contact surfaces, prepare a 5 ppm solution in accordance with instructions above OR use the undiluted contents of the activated CLO2BBER 100 pouch [container] with a 1:20 dilution device (one part activated solution to 19 parts water).]
4. Sanitizing Applications on hard, non-food-contact surfaces. For sanitizing applications on hard, non-food-contact surfaces, prepare a 20 ppm solution in accordance with instructions above OR use the undiluted contents of the activated CLO2BBER 100 pouch [container] with a 1:5 dilution device (one part activated solution to 4 parts water).
5. Apply to target surfaces with mop, sponge, or spray **OR** fill, flush, immerse or circulate in tanks, lines and equipment, ensuring surfaces remain visibly wet for the following contact times:
   — Disinfection (100 ppm): 10 minutes
   — Sanitizing hard food-contact surfaces (5 ppm): 1 minute
   — Sanitizing hard non-food contact surfaces (20 ppm): 5 minutes
6. Dispose of pouch [container] according to instructions on pouch [container] label.

B. For sanitizing and cleaning tanks and associated connections, pipes, and hoses:

Use products from the *Selectrocide® G-Series* for these large-volume applications.

DISINFECTION OF BATHROOMS, SHOWER ROOMS, LOCKER ROOMS, SPAS, AND LAUNDRY ROOMS

To disinfect sinks, toilet bowls, toilet seats, toilet handles, empty baths, showers, changing tables, washers, hair dryers, clothes dryers, hand dryers, sinks, faucets, and other hard, non-porous surfaces found in bathrooms, shower rooms, locker rooms, spas, and laundry rooms:

A. Disinfection treatment of toilet seats, toilet handles, empty baths, showers, changing tables, washers, hair dryers, clothes dryers, hand dryers sinks, faucets, and other hard, non-porous surfaces.

1. Activate CLO2BBER 100 according to "Directions for Use" on the pouch [container] label.
2. Clean all surfaces thoroughly with a suitable detergent and rinse with water prior to disinfection. Ensure that all surfaces have adequate time to air dry before applying CLO2BBER 100 solution.
3. Prepare a 100 ppm solution in accordance with the instructions above OR use the undiluted contents of the activated CLO2BBER 100.
4. Spray, mop or sponge the 100 ppm solution onto surfaces to be disinfected. All surfaces must be visibly wet for at least ten (10) minutes. When spraying disinfectant solution, use an appropriate spraying device. When applying these solutions using a high-pressure sprayer, wear a NIOSH/MSHA-approved respirator appropriate for chlorine dioxide.
5. After disinfecting, allow surfaces or equipment to air dry. Do not reuse solution. Do not rinse disinfected surfaces.
6. Dispose of package and spent envelope according to instructions on package label.

B. Disinfection treatment of toilet bowls.

1. Activate CLO2BBER 100 according to "Directions for Use" on the pouch [container] label.
2. Prepare a 100 ppm solution in accordance with the instructions above OR use the undiluted contents of the activated CLO2BBER 100.
3. Flush toilet and clean toilet bowl thoroughly with a suitable detergent to ensure that bowl is free of urine and gross filth prior to disinfection.
4. Add CLO2BBER 100 to toilet bowl until concentration of chlorine dioxide in toilet water is 100 ppm. Verify concentration using Selective Micro® Test Strips.
5. Stir water gently for one minute. Let water sit for 20 minutes, then flush toilet.
6. Dispose of package and spent envelope according to instructions on package label. Do not reuse solution.

DISINFECTING AND SANITIZING IN HORTICULTURAL AND HYDROPONIC SETTINGS

To disinfect non-porous hard surfaces, including stainless steel, glazed tile, sealed concrete and sealed, finished wood used in horticultural applications:

1. Activate CLO2BBER 100 according to "Directions for Use" on pouch [container] label.
2. Pre-clean all surfaces prior to application of disinfectant solution. Sweep and remove all plant debris. Use power sprayer to wash all surfaces to remove loose dirt.
3. Prepare solutions in indicated concentrations and ensure surfaces are wetted and remain visibly wet for the times noted below in the instructions associated with the desired application. Dispose of pouch [container] according to instructions on pouch [container] label.

