



Service Bulletin for Commercial Solutions® Ultra Clorox® Germicidal Bleach I (EPA Reg. No. 67619-8)

**COMMERCIAL SOLUTIONS® ULTRA CLOROX® GERMICIDAL BLEACH I (EPA Reg. No. 67619-8)
FOR SANITIZING LAUNDRY**

To sanitize and disinfect laundry, add enough of Commercial Solutions® Ultra Clorox® Germicidal Bleach I to reach 200 ppm (parts per million) available chlorine. -or- Use 1 cup of Commercial Solutions® Ultra Clorox® Germicidal Bleach I per standard washer, 1 1/4 cup for extra large washers or heavily soiled loads. Use a detergent. Commercial Solutions® Ultra Clorox® Germicidal Bleach I used according to these directions is effective against Staphylococcus aureus (Staph), Influenza A2, Rhinovirus Type 37, Trichophyton mentagrophytes (Athlete's Foot Fungus), Rotavirus, Hepatitis A, Klebsiella pneumoniae.



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**COMMERCIAL SOLUTIONS® ULTRA CLOROX® GERMICIDAL BLEACH I (EPA Reg. No. 67619-8)
FOR DISINFECTING LAUNDRY**

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**COMMERCIAL SOLUTIONS® ULTRA CLOROX® GERMICIDAL BLEACH I (EPA Reg. No. 67619-8)
FOR SANITIZING HOSPITAL LAUNDRY**

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**COMMERCIAL SOLUTIONS® ULTRA CLOROX® GERMICIDAL BLEACH I (EPA Reg. No. 67619-8)
FOR FOOD EGG SANITATION**

To sanitize food eggs: thoroughly clean all eggs. Prepare a 200 ppm available chlorine solution. The sanitizer temperature should not exceed 130°F. Spray the warm sanitizer so that the eggs are completely wet. Allow the eggs to fully dry before casing or breaking. Do not apply a potable water rinse. The solution should not be re-used to sanitize eggs.



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**COMMERCIAL SOLUTIONS® ULTRA CLOROX® GERMICIDAL BLEACH I (EPA Reg. No. 67619-8)
FOR MEAT & POULTRY PLANT LAUNDRY USE**

Commercial Solutions® Ultra Clorox® Germicidal Bleach I may be used on fabric which contacts meat or poultry products directly or indirectly, provided that the fabric is thoroughly rinsed with potable water at the end of the laundering operation.

To sanitize laundry, add enough of Commercial Solutions® Ultra Clorox® Germicidal Bleach I to reach 200 ppm (parts per million) available chlorine. (1 cup of Commercial Solutions® Ultra Clorox® Germicidal Bleach I per standard washer, 1 1/4 cup for extra large washers or heavily soiled loads). Use a good detergent. For best results, dilute Commercial Solutions® Ultra Clorox® Germicidal Bleach I with a quart of water and add to wash 5 minutes after the wash has begun. Use chlorine test strips to adjust to exactly 200 ppm available chlorine.



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**COMMERCIAL SOLUTIONS® ULTRA CLOROX® GERMICIDAL BLEACH I (EPA Reg. No. 67619-8)
FOR DISINFECTION OF FLOORS, WALLS, SHOWERS AND TOILETS**

TO DISINFECT FLOORS, WALLS AND SHOWERS: For non-porous surfaces such as vinyl or ceramic tile, clean surfaces to remove gross filth. Rinse surfaces thoroughly with a 2400 ppm available chlorine solution. Allow solution to remain on the surface for 2 minutes. Rinse. [Let air dry.]

TO DISINFECT TOILETS: Flush toilet. Pour 2/3 cup of Commercial Solutions® Ultra Clorox® Germicidal Bleach I into bowl. Brush bowl thoroughly, making sure to get under the rim and let solution stand for 2 minutes and flush again.



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**COMMERCIAL SOLUTIONS® ULTRA CLOROX® GERMICIDAL BLEACH I (EPA Reg. No. 67619-8)
FOR DAIRY AND CREAMERY EQUIPMENT SANITATION**

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Commercial Solutions® Ultra Clorox® Germicidal Bleach I is effective as a chemical sanitizer of milk utensils, containers and equipment. Commercial Solutions® Ultra Clorox® Germicidal Bleach I dissolves milk solids and other protein material and is a quick and effective deodorizer.

An exposure period of at least 2 minutes to a 200 ppm available chlorine solution should be maintained when the solution temperature is 75°F. Use chlorine test strips to adjust solution to desired strength. Lower solution temperatures result in slower action; for each 18°F drop in temperature, approximately double the exposure time is needed to achieve equivalent bactericidal action with same strength of solution. You can also compensate for lower temperatures by increasing the concentration of Commercial Solutions® Ultra Clorox® Germicidal Bleach I.

It is important to clean out large deposits of milk or other organic matter before applying Commercial Solutions® Ultra Clorox® Germicidal Bleach I/water solution. A sharp decline in the available chlorine content of the solution following circulation through milk processing equipment is usually regarded as evidence of inadequate cleaning of the equipment and should be promptly investigated.

RUBBER TEAT CUPS AND TUBES - Before each milking, prepare a 200 ppm available chlorine sanitizing solution. Dip teat cups into this solution for 2 minutes before transferring them from one cow to another.

To Sanitize - SOAKING METHOD: After each milking, wash cups and tubes by brushing thoroughly with detergent solution. Rinse cups and tubes with cold water. Prepare a 200 ppm available chlorine sanitizing solution in earthenware, glass, porcelain or stoneware containers. Submerge cups in this solution for 1 minute, holding ends of tubes; coil tubes slowly into solution between milkings; drain thoroughly before using.

To maintain sanitizing solution at proper strength, add 1 1/2 oz of Commercial Solutions® Ultra Clorox® Germicidal Bleach I daily (in hot weather, 3 oz) for each 10 gallons water; mix well. Protect solution from light. Renew solution daily. Old solution may be utilized for deodorizing and making floors and drains sanitary; for this purpose, add 1 teaspoon of Commercial Solutions® Ultra Clorox® Germicidal Bleach I for each gallon of old solution; mix well.

To Sanitize - RACK METHOD: After each milking, rinse cups and tubes in cold water. Wash in detergent solution, then rinse. Prepare a 200 ppm available chlorine sanitizing solution; place solution in bottle above rack for 1 minute. Place tubes and cups in rack; fill with solution and let stand between milkings; drain thoroughly and air dry before using. Old solution may be utilized in deodorizing and making floors and drains sanitary.

METAL TEAT CUPS AND TUBES - Before each milking, prepare a 200 ppm available chlorine sanitizing solution. Dip teat cups into this solution before transferring them from one cow to another.