FOR WORK AREAS, BENCHES AND EVAPORATIVE COOLERS

4. Prepare a 100 ppm solution in accordance with the instructions above OR use the undiluted contents of the activated CLO2BBER 100.
5. Spray or swab work area and bench surfaces before each work period and again after each planting is completed. Spray or swab evaporative cooler surfaces, ensuring visible wetness for at least ten (10) minutes. When applying these solutions using a high-pressure sprayer, wear a NIOSH/MSHA-approved respirator appropriate for chlorine dioxide.

FOR POTS, FLATS, FLOWER BUCKETS AND CUTTING TOOLS

FOR A TEN (10) MINUTE OR LONGER DISINFECTION

4. Prepare a 100 ppm solution in accordance with the instructions above OR use the undiluted contents of the activated CLO2BBER 100.
5. Brush or wash used pots and flats, and then soak in the 100 ppm solution for at least ten (10) minutes before reuse. Soak tools with 100 ppm solution for at least ten (10) minutes.
6. Discard solution in sanitary drain or as ordinary non-hazardous waste. Do not reuse solution.

   At end of workday, dry and oil tools.

To sanitize work area non-porous (non-food contact) hard surfaces, hard-surface benches, pots, flats, flower buckets, and cutting tools:

1. Activate CLO2BBER 100 according to "Directions for Use" on pouch [container] label.
2. Pre-clean all surfaces prior to application of sanitizing solution. Sweep and remove all plant debris. Use power sprayer to wash all surfaces to remove loose dirt.
3. Prepare a 20 ppm solution in accordance with instructions above OR use the undiluted contents of the activated CLO2BBER 100 pouch [container] with a 1:5 dilution device (one part activated solution to 4 parts water).
4. Brush or wash used pots and flats then swab or soak in the 20 ppm solution for at least five (5) minutes before reuse. Spray, swab or soak tools with 20 ppm solution for at least five (5) minutes. Spray or swab work area and bench surfaces before each work period and again after each planting is completed. If applying these solutions

using a high-pressure sprayer, wear a NIOSH/MSHA-approved respirator appropriate for chlorine dioxide. If soaking, discard solution in sanitary drain or as ordinary non-hazardous waste; do not reuse solution.

5. Dispose of pouch [container] according to instructions on pouch [container] label.

At end of workday, dry and oil tools

GENERAL USE, NON-PUBLIC HEALTH APPLICATIONS

DEODORIZING TREATMENT FOR CONTROL OF ODOR AND SLIME-FORMING BACTERIA IN ANIMAL CONFINEMENT FACILITIES

This product can be used in the cleaning and deodorizing treatment of kennels, pounds, stables, pens, pet houses, and cages

1. Activate CLO2BBER 100 according to "Directions for Use" on the pouch [container] label. Remove all litter and manure from premises and thoroughly clean all surfaces with a suitable soap or detergent and rinse with clean water.
2. Prepare a 100 ppm solution in accordance with the instructions above OR use the undiluted contents of the activated CLO2BBER 100.
3. Using activated solution, spray or wipe down all hard, non-porous surfaces. For all spraying applications, wear a NIOSH/MSHA-approved respirator appropriate for use with chlorine dioxide. All surfaces must be visibly wet for at least ten (10) minutes.
4. Allow surfaces to air dry. Do not reuse solution. Do not rinse disinfected surfaces.
5. Dispose of package(s) and spent envelope(s) according to instructions on package label.

GENERAL CLEANING APPLICATIONS FOR HIGH-PURITY AND OTHER WATER SYSTEMS AND ASSOCIATED MEMBRANES

(E.G., REVERSE OSMOSIS (RO) AND ULTRA FILTER (UF) MEMBRANES)

(NOT FOR USE IN CALIFORNIA)

This product will clean high-purity and other water distribution systems by eliminating odors, removing organic matter, and reducing the microbial populations in system components, lines, tanks, and associated RO & UF membranes.

This product, when used as directed:
(1) cleans
(2) removes organic matter
(3) reduces biological fouling
(4) eliminates odors
(5) reduces microbial populations

NOTE: Because chlorine dioxide does not ionize and exists as a true gas in aqueous solution, it passes through filtration membranes even at low trans-membrane pressures. This allows both the feed and permeates sides of a membrane to be cleaned simultaneously. Chlorine dioxide's true gaseous state enhances treatment application and facilitates rapid flush-out from water systems.