To Sanitize: After each milking, rinse cups and tubes with cold water. Wash in detergent solution; rinse in a 200 ppm available chlorine solution for 1 minute; drain thoroughly and dry before using. **(Metal cups should not be left in bleach solution.)**

TO CLEAN AND SANITIZE MILKING MACHINES AND UTENSILS: Immediately after milking, flush equipment with clean, lukewarm water. Dismantle equipment after each milking and wash it (including all rubber parts and stanchion hoses) and all utensils with a solution prepared by thoroughly mixing 1 oz of your [regular] [powdered] detergent with each gallon of a 200 ppm available chlorine solution. Water temperature should be 100°F to 130°F. **(DO NOT MIX COMMERCIAL SOLUTIONS® ULTRA CLOROX® GERMICIDAL BLEACH I WITH ACID CLEANERS OR MILK STONE REMOVERS.)** Rinse equipment and utensils thoroughly with clean, clear water; drain. Air dry. **Immediately before use, sanitize according to directions shown below.***



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FOR DAIRY AND CREAMERY EQUIPMENT SANITATION**

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CLEANING IN PLACE - BULK STORAGE TANKS, DAIRY PIPELINES, TRANSFER STATIONS: Immediately after emptying milk, flush surfaces with a large volume of clear, lukewarm water until water runs completely clear. Thoroughly mix solution of 1 oz of your [regular] [powdered] detergent with each gallon of a 200 ppm available chlorine solution. Hot water should be used if available, and the temperature of the solution should be maintained at 120-160°F throughout the entire circulation. **(DO NOT USE COMMERCIAL SOLUTIONS® ULTRA CLOROX® GERMICIDAL BLEACH I WITH ACID CLEANERS OR MILK STONE REMOVERS.)** Circulate the sanitizing solution through the system for 10 to 15 minutes. (Brush-wash with solution all parts not coming in contact with solution as it circulates.) Rinse thoroughly with clean, clear water; allow to drain. Air dry. Seal this equipment to help protect against contamination. **Immediately before use, sanitize according to directions shown below.***

SEPARATORS, STRAINERS, MILK CANS, PAILS, CHURNS, PASTEURIZERS - to clean and sanitize: After using, rinse immediately with clear, cold water; then scrub or pressure-spray with solution of 1 oz of your [regular] [powdered] detergent thoroughly mixed with each gallon of 200 ppm available chlorine solution. Rinse with clean, clear water; drain thoroughly. Air dry. **Immediately before use, sanitize according to directions shown below.***

MILK BOTTLES - To sanitize: Clean and rinse, then immerse for 5 minutes in a 200 ppm available chlorine solution prepared with cold or lukewarm water; drain; fill. If bottles are not filled promptly, rinse again with same strength bleach solution immediately before filling; drain thoroughly. Air dry. Ordinarily, 12 gallons of this strength solution will sanitize 5000 clean quart bottles. Keep this bleach solution clean and free from milk particles.

ICE CREAM FREEZERS - To clean and sanitize: After using, flush with warm water until water runs clear. Scrub or pressure-spray with solution prepared by thoroughly mixing 1 oz of [regular] [powdered] detergent with each gallon of 200 ppm available chlorine solution. Let stand 2 minutes. Rinse thoroughly with clean, clear water; drain. Air dry. **Immediately before use, sanitize according to directions shown below.***

***BEFORE USE** -rinse with a 200 ppm available chlorine sanitizing solution; drain thoroughly.



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**COMMERCIAL SOLUTIONS® ULTRA CLOROX® GERMICIDAL BLEACH I (EPA Reg. No. 67619-8)
DISINFECTING GUIDE**

Commercial Solutions® Ultra Clorox® Germicidal Bleach I - a positive, powerful germicide, - is a 6.15% sodium hypochlorite solution containing approximately 5.84% available chlorine by weight. In addition to being a highly effective liquid chlorine bleach for laundering and disinfecting, it is widely used in sanitation of poultry and livestock houses and equipment, dairies, creameries, restaurants and taverns, as well as for purification of drinking water and disinfection of water for swimming and wading pools.

IMPORTANT: Always thoroughly mix with water as directed before using.

Do not allow undiluted Commercial Solutions® Ultra Clorox® Germicidal Bleach I to come in contact with any fabric. (If it does, rinse out immediately with clear, cold water.)

Do not apply with natural sponge.

Do not use on non-stainless steel, aluminum, silver, or chipped enamel.

If used on metal, solution should be allowed to stand for **no more than 5 minutes**, and then rinsed off thoroughly with clear water; otherwise, it may slightly discolor and eventually corrode the metal.

If a metal sprayer is used to apply the solution, rinse sprayer thoroughly after use with clear water, and then oil the plunger.

SEPTIC TANK OPERATION is not affected by regular home and farm use of Commercial Solutions® Ultra Clorox® Germicidal Bleach I.

TABLE OF LIQUID MEASURES

| | | | | | | |
|---------|---|----------|---|-----------|---|----------|
| 3 tsp | = | 1 Tbsp | = | 1/2 Ounce | = | 1/16 Cup |
| 16 Tbsp | = | 8 Ounces | = | 1 Cup | = | 1/2 Pint |

For directions on sanitizing and disinfecting specific surfaces, write:

**CLOROX® PROFESSIONAL PRODUCTS COMPANY
Consumer Services Department
Oakland, California 94612-1888**



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COMMERCIAL SOLUTIONS® ULTRA CLOROX® GERMICIDAL BLEACH I (EPA Reg. No. 67619-8) AS A FUNGICIDE FOR SEED POTATOES

Commercial Solutions® Ultra Clorox® Germicidal Bleach I is fungicidal to the Verticillium wilt organism *V. albo-atrum* (microsclerotial type) on seed potatoes. A bleach solution of Commercial Solutions® Ultra Clorox® Germicidal Bleach I is applied to whole seed and freshly cut seed potato pieces during the cutting operation for planting. [Research at the Washington State University Irrigated Agriculture Research and Extension Center* has shown that treatment with a sodium hypochlorite solution helps to prevent the spread of organisms to uninfected soil or fields via seed potato surfaces.]

Use Instructions

Thoroughly mix a solution of 5000 ppm available chlorine for spraying. Use this solution to spray freshly cut seed potato pieces from the top and bottom of the cutting chain or elevator with a series of non-mist nozzles at 3 to 5 psi. Thoroughly cover all cut and uncut surfaces with the solution. The treatment will be most effective on clean seed tubers, as the organic matter in soil will reduce the effectiveness of the sodium hypochlorite.

Plant within four hours of the cutting and bleach treatment operation. If planting should be delayed, store the treated seed in clean, open, well-ventilated bins or truck beds. Storing cut, wet seed in large unventilated containers will contribute to secondary breakdown from soft rot organisms.

Safety Precautions

Do not mix full-strength Commercial Solutions® Ultra Clorox® Germicidal Bleach I or treatment solution with any other agricultural chemical, ammonia, or acid. Avoid prolonged contact of Commercial Solutions® Ultra Clorox® Germicidal Bleach I with skin. Wear safety glasses. If full strength or diluted bleach is splashed in the eyes, flush with water.

Conduct the spraying operations either outside, in a well-ventilated building, or under a hooded exhaust system. Use non-misting nozzles to avoid breathing of mist. Wear a face mask and plastic or rubber gloves and clothing. Because sodium hypochlorite is corrosive to many metals, chains and other machine parts should be either plastic or plastic-coated and rinsed with clear water after use.

PLEASE NOTE: DO NOT USE THE TREATED SEED FOR FOOD OR FEED. Use the bleach treatment only on crops and for the purposes recommended. Apply only as specified above. Do not apply in a dipping operation or bleach solution may become contaminated with soil and organic matter from the potato surfaces and lose its effectiveness.

*Easton, G.D., M.E. Nagle, and D.L. Bailey, 1972. "*Verticillium albo-atrum* Carried by Certified Seed Potatoes into Washington and Control by Chemicals", *American Potato Journal* 49: 397-402.



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**COMMERCIAL SOLUTIONS® ULTRA CLOROX® GERMICIDAL BLEACH I (EPA Reg. No. 67619-8)
FOR MEAT AND POULTRY PROCESSING WATER**

Commercial Solutions® Ultra Clorox® Germicidal Bleach I may be used in processing water of meat and poultry plants at concentrations up to 5 ppm (parts per million) calculated as available chlorine. Chlorine may be present in poultry chiller intake water, in water for reprocessing poultry carcasses internally contaminated with feces, and in red meat carcass final wash water at concentrations between 25 and 50 ppm calculated as available chlorine. Use Chlorine Test Strips to adjust to desired available chlorine level. Chlorine must be dispensed at a constant and uniform level and the method or system must be such that a controlled rate is maintained.