1. Activate CLO2BBER 100 according to "Directions for Use" on package label.
2. Prepare a 50 ppm solution in accordance with the instructions above **OR** use the undiluted contents of the activated CLO2BBER 100 solution with a 1:1 dilution device (one part activated solution to 1 part water).
3. To apply: spray solution onto surface/inside of bottle. Make the typical plumbing or valve setting changes used during normal system cleaning cycle.
    a. If applying a 500 ppm solution using a dosing pump set at an injection rate of 10% on the feed line, direct the RO or UF permeate and reject streams to an authorized drain.
    b. If applying a 50 ppm solution directly with a self-priming injection pump, the RO or UF permeate and reject streams can be returned to the vessel containing the 50 ppm solution (closed-loop operation).
4. Bypass or shut off process control settings that, during normal production, would normally shut down the RO or UF unit.
5. Remove or bypass activated carbon cartridges. Turn off (or disable) power to any UV lights. Inject 50 ppm solution Flow rate should be low enough that little or no solids resting in the system are displaced by the feed.
6. Continue injection until the concentration in the product stream is approximately equal to the concentration in the reject stream (with clear flow meters, the distinctive green color of aqueous chlorine dioxide can be observed). Verify product stream and reject stream concentrations are approximately the same using *Selective Micro® Chlorine Dioxide Test Strips* (High Range).
7. Discontinue injection once concentrations become nearly equal.
8. Allow a minimum 20-minute static soak. If the system were known to have had a high level of biological contamination, use a 60-minute soak and inject additional chlorine dioxide (as above) about 30 minutes into the soaking period. Re-verify approximate equality of product and reject stream concentrations, as above (instruction number 7).
9. After appropriate soak time, flush the solution from the RO or UF module:
    a. Drain (remove) chlorine dioxide solution from break tanks or other holding tanks in the system.
    b. Replace the chlorine dioxide solution with potable water.
    c. Monitor the product and reject streams for color until both appear to be clear.
    d. Check the streams using *Selective Micro® Chlorine Dioxide Test Strips* (Low Range) until both streams register concentrations of 1 ppm or lower.
    e. When both streams confirm at concentrations at or below 1 ppm, discontinue flush.
10. Restore system to the operating mode.
11. Dispose of package and spent envelope according to instructions on package label. Do not reuse solution.

DEODORIZATION APPLICATIONS

This product can be used to in the treatment of strong odors in confined spaces.

A. Deodorization of animal holding rooms, sick rooms, morgues, and work rooms.

1. Activate CLO2BBER 100 according to "Directions for Use" on the pouch [container] label.
2. Thoroughly clean all surfaces before treatment.
3. Deodorization Applications. For deodorization applications, prepare a 100 ppm solution in accordance with the instructions above OR use the undiluted contents of the activated CLO2BBER 100.
4. Spray the solution onto walls, ceilings, floors, and other hard, non-porous surfaces until surfaces are lightly damp. For spraying applications, wear a NIOSH/MSHA-approved respirator appropriate for use with chlorine dioxide.
5. Allow treated surfaces to air dry and then ventilate the area. Do not reuse solution. Do not rinse treated surfaces.
6. Dispose of package(s) and spent envelope(s) according to instructions on package label.

B. Deodorization of restrooms/bathrooms, refuse containers, diaper pails, and storage lockers.

1. Activate CLO2BBER 100 according to "Directions for Use" on the pouch [container] label.
2. Thoroughly clean all surfaces before treatment.
3. Deodorization Applications. For deodorization applications, prepare a 50 ppm solution in accordance with the instructions above **OR** use the undiluted contents of the activated CLO2BBER 100 solution with a 1:1 dilution device (one part activated solution to 1 part water).
4. Spray the solution onto walls, ceilings, floors, and other hard, non-porous surfaces until surfaces are lightly damp. For spraying applications, wear a NIOSH/MSHA-approved respirator appropriate for use with chlorine dioxide.
5. Allow treated surfaces to air dry and then ventilate the area. Do not reuse solution. Do not rinse treated surfaces.
6. Dispose of package(s) and spent envelope(s) according to instructions on package label.