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**COMMERCIAL SOLUTIONS® ULTRA CLOROX® GERMICIDAL BLEACH I (EPA Reg. No. 67619-8)
FOR POTABLE WATER TREATMENT**

Commercial Solutions® Ultra Clorox® Germicidal Bleach I may be used in processing water of meat and poultry plants at concentrations up to 5 ppm calculated as available chlorine. Chlorine may be present in poultry chiller water, in water for reprocessing poultry carcasses internally contaminated with feces, and in red meat carcass final wash water at concentrations between 25 and 50 ppm (parts per million) calculated as available chlorine. Chlorine must be dispensed at a constant and uniform level and the method or system must be such that a controlled rate is maintained.

Measurement Table

Amount of Commercial Solutions® Ultra Clorox® Germicidal Bleach I to make corresponding ppm available chlorine

| Water volume | 5 ppm | 25 ppm | 50 ppm |
|---------------------|--------------|---------------|---------------|
| 1 gallon | 8 drops | 40 drops | 1 tsp |
| 10 gallons | 1 tsp | 4 tsp | 3 Tbsp |
| 100 gallons | 2 oz | 6 1/2 oz | 13 oz |
| 1000 gallons | 13 oz | 2 qt | 1 gal |

Use chlorine test strips to adjust to desired available chlorine level



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**COMMERCIAL SOLUTIONS® ULTRA CLOROX® GERMICIDAL BLEACH I (EPA Reg. No. 67619-8)
FOR POULTRY CARE**

Keeping poultry healthy, productive and profitable is largely a problem of disease prevention. Remedial measures are much more difficult and often less successful than preventing the spread of disease before it infects the flock. Regular use of Commercial Solutions® Ultra Clorox® Germicidal Bleach I in the sanitation and disinfection of chicken houses, brooders, and other poultry equipment is an effective aid in preventing many diseases of bacterial and viral origin.

TO SANITIZE DRINKING WATER - Prepare a 5 ppm available chlorine solution using clear water. Let stand 1 minute. Use in glass, porcelain, stoneware or concrete containers. Clean containers daily; rinse.

For young chicks, a 2 ppm available chlorine solution should be prepared since baby chicks do not soil the water as rapidly as grown chickens, and the solution retains its effectiveness longer.

When cleaning drinking water containers, etc., a 1600 ppm available chlorine solution is effective in removing the slime. **DO NOT ALLOW BIRDS TO DRINK THIS SOLUTION.**

TO CLEAN AND DISINFECT POULTRY HOUSES, BROODERS, HATCHERIES: Poultry houses should be cleaned and disinfected between cycles; hatcheries should be cleaned weekly or as necessary to keep sanitary. Metal surfaces can be satisfactorily disinfected. Wooden surfaces are difficult to sanitize by any method.

- (1) Remove all litter, loose dirt and debris.
- (2) Thoroughly mix solution of 1 oz [powdered] detergent and 3 oz of Commercial Solutions® Ultra Clorox® Germicidal Bleach I with each gallon of 2400 ppm available chlorine solution*.
- (3) Using this solution, scrub or pressure-spray all exposed areas, including floor, walls, ceiling posts and support beams. Let stand for 2 minutes.
- (4) Rinse with clean, clear, **cold** water.
- (5) Let dry thoroughly before introducing poultry.

METAL INCUBATORS, FEEDERS, WATER CONTAINERS, OTHER POULTRY EQUIPMENT AND UTENSILS - **To clean and disinfect**, remove loose dirt and debris. Scrub or pressure-spray with solution of 1 oz [powdered] detergent thoroughly mixed with each gallon of 1200 ppm available chlorine solution*. Let stand for 2 minutes. Rinse with clear, **cold** water. Let dry.

For continuous washers, prepare washing solution as above. Add an additional 1/2 oz of detergent per every 4 gallons of 50 ppm available chlorine solution every 30 minutes. Dump wash tank and recharge every 2 hours. **For manual method**, soak eggs for only 1 to 2 minutes. Agitate basket. Make sure eggs are completely covered.

Air-dry eggs as rapidly as possible. Store in cool (55°F) room. Maintain relative humidity of 60-80%.

NOTE: Keep egg-washing equipment sanitary. Frequent cleaning will aid in operation and produce more sanitary eggs. While equipment is idle, bacteria can multiply. This contamination can be reduced by thoroughly flushing all equipment immediately before use with a solution of 200 ppm available chlorine.

*Where Commercial Solutions® Ultra Clorox® Germicidal Bleach I/detergent solution is recommended for sanitizing poultry houses and equipment, use **hot** water (140°F or above) if available.



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**COMMERCIAL SOLUTIONS® ULTRA CLOROX® GERMICIDAL BLEACH I (EPA Reg. No. 67619-8)
FOR SANITATION IN CARE OF LIVESTOCK, HORSES, PETS**

TO CLEAN AND DISINFECT BARN, STABLES, HUTCHES, KENNELS: Remove all litter, loose dirt and debris. Mix 1 oz [powdered] detergent with each gallon of 2400 ppm available chlorine solution until detergent is dissolved*. Using the solution, thoroughly scrub or pressure-spray all exposed areas including floor, walls, ceiling posts and support beams. Let stand for [at least] 2 minutes. Rinse with clean, clear, **cold** water. Let area dry thoroughly before housing animals.

LOADING AND HAULING EQUIPMENT: Loading chutes, trucks, trailers and other equipment for transportation of animals should be cleaned and disinfected prior to use. Pressure-spray or scrub with solution prepared by thoroughly mixing 1 oz [powdered] detergent with each gallon of 2400 ppm available chlorine solution*. Let stand for [at least] 2 minutes. Rinse with clean, clear, **cold** water. Allow to dry before use.

FEEDERS AND DRINKING WATER CONTAINERS - to clean and disinfect: Thoroughly scrub or pressure-spray with solution of 1 oz [powdered] detergent mixed with each gallon of 2400 ppm available chlorine solution*. Let stand for [at least] 2 minutes. Rinse thoroughly with clear, **cold** water; allow to drain dry. (A solution of 1600 ppm available chlorine is effective in removing slime which sometimes forms on drinking water containers. **DO NOT LET ANIMALS DRINK THIS SOLUTION.**)

TO SANITIZE ANIMALS' DRINKING WATER: Prepare a 5 ppm available chlorine solution using clear water. Use in glass, plastic, porcelain or concrete containers daily. (See directions above.)

*For **Commercial Solutions® Ultra Clorox® Germicidal Bleach I/detergent solution**, use hot water if available.



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**COMMERCIAL SOLUTIONS® ULTRA CLOROX® GERMICIDAL BLEACH I (EPA Reg. No. 67619-8)
FOR SANITATION IN CARE OF SWINE**

HOG HOUSES AND FARROWING HOUSES - to clean and disinfect:

- (1) Remove loose dirt, litter and debris. Dirty or coated surfaces cannot be disinfected.
- (2) Mix 1 oz [powdered] detergent with each gallon of 2400 ppm available chlorine solution until detergent is dissolved.* Let stand for [at least] 2 minutes.
- (3) Scrub or pressure-spray all surfaces with this solution. Rinse with clear, **cold** water.
- (4) Allow to dry before housing pigs.

CLEAN AND DISINFECT METAL WATERING TROUGHS AND FEEDERS by pressure-spraying or scrubbing with solution prepared by thoroughly mixing 1 oz [powdered] detergent and 2 oz of Commercial Solutions® Ultra Clorox® Germicidal Bleach I with each gallon of 2400 ppm available chlorine solution*. Let stand for [at least] 2 minutes. Rinse thoroughly with clear, **cold** water; drain dry. (Drinking troughs and feeders should be cleaned and disinfected before housing pigs, and as often as necessary to keep sanitary.)

TO SANITIZE DRINKING WATER: Prepare a 5 ppm available chlorine solution using clear water. (Water containing suspended material is difficult to sanitize.)

NOTE: Clean metal surfaces can be sanitized using the above method. Wooden surfaces are difficult to sanitize by any method.

*For bleach/**detergent solution**, use **hot** water if available.

Use chlorine test strips to adjust to desired available chlorine level.



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**COMMERCIAL SOLUTIONS® ULTRA CLOROX® GERMICIDAL BLEACH I (EPA Reg. No. 67619-8)
IN SANITATION OF RESTAURANTS AND TAVERNS**

An unclean kitchen and contaminated food can result in the spread of infectious disease. To help avoid this, it is important to keep all work surfaces, equipment and utensils hygienically clean. Commercial Solutions® Ultra Clorox® Germicidal Bleach I is a highly effective, economical and convenient germicide for this use in restaurants and taverns, as well as in the home.

TO SANITIZE WORK SURFACES (not utensils): After each use, scrub thoroughly with hot suds; rinse with clear, cold water. Then prepare a 200 ppm available chlorine sanitizing solution. Apply this solution 1 minute. Air dry.

TO DISINFECT WORK SURFACES (not utensils): After each use, scrub thoroughly with hot suds; rinse with clear, cold water. Then prepare a 2400 ppm available chlorine disinfecting solution. Apply this solution 2 minutes. Rinse with potable water. Air dry.

TO SANITIZE DISHES, GLASSWARE, UTENSILS: Wash thoroughly; then soak 1 minute in a 200 ppm available chlorine solution [made with hot water]. Use chlorine test strips to adjust to 200 ppm available chlorine. Drain dry. (Do not use on steel, aluminum, silver, or chipped enamel. Disinfect these by scalding.)

DISINFECTING SINK AND SANITIZING DISHCLOTH[S]: should be a routine follow-up to dishwashing. First wash sink and rinse dishcloth[s] in hot suds. Drain out sudsy water. Then fill with a 2400 ppm available chlorine solution. Let stand 2 minutes. Swish dishcloth[s] in this solution; then use it to wipe sides of sink. Soak dishcloth[s] for 1 minute in this solution. Then rinse sink and dishcloth[s] with clear water.

TO DEODORIZE DRAIN PIPES: Flush with very hot water followed by 3/4 cup of Commercial Solutions® Ultra Clorox® Germicidal Bleach I. Wait 5 minutes; flush out with clear water.

TO SANITIZE REFRIGERATORS: First wash inside surfaces. Then wipe with a 200 ppm available chlorine solution made with warm water. Let stand for [at least] 1 minute. Air dry. (Do not use on steel, aluminum, silver, or chipped enamel.)

ICE CREAM FREEZERS - to clean and sanitize: After using, flush with warm water until water runs clear. Scrub or pressure-spray with solution prepared by thoroughly mixing 1 oz [regular] [powdered] detergent with each gallon of 400 ppm available chlorine solution. Rinse thoroughly with clean, clear water; drain. Immediately before use, sanitize for 2 minutes with a 200 ppm available chlorine solution, drain thoroughly.

TO DISINFECT HARD, NONPOROUS FLOORS (plastic or ceramic tile): Prepare a 2400 ppm available chlorine solution. Mop or scrub. (Do not use on cork or linoleum.) Let stand 2 minutes. Rinse.

TO SANITIZE BRUSHES, MOPS AND BROOMS: After using brushes, mops and brooms, wash thoroughly; then soak for 2 minutes in a 2400 ppm available chlorine solution made with warm water. Rinse with clear water; dry. (Not recommended for cellulose sponge mops.)

TO SANITIZE PAILS AND DUSTPANS: Remove heavy dirt prior to cleaning. Wash with a 2400 ppm available chlorine solution. Let stand 2 minutes. Rinse with clear, cold water. Air dry.

TO DEODORIZE AND SANITIZE GARBAGE CANS: Remove heavy dirt with a cleaner. Rinse. Pour in a 2400 ppm available chlorine solution. Swab inside surfaces with this solution. Let stand 2 minutes. Rinse with clear water; dry.



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**COMMERCIAL SOLUTIONS® ULTRA CLOROX® GERMICIDAL BLEACH I (EPA Reg. No. 67619-8)
FOR SANITIZING SOLUTIONS® FOR EQUIPMENT AND UTENSILS**

Before using Commercial Solutions® Ultra Clorox® Germicidal Bleach I, food products and packaging materials must be removed from the room or kept protected.

Before they are treated with a bleach solution, the food processing equipment and utensils must be thoroughly washed and then rinsed with clear, cold water.

The bleach solution used for sanitizing should not exceed 200 ppm (parts per million) available chlorine. (Use chlorine test strips to adjust to 200 ppm available chlorine.) The bleach solution should be applied by spraying, soaking or scrubbing. Treated surfaces should remain wet for at least one minute.

A potable water rinse is not required, provided the equipment and utensils are adequately drained before they come into contact with food. Little or no residue should remain to adulterate or otherwise affect edible products.



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**COMMERCIAL SOLUTIONS® ULTRA CLOROX® GERMICIDAL BLEACH I (EPA Reg. No. 67619-8)
FOR SWIMMING POOL DISINFECTION**

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Commercial Solutions® Ultra Clorox® Germicidal Bleach I is a 6.15% sodium hypochlorite solution, containing approximately 5.84% available chlorine by weight. The purity of its ingredients and the carefully supervised process of its manufacture make Commercial Solutions® Ultra Clorox® Germicidal Bleach I a quality source of chlorine for water treatment in swimming and wading pools. Commercial Solutions® Ultra Clorox® Germicidal Bleach I is especially suitable for use in chlorinators as it is a liquid and has no insoluble particles. Commercial Solutions® Ultra Clorox® Germicidal Bleach I is widely used as a source of chlorine for swimming pool sanitation and does not have any adverse effects on materials used in pool construction including swimming pool liners.

For each new filling of your pool, use following initial dosages of Commercial Solutions® Ultra Clorox® Germicidal Bleach I.

| Swimming Pool Size in Gallons | Initial Dosage of Commercial Solutions® Germicidal Bleach I | Swimming Pool Size in Gallons | Initial Dosage of Commercial Solutions® Germicidal Bleach I |
|--------------------------------------|--------------------------------------------------------------------|--------------------------------------|--------------------------------------------------------------------|
| 5,000 | 2 3/4 cups | 20,000 | 10 1/2 cups |
| 6,000 | 3 1/4 cups | 25,000 | 13 1/2 cups |
| 8,000 | 4 1/4 cups | 30,000 | 16 cups |
| 10,000 | 5 1/4 cups | 35,000 | 19 cups |
| 15,000 | 8 cups | | |

NOTE: 2 cups = 1 pint; 4 cups = 1 quart; 16 cups = 1 gallon

To determine the volume of water in the pool when filled, figure 7 1/2 gallons of water for each cubic foot of pool capacity. Three and 1/4 cups of Commercial Solutions® Ultra Clorox® Germicidal Bleach I per 6,000 gallons of water will supply approximately 2 ppm (parts per million) available chlorine, but this may dissipate rather rapidly in new water depending on the general sanitation conditions of the pool. Repeat dosage as needed to obtain 0.6 to 1.0 ppm available chlorine. Use chlorine test strips to adjust to the desired concentration.