VEHICULAR APPLICATIONS

This product can be used by trained professionals in the deodorizing treatment of vehicle interiors, water used in the washing of vehicles, and transportation, loading, hauling equipment, and other heavy machinery.

A. Deodorizing treatment of vehicle interiors.

1. Activate CLO2BBER 100 according to "Directions for Use" on the pouch [container] label.
2. Thoroughly clean all surfaces before treatment.
   Deodorization Applications. For deodorization applications, prepare a 100 ppm solution in accordance with the instructions above OR use the undiluted contents of the activated CLO2BBER 100.

3. Spray the solution onto walls, ceilings, floors, and other hard, non-porous surfaces until surfaces are lightly damp. For spraying applications, wear a NIOSH/MSHA-approved respirator appropriate for use with chlorine dioxide.
4. Allow treated surfaces to air dry and then ventilate the vehicle. Do not reuse solution. Do not rinse treated surfaces.
5. Dispose of package(s) and spent envelope(s) according to instructions on package label.

B. Deodorizing treatment of vehicle wash water.

1. Activate CLO2BBER 100 according to "Directions for Use" on the pouch [container] label.
2. Thoroughly clean all surfaces before treatment.
3. Deodorizer Applications. For deodorizing applications, prepare a 100 ppm solution in accordance with the instructions above OR use the undiluted contents of the activated CLO2BBER 100 according to "Directions for Use" on the pouch [container] label.
4. Allow treated surfaces to air dry and then ventilate the vehicle. Do not reuse solution. Do not rinse.
5. Dispose of package(s) and spent envelope(s) according to instructions on package label.

C. Deodorizing treatment of transportation, loading, and hauling equipment:

1. Activate CLO2BBER 100 according to "Directions for Use" on the pouch [container] label.
2. Scrub hard, nonporous surfaces with soap or other detergent until visible filth is removed. Rinse hard, nonporous surfaces with potable water.
3. Deodorizer and General Cleaning Applications. For deodorizing and general cleaning applications, prepare a 100 ppm solution in accordance with the instructions above OR use the undiluted contents of the activated CLO2BBER 100.
4. Spray all hard, nonporous vehicle surfaces thoroughly. When applying the solution using a high-pressure sprayer, wear a NIOSH/MSHA-approved respirator appropriate for use with chlorine dioxide. All surfaces must be visibly wet for at least ten (10) minutes. After treating, allow surfaces or equipment to air dry.
5. Dispose of package(s) and spent envelope(s) according to instructions on package label. Do not reuse solution. Do not rinse treated surfaces.

DEODORIZING TREATMENT OF VENTILATION SYSTEMS

This product can be used for deodorizing applications during the cleaning of ventilation systems.

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.

1. Activate CLO2BBER 100 according to "Directions for Use" on the pouch [container] label.
2. Prepare a 20 ppm solution in accordance with instructions above OR use the undiluted contents of the activated CLO2BBER 100 pouch [container] with a 1:5 dilution device (one part activated solution to 4 parts water).

3. Spray solution on all hard, nonporous surfaces in vents or ducts. Allow surfaces to dry for at least thirty minutes (or longer if possible). For all spraying applications, wear a NIOSH/MSHA-approved respirator appropriate for use with chlorine dioxide.
4. After treating, allow surfaces or equipment to air dry. Do not reuse solution. Do not rinse treated surfaces.
5. Dispose of package(s) and spent envelope(s) according to instructions on package label.

TO CONTROL THE BUILDUP OF SLIME AND ODOR-CAUSING BACTERIA IN BOILER FEED WATERS

1. Activate CLO2BBER 100 according to "Directions for Use" on the pouch [container] label
2. Prepare a 5 ppm solution in accordance with instructions above OR use the undiluted contents of the activated CLO2BBER 100 pouch with a 1:20 dilution device (one part activated solution to 19 parts water). Feed water should be treated at a rate of 5 ppm available ClO_2 and may be injected or batch-loads. Feed water storage tanks should be sufficiently sealed to prevent outside contamination and direct sunlight.
3. Spray solution on all hard, nonporous surfaces in vents or ducts. Allow surfaces to dry for at least thirty minutes (or longer if possible). For all spraying applications, wear a NIOSH/MSHA-approved respirator appropriate for use with chlorine dioxide.
4. After treating, allow surfaces or equipment to air dry. Do not reuse solution. Do not rinse treated surfaces.
5. Dispose of package(s) and spent envelope(s) according to instructions on package label.