In chlorinating a swimming pool, mix the required amount of Commercial Solutions® Ultra Clorox® Germicidal Bleach I with 10 parts water and feed this solution through a chlorinator into the main water supply line to the pool. The feeding rate should be adjusted so the required quantity of Commercial Solutions® Ultra Clorox® Germicidal Bleach I will be added uniformly throughout the filling of the pool; or, if the water is circulated through a filter, Commercial Solutions® Ultra Clorox® Germicidal Bleach I should be added throughout one complete circulation. If Commercial Solutions® Ultra Clorox® Germicidal Bleach I cannot be fed into the main water supply line, mix 1/2 pint of Commercial Solutions® Ultra Clorox® Germicidal Bleach I with 5 gallons of water and scatter over a portion of the pool surface; repeat until the required amount of Commercial Solutions® Ultra Clorox® Germicidal Bleach I has been scattered over entire surface of the pool.

Check chlorine level in pool water at least daily with a pool testing set and add Commercial Solutions® Ultra Clorox® Germicidal Bleach I as needed to maintain 0.6 to 1.0 ppm available chlorine. One and 5/8 cups of Commercial Solutions® Ultra Clorox® Germicidal Bleach I per 6,000 gallons of water will supply approximately 1.0 ppm available chlorine. Frequency of application of this dosage will vary depending on number of people using the pool, weather conditions (sunlight exposure) and general cleanliness of the pool area. Chlorine level for acid-stabilized pools should be maintained at 1.0 to 1.5 ppm available chlorine.

The effectiveness of the chlorine is best when the pool water has a pH range of 7.2 to 7.6. The pH of the pool water should be checked daily using a pool pH testing set and adjusted as necessary.



Service Bulletin for Commercial Solutions® Ultra Clorox® Germicidal Bleach I (EPA Reg. No. 67619-8)

**COMMERCIAL SOLUTIONS® ULTRA CLOROX® GERMICIDAL BLEACH I (EPA Reg. No. 67619-8)
FOR SWIMMING POOL DISINFECTION**

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The regular use of Commercial Solutions® Ultra Clorox® Germicidal Bleach I, in the above proportions, in the swimming pool usually prevents the growth of algae in the water; however, if algae growth is causing the pool water to look cloudy and uninviting, it may be corrected by doubling the initial dosage of Commercial Solutions® Ultra Clorox® Germicidal Bleach I for a few treatments. This additional Commercial Solutions® Ultra Clorox® Germicidal Bleach I should be added to the pool in the evening after the pool is out of use so the excess chlorine will be dissipated before the pool is used again.

If algae are growing on the bottom or walls of the pool, scrub pool with a solution of 7 cups of Commercial Solutions® Ultra Clorox® Germicidal Bleach I to 5 gallons of water applying solution with a fiber brush. The pool should be scrubbed while wet and rinsed off when algae growth has been removed; all of the growth and dirty solution would be flushed from the pool with clear water before the pool is refilled. Avoid skin contact with undiluted Commercial Solutions® Ultra Clorox® Germicidal Bleach I; if such contact occurs, rinse immediately with water. When added as recommended, Commercial Solutions® Ultra Clorox® Germicidal Bleach I has no deleterious effects on the eyes, nasal passages, or skin of people using the pool and will have no effect on swimming apparel.

**COMMERCIAL SOLUTIONS® ULTRA CLOROX® GERMICIDAL BLEACH I (EPA Reg. No. 67619-8)
FOR WADING POOL DISINFECTION**

Commercial Solutions® Ultra Clorox® Germicidal Bleach I - a 6.15% sodium hypochlorite solution containing approximately 5.84% available chlorine by weight - is a convenient, economical source of chlorine for water treatment in swimming and wading pools. Also, because Commercial Solutions® Ultra Clorox® Germicidal Bleach I is a liquid with no insoluble particles, it is especially suitable for this use.

In chlorinating wading pools, use 1/8 cup per 100 gallons of new water. Mix required amount of Commercial Solutions® Ultra Clorox® Germicidal Bleach I with 2 gallons of water and scatter over surface of pool. Mix uniformly with pool water.

Between fillings of pool, add 1 tablespoon of Commercial Solutions® Ultra Clorox® Germicidal Bleach I per 100 gallons of water each day. Empty small pools daily. (Commercial Solutions® Ultra Clorox® Germicidal Bleach I will not harm plastic pools.)

The chart below is a guide to the amount of Commercial Solutions® Ultra Clorox® Germicidal Bleach I to add to various sized round pools. One-eighth cup of Commercial Solutions® Ultra Clorox® Germicidal Bleach I should be added to every 100 gallons of pool water.



Service Bulletin for Commercial Solutions® Ultra Clorox® Germicidal Bleach I (EPA Reg. No. 67619-8)

**COMMERCIAL SOLUTIONS® ULTRA CLOROX® GERMICIDAL BLEACH I (EPA Reg. No. 67619-8)
FOR SWIMMING POOL DISINFECTION**

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Pool Diameter

| Depth of Water | 4 Ft | 6 Ft | 8 Ft | 10 Ft | 15 Ft |
|-----------------------|-------------|-------------|-------------|--------------|--------------|
| 6 inches | 1/16 cup | 1/8 cup | 1/4 cup | 3/8 cup | 3/4 cup |
| 1 foot | 1/8 cup | 1/4 cup | 1/2 cup | 3/4 cups | 1 5/8 cups |
| 2 feet | 1/4 cup | 1/2 cup | 1 cup | 1 1/2 cups | 3 1/4 cups |
| 3 feet | 3/8 cup | 3/4 cup | 1 1/2 cups | 2 1/4 cups | 5 cups |

TABLE OF LIQUID MEASURES:

| | | | | | | |
|-------|---|----------|---|-----------|---|----------|
| 3 tsp | = | 1 Tbsp | = | 1/2 Ounce | = | 1/16 Cup |
| Tbsp | = | 8 Ounces | = | 1 Cup | = | 1/2 Pint |

Stabilized pools should maintain a residual of 1.0 to 1.5 ppm available chlorine. Test the pH, available chlorine residual and alkalinity of the water frequently with appropriate test kits. Frequency of water treatment will depend upon temperature and number of swimmers.



Service Bulletin for Commercial Solutions® Ultra Clorox® Germicidal Bleach I (EPA Reg. No. 67619-8)

**COMMERCIAL SOLUTIONS® ULTRA CLOROX® GERMICIDAL BLEACH I (EPA Reg. No. 67619-8)
FOR BACTERICIDAL EFFICACY**

Commercial Solutions® Ultra Clorox® Germicidal Bleach I, when used as directed below, is effective against the following bacteria:

Gram positive bacteria including:

Staphylococcus aureus

Streptococcus pyogenes

Methicillin Resistant Staphylococcus aureus

Gram negative bacteria including:

Salmonella choleraesuis

Pseudomonas aeruginosa

Escherichia coli serotype 0157:H7

Legionella pneumophila

Shigella dysenteriae

Directions for use:

Hard Non-porous Surfaces:

To disinfect hard non-porous surfaces, [first] clean surface by removing gross filth (loose dirt, debris, food materials, etc.). Prepare a 2400 ppm available chlorine solution. Thoroughly wet surface with the solution and allow it to remain on the surface for 2 minutes. Rinse with clean water and dry.

TO SANITIZE GARBAGE CANS/DIAPER PAILS: Pre-clean garbage can/diaper pail with a cleaning product prior to sanitization. Rinse with water and drain. Pour in 2400 ppm available chlorine solution. Let stand [at least] 2 minutes. Rinse and air dry.

Toilet Bowls: Flush toilet to remove gross filth. Add 2/3 cup of Commercial Solutions® Ultra Clorox® Germicidal Bleach I to the bowl and brush surfaces thoroughly, making sure to get under the rim. Let stand 2 minutes before flushing again.