USE IN GLOVE DIPS AND SHOE BATHS

(NOT FOR USE IN CALIFORNIA)

This product can be used to prepare glove dips and shoe/boot baths used for sanitary measures.

A. Preparing glove dips:

1. Activate CLO2BBER 100 according to "Directions for Use" on the pouch [container] label.
2. Prepare a 5 ppm solution in accordance with instructions above OR use the undiluted contents of the activated CLO2BBER 100 pouch with a 1:20 dilution device (one part activated solution to 19 parts water).
3. Dispose of package(s) and spent envelope(s) according to instructions on package label.
4. Store solution in open container. Remove visible filth from gloves. Dip gloves in solution. Change solution daily or when solution appears soiled.

B. Preparing shoe bath:

1. Activate CLO2BBER 100 according to "Directions for Use" on the pouch [container] label.
2. Prepare a 100 ppm solution in accordance with the instructions above OR use the undiluted contents of the activated CLO2BBER 100.
3. Dispose of package(s) and spent envelope(s) according to instructions on package label.
4. Place solution on ground in open container. Remove visible filth from shoes. Dip shoes in solution. Change solution daily or when solution appears soiled.

DEODORIZING APPLICATIONS IN HUMIDIFIERS

This product can be used to treat humidifier system water tanks.

Prior to treatment, completely clean and rinse all tanks, tunnels, conveyor chains, heat exchangers, heat exchange towers, lines, spray bars and nozzles using potable water.

1. Activate CLO2BBER 100 according to "Directions for Use" on the pouch [container] label.
2. Empty humidifier water tank and remove filth with a cloth or sponge. Rinse tank with potable water.
3. Prepare a 100 ppm solution in accordance with the instructions above OR use the undiluted contents of the activated CLO2BBER 100.
4. Dip parts in activated CLO2BBER 100 solution. Do not rinse treated parts. Allow treated surfaces to air dry. Do not reuse solution. Do not rinse treated surfaces.
5. Using a dosing pump, cycle 50 ppm (50 mg/L) solution of activated CLO2BBER 100 through pipeline or bulk tank immediately before milking. Circulate solution of activated CLO2BBER 100 for 2-3 minutes. Ensure that the temperature of the activated CLO2BBER 100 does not fall below 100°F.
6. Dispose of package(s) and spent envelope(s) according to instructions on package label.

Potable Water Treatment

Chlorine Dioxide is used as an oxidant in drinking water treatment. The required dosages will vary with source water conditions and the degree of contamination present. For most municipal and public potable water systems, a chlorine dioxide residual of up to 0.8 ppm is sufficient to provide adequate treatment. Residual disinfectant and disinfection byproducts must be monitored as required by the National Primary Drinking Water Regulations (40 CFR Part 141) and state drinking water standards.

Wastewater Treatment

Chlorine dioxide is effective as an oxidant in wastewater treatment. The required dosages will vary with water conditions and the degree of contamination present. For most municipal and other wastewater systems, a chlorine dioxide residual concentration of up to 5 ppm is sufficient to provide adequate treatment. For sulfide odor control, between pH 5-9, a minimum of 5.2 ppm (wt) of chlorine dioxide should be applied to oxidize 1 ppm of sulfide (measured as sulfide ion). For phenol destruction, at pH less than 8, 1.5 ppm chlorine dioxide will oxidize 1 -ppm phenol; at pH greater than 10, 3.3-ppm chlorine dioxide will oxidize 1 ppm phenol.

Bacterial Slime Control in Paper Mills (Not For Use In California)

Chlorine Dioxide generated from sodium chlorite is effective for use in controlling microbiological growth in white paper mill systems. The required dosages will vary with the degree of microbiological and process contamination present. Depending on the specific requirements of the system, sodium chlorite should be applied continuously or intermittently through a chlorine dioxide generating system to achieve a chlorine dioxide residual concentration between 0.1 and 5.0 ppm. Intermittent treatments should be repeated as often as necessary to maintain control.

Selective Micro Technologies

PLANT AND CROP APPLICATIONS

HORTICULTURAL ALGAECIDE AND SLIME REMOVER/INHIBITER

Treats/Controls/Inhibits: Algae (*Phormidium boneri*) and Bacteria (*Penicillium digitatum, Botrytis sp., Fusarium solani, Pythium aphanidermatum, Pythium irregulare, Fusarium oxysporum f. sp. basilicum (Fob))*

NOTE: Do not use at concentrations higher than those recommended for each application. When applied directly to plants, seeds, cuttings or flowers as directed, CLO2BBER 100 does not cause adverse cosmetic effects, as testing has demonstrated. However, testing has not been performed on EVERY plant species, and users are advised to spot-test CLO2BBER 100 before applying it widely.

Active solution may be irritating if breathed. If applying solution inside greenhouse or enclosed area using a high-pressure sprayer, wear a NIOSH/MSHA-approved respirator appropriate for chlorine dioxide: after treatment, ventilate greenhouse before reentering.

As a dip to control and suppress bacteria (*Erwinia chrysanthemi*), algae *(*such as *Phormidium boneri)* and bacteria *(*such as *Penicillium digitatum, Botrytis sp.,* and *Fusarium solani)* on rooted and unrooted cuttings and cut flowers:

1. Activate CLO2BBER 100 according to "Directions for Use" on pouch [container] label.
2. Prepare a 5 ppm solution in accordance with instructions above OR use the undiluted contents of the activated CLO2BBER 100 pouch with a 1:20 dilution device (one part activated solution to 19 parts water).
3. Briefly dip cuttings or cut flowers and ensure they remain visibly wet with solution for at least one minute.
4. Dispose of pouch [container] according to instructions on pouch [container] label.

As a dip or drench to control and suppress bacteria (*Erwinia chrysanthemi*), algae *(Phormidium boneri)* and bacteria *(Penicillium digitatum, Botrytis sp., Fusarium solani, Pythium aphanidermatum, Pythium irregulare, Fusarium oxysporum f. sp. Basilicum (Fob))* in seed-bed soil and planting cubes:

1. Activate CLO2BBER 100 according to "Directions for Use" on the pouch [container] label.
2. Prepare a 5 ppm solution in accordance with instructions above OR use the undiluted contents of the activated CLO2BBER 100 pouch [container] with a 1:20 dilution device (one part activated solution to 19 parts water).]

3. Immerse or drench seed-bed soil or planting cubes and allow to remain visibly wet with solution for ten (10) minutes.
4. Dispose of pouch [container] according to instructions on pouch [container] label.

Soil or planting cubes can be seeded or planted immediately after treatment.

For removing slime and retarding its reemergence; for deodorizing or treatment applications involving algae *(Phormidium boneri)* and bacteria *(Penicillium digitatum, Botrytis sp., Fusarium solani, Pythium aphanidermatum, Pythium irregulare, Fusarium oxysporum f. sp. Basilicum (Fob))*; and for continuous treatment to inhibit their re-establishment in irrigation systems, flood floors, flooded benches, misting systems, humidification systems, recycled water systems, and capillary mats:

1. Activate CLO2BBER 100 according to "Directions for Use" on the pouch [container] label.
2. Pre-clean all surfaces prior to application of disinfectant solution. Sweep and remove all plant debris. Use power sprayer to wash all surfaces to remove loose dirt.
3. Prepare solutions in indicated concentrations and ensure surfaces are wetted and remain visibly wet for the times or are applied continuously as noted below. Dispose of pouch [container] according to instructions on pouch [container] label.

As an algaecide and bactericide for treating, preventing, suppressing and controlling horticultural diseases on hard, non-porous surfaces in commercial greenhouses, garden centers, and nurseries:

1. Activate CLO2BBER 100 according to "Directions for Use" on the pouch [container] label.
2. Pre-clean all non-plant surfaces prior to application of solution. Sweep and remove all plant debris. Use power sprayer to wash all surfaces to remove loose dirt.
3. Prepare solutions in indicated concentrations and ensure all surfaces are wetted and remain visibly wet for the times noted below.
4. Dispose of pouch [container] according to instructions on pouch [container] label.