Use Sites

Commercial Solutions® Ultra Clorox® Germicidal Bleach I can be used on hard non-porous surfaces in commercial, institutional, hospital and premises (including kitchens, bathrooms, nurseries, sick rooms, laundry rooms), eating establishments, pet kennels and veterinary premises.



Service Bulletin for Commercial Solutions® Ultra Clorox® Germicidal Bleach I (EPA Reg. No. 67619-8)

**COMMERCIAL SOLUTIONS® ULTRA CLOROX® GERMICIDAL BLEACH I (EPA Reg. No. 67619-8)
TUBERCULOCIDAL EFFICACY**

Commercial Solutions® Ultra Clorox® Germicidal Bleach I, when used as directed below, is effective against *Mycobacterium bovis*.

Directions for use:

Hard Nonporous Surfaces:

To disinfect hard nonporous surfaces, [first] clean surface by removing gross filth (loose dirt, debris, food materials, etc.). Prepare a 5000 ppm available chlorine solution. Thoroughly wet surface with the solution and allow it to remain in contact with the surface for 5 minutes. Rinse with clean water and dry.

Use Sites

Commercial Solutions® Ultra Clorox® Germicidal Bleach I can be used on hard non-porous surfaces in commercial, institutional, hospital and premises (including kitchens, bathrooms, nurseries, sick rooms, laundry rooms), eating establishments, pet kennels and veterinary premises.



Service Bulletin for Commercial Solutions® Ultra Clorox® Germicidal Bleach I (EPA Reg. No. 67619-8)

**COMMERCIAL SOLUTIONS® ULTRA CLOROX® GERMICIDAL BLEACH I (EPA Reg. No. 67619-8)
VIRUCIDAL ‡ EFFICACY**

‡Commercial Solutions® Ultra Clorox® Germicidal Bleach I, when used as directed below, is effective against the following viruses on hard, nonporous, inanimate surfaces:

| | |
|----------------------------------------------------|-------------------------------|
| <i>Adenovirus Type 2</i> | <i>Rotavirus</i> |
| <i>Hepatitis A</i> | <i>Cytomegalovirus</i> |
| <i>Human Immunodeficiency Virus Type 1(HIV-1)*</i> | <i>Influenza A2</i> |
| <i>Respiratory syncytial virus</i> | <i>Varicella zoster virus</i> |
| <i>Herpes simplex virus 2</i> | <i>Rhinovirus Type 17</i> |
| <i>Rubella virus</i> | <i>Canine parvovirus**</i> |
| <i>Feline parvovirus**</i> | |

Directions for use:

Hard Non-porous Surfaces:

To disinfect hard non-porous surfaces, [first] clean surface by removing gross filth (loose dirt, debris, food materials, etc.). Prepare a 2400 ppm available chlorine solution. Thoroughly wet surface with the solution and allow it to remain in contact with the surface for 5 minutes. Rinse with clean water and dry.

*see directions in the Clorox® Service Bulletin entitled “Special Instructions for Using CPPC Ultra Bleach to Clean and Decontaminate Against HIV on Surfaces/Objects Soiled with Blood/Body Fluids”

**For Canine and Feline parvovirus use the same instructions as above but keep the solution in contact with the surface for 10 minutes.

TO SANITIZE GARBAGE CANS/DIAPER PAILS: Pre-clean garbage can/diaper pail with a cleaning product prior to sanitization. Rinse with water and drain. Pour in 2400 ppm available chlorine solution. Let stand [at least] 1 minute. Rinse and air dry.

Toilet Bowls: Flush toilet to remove gross filth. Add 3/4 cup of Commercial Solutions® Ultra Clorox® Germicidal Bleach I to the bowl and brush surfaces thoroughly, making sure to get under the rim. Let stand 2 minutes before flushing again.

Use Sites

Commercial Solutions® Ultra Clorox® Germicidal Bleach I can be used on hard non-porous surfaces in commercial, institutional, hospital and premises (including kitchens, bathrooms, nurseries, sick rooms, laundry rooms), eating establishments, pet kennels and veterinary premises.



Service Bulletin for Commercial Solutions® Ultra Clorox® Germicidal Bleach I (EPA Reg. No. 67619-8)

**COMMERCIAL SOLUTIONS® ULTRA CLOROX® GERMICIDAL BLEACH I (EPA Reg. No. 67619-8)
FUNGICIDAL EFFICACY**

Commercial Solutions® Ultra Clorox® Germicidal Bleach I, when used as directed below, is effective against molds, Athlete's foot fungus (*Trichophyton mentagrophytes*), and Mildew (*Aspergillus niger*).

Directions for use:

Hard Non-porous Surfaces:

To disinfect hard non-porous surfaces, [first] clean surface by removing gross filth (loose dirt, debris, food materials, etc.). Prepare a 2400 ppm available chlorine solution. Thoroughly wet surface with the solution and allow it to remain on the surface for 2 minutes. Rinse with clean water and dry.

TO SANITIZE GARBAGE CANS/DIAPER PAILS: Pre-clean garbage can/diaper pail with a cleaning product prior to sanitization. Rinse with water and drain. Pour in 2400 ppm available chlorine solution. Let stand [at least] 2 minutes. Rinse and air dry.

Use Sites

Commercial Solutions® Ultra Clorox® Germicidal Bleach I can be used on hard non-porous surfaces in commercial, institutional, hospital and premises (including kitchens, shower stalls, bathrooms, nurseries, sick rooms, laundry rooms), eating establishments, pet kennels and veterinary premises.



Service Bulletin for Commercial Solutions® Ultra Clorox® Germicidal Bleach I (EPA Reg. No. 67619-8)

Special Instructions for Using COMMERCIAL SOLUTIONS® ULTRA CLOROX® GERMICIDAL BLEACH I (EPA Reg. No. 67619-8) to Clean and Decontaminate Against HIV on Surfaces/Objects Soiled with Blood/Body Fluids

Commercial Solutions® Ultra Clorox® Germicidal Bleach I kills HIV-1 on pre-cleaned environmental surfaces/objects previously soiled with blood/body fluids in health care settings (e.g. hospitals, nursing homes) or other settings in which there is an expected likelihood of soiling of inanimate surfaces/objects with blood or body fluids, and in which the surfaces/objects likely to be soiled with blood or body fluids can be associated with the potential for transmission of Human Immunodeficiency Virus Type 1 (HIV-1) (associated with AIDS).

Personal Protection: When handling items soiled with blood or body fluids, use disposable latex gloves, gowns, masks, and eye coverings.

Cleaning Procedure: Blood and other body fluids must be thoroughly cleaned from surfaces and other objects before applying Commercial Solutions® Ultra Clorox® Germicidal Bleach I.

Dilution and Contact time: Prepare a 2400 ppm available chlorine solution and spray or flood surface; let stand 2 minutes.

Disposal of infectious materials: Use disposable latex gloves, gowns, masks, and eye coverings. Blood and other body fluids should be autoclaved and disposed of according to local regulations for infectious waste disposal.



Service Bulletin for Commercial Solutions® Ultra Clorox® Germicidal Bleach I (EPA Reg. No. 67619-8)

**COMMERCIAL SOLUTIONS® ULTRA CLOROX® GERMICIDAL BLEACH I (EPA Reg. No. 67619-8)
FOR FRUIT & VEGETABLE WASHING**

Thoroughly clean all fruits and vegetables in a wash tank. Prepare a sanitizing solution of 25 ppm available chlorine. After draining the tank, submerge fruit or vegetables for 2 minutes in a second wash tank containing the recirculating sanitizing solution. Spray rinse vegetables with the sanitizing solution prior to packaging. Rinse fruit with potable water only prior to packaging.