AS AN INITIAL OR REMEDIAL TREATMENT TO KILL ALGAE AND BACTERIA ON HARD NON-POROUS SURFACES ON EQUIPMENT, GREENHOUSE STRUCTURES, GLAZING, PLASTIC, BENCHES, WALKWAYS, FLOORS, WALLS, FAN BLADES, VENTILATION DUCTS, WATERING SYSTEMS, COOLERS AND STORAGE ROOMS:

1. Activate CLO2BBER 100 according to "Directions for Use" on the pouch label.
2. Prepare a 5 ppm solution in accordance with instructions above OR use the undiluted contents of the activated CLO2BBER 100 pouch [container] with a 1:20 dilution device (one part activated solution to 19 parts water).
3. Apply solution with mop, sponge or sprayer. When applying these solutions using a high-pressure sprayer, wear a NIOSH/MSHA-approved respirator appropriate for chlorine dioxide.
4. Visibly wet all surfaces and ensure the surfaces remain visibly wet for at least one hour.
5. Dispose of pouch [container] according to instructions on pouch [container] label.

Note: Heavy growths of algae or bacteria may require scrubbing to remove dead growth.

AS A WEEKLY PREVENTATIVE TREATMENT TO KILL, CONTROL AND SUPPRESS BACTERIA AND CONTROL AND SUPPRESS ALGAE ON HARD NON-POROUS SURFACES ON

EQUIPMENT, GREENHOUSE STRUCTURES, GLAZING, PLASTIC, BENCHES, WALKWAYS, FLOORS, WALLS, FAN BLADES, VENTILATION DUCTS, WATERING SYSTEMS, COOLERS AND STORAGE ROOMS:

1. Activate CLO2BBER 100 according to "Directions for Use" on the pouch [container] label.
2. Prepare a 5 ppm solution in accordance with instructions above OR use the undiluted contents of the activated CLO2BBER 100 pouch [container] with a 1:20 dilution device (one part activated solution to 19 parts water).
3. Apply solution with mop, sponge or sprayer. When applying these solutions using a high-pressure sprayer, wear a NIOSH/MSHA-approved respirator appropriate for chlorine dioxide. Visibly wet all surfaces and ensure the surfaces remain visibly wet for at least one hour (kill/cidal) and at least one minute (suppression).
4. Dispose of pouch [container] according to instructions on pouch [container] label.

As a dip to control and suppress bacteria (*Erwinia chrysanthemi*) on cuttings and cut flowers:

1. Activate CLO2BBER 100 according to "Directions for Use" on pouch label.
2. Prepare a 5 ppm solution in accordance with instructions above OR use the undiluted contents of the activated CLO2BBER 100 pouch [container] with a 1:20 dilution device (one part activated solution to 19 parts water).
3. Briefly dip cuttings or cut flowers and ensure they remain visibly wet with solution for at least one minute.
4. Dispose of pouch [container] according to instructions on pouch [container] label.

To maintain freshness and extend shelf-life for cut flowers:

1. Activate CLO2BBER 100 according to "Directions for Use" on pouch [container] label.
2. Prepare a 5 ppm solution in accordance with instructions above OR use the undiluted contents of the activated CLO2BBER 100 pouch [container] with a 1:20 dilution device (one part activated solution to 19 parts water).
3. Unbundle the flowers to preclude bunching, and place in vase on display or in cold storage in the 5 ppm solution of chlorine dioxide. Solution may include 2% sucrose.
4. Refresh solution every 24 hours.
5. Dispose of pouch [container] according to instructions on pouch [container] label.

APPLICATION IN HYDROPONIC SETTINGS

Treats/Controls/Inhibits: Algae (*Phormidium boneri*) and Bacteria ([*Penicillium digitatum], [Botrytis sp.], [Fusarium solani], Pythium aphanidermatum, Pythium irregulare, Fusarium oxysporum f. sp. basilicum (Fob)).*

NOTE: Do not use at concentrations higher than those recommended for each application.

Active solution may be irritating if breathed. If applying in enclosed area or greenhouse using a high-pressure sprayer, wear a NIOSH/MSHA-approved respirator appropriate for chlorine dioxide: after treatment, ventilate sprayed area.

To control and suppress bacteria [(*Erwinia chyrsanthemi*)], including algae *(Phormidium boneri)*; bacteria [*(Penicillium digitatum, Botrytis sp., Fusarium solani,] Pythium aphanidermatum, Pythium irregulare, Fusarium oxysporum f. sp. Basilicum (Fob))* on ornamentals, edibles in hydroponic gardens:

1. Activate CLO2BBER 100 according to "Directions for Use" on pouch label.
2. Prepare a 5 ppm solution in accordance with instructions above OR use the undiluted contents of the activated CLO2BBER 100 pouch with a 1:20 dilution device (one part activated solution to 19 parts water).]
3. Immerse ornamentals, edibles. Ensure crops are visibly wet with solution for ten (10) minutes.
4. Dispose of package and spent envelope according to instructions on package label.

AS A DIP, SPRAY, OR DRENCH AT A CONCENTRATION OF 5.0 PPM

1. Activate CLO2BBER 100 according to "Directions for Use" on pouch [container] label.
2. Prepare a 5 ppm solution in accordance with instructions above OR use the undiluted contents of the activated CLO2BBER 100 pouch [container] with a 1:20 dilution device (one part activated solution to 19 parts water).
3. Dispose of package(s) and spent envelope(s) according to instructions on package label.

To maintain freshness and extend shelf-life for cut ornamentals and edibles:

1. Activate CLO2BBER 100 according to "Directions for Use" on pouch [container] label.
2. Prepare a 5 ppm solution in accordance with instructions above OR use the undiluted contents of the activated CLO2BBER 100 pouch [container] with a 1:20 dilution device (one part activated solution to 19 parts water).]
3. Unbundle the crops to preclude bunching, and submerge crops in the 5 ppm solution or place the crops in cold storage in the 5 ppm solution of chlorine dioxide. Solution may include 2% sucrose.
4. Refresh solution every 24 hours.
5. Dispose of package and spent envelope according to instructions on package label.

Additional Professional Use Sites (Graphics to Depict)

(May Be Listed On Product Label):

Ambulance
Health Club
Public eating places
Warehouse
Club
(Institutional)
Hotel/Motel
Public Facility
Blood Bank Kennel Public Places Wrestling Match
Cafeteria (Kitchen)
Laundromat
Recreational Center

Clinic
Restaurant
College Locker
Commercial Building
Military Installation
Day Care Center
Nursing Home
School (Bus) (Vehicle)
Dental Office
Office Building
Shelter
Patient Room
Pharmacy
Veterinary (Office) (Clinic)
Health Care Facility
Physician's Office
Waiting Room
Additional Hard, non-porous surfaces: may be listed on product label an
Bathroom Surfaces Examination Tables
Parquat Sinks
Patient Chairs
Bed Frame
Fixtures
Plastic (mattress covers)
Stretchers
Bidet Furniture
Portable Toilets
Table Tops
Brass
Recycling Bins
Telephones
Cabinets Glazed Ceramic (tile)
Refrigerator Exteriors
Toilet Seats
Ceramic Floor
Glazed Porcelain (tile)
Salad Bar
Sneeze Guard
Tools
Chairs
Laminate (surfaces)
Sealed Granite
Urinals

Chrome
Sealed Marble Vinyl (tile)
Clean up Carts
Linoleum
Sealed Quartz
Washable Walls
Microwave Oven

(Exterior) Sealed Stone
Wheelchairs
Door Knob
Mirror
Sealed Stone Interiors
Outdoor (patio) furniture
Shower Curtain (plastic)
Wrestling Mats

Optional Marketing Claims (Graphics to Depict)

Kills Germs
Kills bacteria, specified viruses*, bacteria and fungi^
Spray directly onto surface to be treated
Easy to use, apply to surface and allow to air dry
Ideal for commercial kitchens, bathrooms, laundry rooms, and locker rooms
Kills odor causing bacteria, and algae caused by flooding, water leaks, storm damage, or excess dampness
Contains no phosphates
Dye and Fragrance Free
Hard Surface Disinfectant
ClO2 Generating System
Formulated for Hospital Use
No Rinse Formula
No Rinse Required
Leaves No Residue
No Harmful Residue
Just Add Water
Selective Micro Technologies Logo
Questions? Call (855) 256-8299
Scan for more Info (QR CODE)
See full directions for specific uses and precautionary statements.
Use as Refill for CLO2BBER 100 (Description) and (Part #), and/or mop bucket, and/or pressure sprayer, and/or pump sprayer.

*See Page 4, ATCC designation for viruses tested
^Kills Athlete's Foot fungi