Service Bulletin for Commercial Solutions® Ultra Clorox® Germicidal Bleach I (EPA Reg. No. 67619-8)

**COMMERCIAL SOLUTIONS® ULTRA CLOROX® GERMICIDAL BLEACH I (EPA Reg. No. 67619-8)
CANDIDA ALBICANS EFFICACY**

Directions for use:

Hard Non-porous Surfaces:

To disinfect hard non-porous surfaces, [first] clean surface by removing gross filth (loose dirt, debris, food materials, etc.) Prepare a solution of 2400 ppm available chlorine solution. Thoroughly wet surface with the solution and allow it to remain in contact with the surface for 2 minutes. Rinse with clean water and dry.

TO SANITIZE DIAPER PAILS: Pre-clean diaper pails with a cleaning product prior to sanitization. Rinse with water and drain. Pour in 2400 ppm available chlorine solution. Let stand [at least] 2 minutes. Rinse and air dry.

Use Sites

Commercial Solutions® Ultra Clorox® Germicidal Bleach I can be used on hard non-porous surfaces in commercial, institutional, hospital and premises (including kitchens, bathrooms, nurseries, sick rooms, laundry rooms), eating establishments, pet kennels and veterinary premises.



Service Bulletin for Commercial Solutions® Ultra Clorox® Germicidal Bleach I (EPA Reg. No. 67619-8)

**COMMERCIAL SOLUTIONS® ULTRA CLOROX® GERMICIDAL BLEACH I (EPA Reg. No. 67619-8)
FOR DISINFECTION USES (2400 PPM FOR 1 MINUTE) [(SPRAY APPLICATIONS)]**

Commercial Solutions® Ultra Clorox® Germicidal Bleach I can be diluted and spray applied for convenient broad spectrum disinfection of hard, non-porous surfaces in homes, hospitals, commercial, institutional, and eating establishments.

Directions for use:

Hard Non-porous Surfaces:

To disinfect hard non-porous surfaces, first clean surface by removing gross filth (loose dirt, debris, food materials, etc.). Spray surface using a coarse spray with 2400 ppm available chlorine solution until thoroughly wet. Allow it to remain on the surface for 1 minute. Rinse and dry. To ensure sodium hypochlorite bleach stability, prepare solutions daily.



Service Bulletin for Commercial Solutions® Ultra Clorox® Germicidal Bleach I (EPA Reg. No. 67619-8)

**COMMERCIAL SOLUTIONS® ULTRA CLOROX® GERMICIDAL BLEACH I (EPA Reg. No. 67619-8)
FOR DISINFECTION USES (800 PPM FOR 2 MINUTES) [(SPRAY APPLICATIONS)]**

Commercial Solutions® Ultra Clorox® Germicidal Bleach I can be diluted and spray applied for convenient broad spectrum disinfection of hard, non-porous surfaces in homes, hospitals, commercial, institutional, and eating establishments.

Directions for use:

Hard Non-porous Surfaces:

To disinfect hard non-porous surfaces, [first] clean surface by removing gross filth (loose dirt, debris, food materials, etc.) Spray surface using a coarse spray with 800 ppm available chlorine solution until thoroughly wet. Allow it to remain on the surface for 2 minutes. Rinse and dry. To ensure sodium hypochlorite bleach stability, prepare solutions daily.



Service Bulletin for Commercial Solutions® Ultra Clorox® Germicidal Bleach I (EPA Reg. No. 67619-8)

USE COMMERCIAL SOLUTIONS® ULTRA CLOROX® GERMICIDAL BLEACH I (EPA Reg. No. 67619-8) IN SANITIZING CYCLE OF CHEMICAL SANITIZING DISHWASHING MACHINES

Commercial Solutions® Ultra Clorox® Germicidal Bleach I is an approved sanitizing agent for use in the sanitizing cycle of chemical sanitizing dishwashing machines.

Usage Directions

1. Hook up a bottle of Commercial Solutions® Ultra Clorox® Germicidal Bleach I to the automatic bleach dispensing system of the chemical sanitizing dishwashing machine. If the bottle is already in place, make sure that sufficient Commercial Solutions® Ultra Clorox® Germicidal Bleach I remains in the bottle to complete the dishwashing job.
2. Wash tableware in the machine following the manufacturer's operating instructions.
3. After the washing/rinsing/sanitizing cycles are completed, remove the dishwashing rack. Let stand 2 minutes. Allow the tableware to air dry.

Please Note: Do not sanitize silverware or pewter with Commercial Solutions® Ultra Clorox® Germicidal Bleach I as these metals may darken.

Bleach Dispensing System Adjustments

The following steps must be followed before using the new chemical sanitizing dishwashing machine, and on a regular basis thereafter:

1. Start machine and let run until the machine has begun the final rinse cycle.
2. Take a sample of the rinse water.
3. Using a special test kit, determine the part per million (ppm) of available chlorine in the sample.
4. If the ppm of available chlorine is lower than the minimum or higher than the maximum level of available chlorine permitted by local public health authorities, adjust the bleach dispensing system.
5. Repeat steps "1" through "3" of this section until a correct ppm of available chlorine is achieved.

Your equipment service representative or dishwashing detergent supplier will often make these adjustments for you.

Correct Chlorine Concentration

Local public health codes vary with regard to the parts per million of available chlorine permitted in the final rinse water of chemical sanitizing dishwashing machines. The minimum level is 50 ppm of available chlorine with a maximum level of 200 ppm, although some states require 100 ppm minimum level. Check with your local public health department on the applicable regulations for your area.



Service Bulletin for Commercial Solutions® Ultra Clorox® Germicidal Bleach I (EPA Reg. No. 67619-8)

**COMMERCIAL SOLUTIONS® ULTRA CLOROX® GERMICIDAL BLEACH I (EPA Reg. No. 67619-8)
PLANT PARASITIC NEMATODES AND PLANT DISEASE-CAUSING FUNGI QUARANTINE USE DIRECTIONS**

- Crop/Site/Commodity:** 1. Walks, benches, tools, plant containers in nurseries and other quarantine areas.
2. Farm equipment and machinery.
3. Laboratory work areas, equipment and specimens.
4. Deciduous fruit tree nursery stock (dormant)
- Target Pest/Problem:** Plant parasitic nematodes, plant disease-causing fungi and for general surface disinfection.
- Dosage:** See dilution rate.
- Dilution Rate:** Six parts water with one part Commercial Solutions® Ultra Clorox® Germicidal Bleach I (equals approximately 0.85% active ingredient).
- Laboratory work areas, equipment and specimens:** Prepare a solution of five or six parts water to one part Commercial Solutions® Ultra Clorox® Germicidal Bleach I. Scrub areas and implements thoroughly, then wipe or allow to dry naturally. It is advisable that workers doing the treatment wear waterproof gloves. Small tools or implements, and other items covered above may be immersed for five to ten minutes in the solution instead of scrubbing manually. Wipe off plant tissue or soak tissue in the solution.
- Deciduous Fruit Tree Nursery Stock:** Five or six parts water with one part Commercial Solutions® Ultra Clorox® Germicidal Bleach I (equals approximately 0.85% to 1.0% active ingredient).
- Method of Application:** Drench and dip method.
- Deciduous Fruit Tree Nursery Stock:
1. Thoroughly clean all soil from roots.
2. Dip entire tree root system in solution for 30 to 45 seconds.
3. Immediately rinse tree root system with clean water upon removal from dip solution.
- Frequency/Timing of Application:** As needed.
- Deciduous Fruit Tree Nursery Stock:
One application at harvest (tree-digging period)
- Field Reentry After Application:** Not applicable.
- Preharvest Interval:** Not applicable.
- Other Requirements:** Do not apply through any type of irrigation system.
- Deciduous Fruit Tree Nursery Stock:
Workers required to wear eye protection and waterproof gloves.



Service Bulletin for Commercial Solutions® Ultra Clorox® Germicidal Bleach I (EPA Reg. No. 67619-8)

**COMMERCIAL SOLUTIONS® ULTRA CLOROX® GERMICIDAL BLEACH I (EPA Reg. No. 67619-8)
KARNAL BUNT QUARANTINE TREATMENT USE DIRECTIONS**

Crop/Site/Commodity: Tools, conveyances, mechanized farm equipment, seed conditioning or milling equipment, soil moving equipment, or grain elevators and structures used for storing and handling grain.

Target Pest/Problem: Karnal bunt (*Tilletia indica*)

Dosage: See dilution rate.

Dilution Rate: Mix 1 part Commercial Solutions® Ultra Clorox® Germicidal Bleach I to 3 parts water (equals approximately 1.5% active ingredient).

Method of Application: Before treating remove all soil and plant debris. The dilute solution of sodium hypochlorite will be used to wet the point of runoff surfaces potentially exposed to the pathogen. Saturate any soil removed by the treatment with the solution. It is recommended that the equipment or site be thoroughly washed down with clean water after 15 minutes to minimize corrosion.

**Additional Restrictions,
User Precautions
and Requirements:**

Be sure treated surfaces are dry before handling. Protective impervious gloves and safety goggles should be worn when mixing this disinfectant. Protective impervious gloves should be worn while handling or using the dilute mixture. Do not ingest Commercial Solutions® Ultra Clorox® Germicidal Bleach I. Do not breathe vapor or mist. Do not get in eyes, on skin, or on clothing. Store away from flammable materials. Keep containers tightly closed. Wash thoroughly after handling. Use only with adequate ventilation.



Service Bulletin for Commercial Solutions® Ultra Clorox® Germicidal Bleach I (EPA Reg. No. 67619-8)

**COMMERCIAL SOLUTIONS® ULTRA CLOROX® GERMICIDAL BLEACH I (EPA Reg. No. 67619-8)
FOR EMERGENCY DISINFECTION AFTER MAIN BREAKS**

Mains

Before assembly of the repaired section, flush out mud and soil. Permit water flow of at least 2.5 feet per minute to continue under pressure while injecting Commercial Solutions® Ultra Clorox® Germicidal Bleach I by means of a hypochlorinator. Stop water flow when a chlorine residual test of 50 ppm is obtained at the low pressure end of the new main section after a 24 hour retention time. When chlorination is completed, the system must be flushed free of all heavily chlorinated water.



Service Bulletin for Commercial Solutions® Ultra Clorox® Germicidal Bleach I (EPA Reg. No. 67619-8)

**COMMERCIAL SOLUTIONS® ULTRA CLOROX® GERMICIDAL BLEACH I (EPA Reg. No. 67619-8)
FOR DISINFECTION OF DRINKING WATER (POTABLE)
(Emergency/Public/Individual Systems)**

Public System

Mix a ratio of Commercial Solutions® Ultra Clorox® Germicidal Bleach I to water to produce a 10 ppm available chlorine by weight. Begin feeding this solution with a hypochlorinator until a free available chlorine residual of at least 0.2 ppm and no more than 0.6 ppm is attained throughout the distribution system. Check water frequently with a chlorine test kit. Bacteriological sampling must be conducted at a frequency no less than that prescribed by the National Interim Primary Drinking Water Regulations. Contact your local Health Department for further details.



Service Bulletin for Commercial Solutions® Ultra Clorox® Germicidal Bleach I (EPA Reg. No. 67619-8)

**COMMERCIAL SOLUTIONS® ULTRA CLOROX® GERMICIDAL BLEACH I (EPA Reg. No. 67619-8)
FOR EMERGENCY DISINFECTION AFTER DROUGHTS**

Supplementary Water Supplies

Gravity or mechanical hypochlorite feeders should be set up on a supplementary line to dose the water to a minimum chlorine residual of 0.2 ppm after a 20 minute contact time. Use a chlorine test kit.

Water shipped in By Tanks, Tank Cars, Trucks, etc.

Thoroughly clean all containers and equipment. Spray a 500 ppm available chlorine solution and rinse with potable water after 5 minutes. During the filling of the containers, dose with sufficient amounts of Commercial Solutions® Ultra Clorox® Germicidal Bleach I to provide at least a 0.22 ppm chlorine residual. Use a chlorine test kit.



Service Bulletin for Commercial Solutions® Ultra Clorox® Germicidal Bleach I (EPA Reg. No. 67619-8)

**COMMERCIAL SOLUTIONS® ULTRA CLOROX® GERMICIDAL BLEACH I (EPA Reg. No. 67619-8)
FOR EMERGENCY DISINFECTION AFTER FIRES**

Cross Connections or Emergency Connections

Hypochlorination or gravity feed equipment should be set up near the intake of the untreated water supply. Apply sufficient Commercial Solutions® Ultra Clorox® Germicidal Bleach I to give a chlorine residual of a least 0.1 to 0.2 ppm at the point where the untreated supply enters the regular distribution system. Use a chlorine test kit.



Service Bulletin for Commercial Solutions® Ultra Clorox® Germicidal Bleach I (EPA Reg. No. 67619-8)

**COMMERCIAL SOLUTIONS® ULTRA CLOROX® GERMICIDAL BLEACH I (EPA Reg. No. 67619-8)
FOR EMERGENCY DISINFECTION AFTER FLOODS**

Wells

Thoroughly flush contaminated casing with a 500 ppm available chlorine solution. Backwash the well to increase yield and reduce turbidity, adding sufficient chlorinating solution to the backwash to produce a 10 ppm available chlorine residual, as determined by a chlorine test kit. After the turbidity has been reduced and the casing has been treated, add sufficient chlorinating solution to produce a 50 ppm available chlorine residual. Agitate the well water for several hours and take a representative water sample. Re-treat well if water samples are biologically unacceptable.



Service Bulletin for Commercial Solutions® Ultra Clorox® Germicidal Bleach I (EPA Reg. No. 67619-8)

**COMMERCIAL SOLUTIONS® ULTRA CLOROX® GERMICIDAL BLEACH I (EPA Reg. No. 67619-8)
FOR ASPHALT OR WOOD ROOFS AND SIDINGS**

To control fungus and mildew, first remove all physical soil by brushing and hosing with clean water. Apply a 5000 ppm available chlorine solution by brushing or spraying roof or siding. After 30 minutes, rinse by hosing with clean water.



Service Bulletin for Commercial Solutions® Ultra Clorox® Germicidal Bleach I (EPA Reg. No. 67619-8)

**COMMERCIAL SOLUTIONS® ULTRA CLOROX® GERMICIDAL BLEACH I (EPA Reg. No. 67619-8)
FOR SPAS, HOT-TUBS, IMMERSION TANKS, ETC.**

Spas/Hot-Tubs: Using a dilution chart or formula, calculate an approximate amount of Commercial Solutions® Ultra Clorox® Germicidal Bleach I per 1000 gallons of water to obtain a free available chlorine concentration of 5 ppm, as determined by a suitable chlorine test kit. Adjust and maintain pool water pH to between 7.2 and 7.8. Some oils, lotions, fragrances, cleansers, etc. may cause foaming or cloudy water as well as reduce the efficiency of the Commercial Solutions® Ultra Clorox® Germicidal Bleach I.

1. **Maintaining the Water:** To maintain the water, apply the Commercial Solutions® Ultra Clorox® Germicidal Bleach I solution over the surface to maintain a chlorine concentration of 5 ppm.
2. **After Each Use:** Shock treat to control odor and algae, using the Commercial Solutions® Ultra Clorox® Germicidal Bleach I at a rate of 1 3/4 cups to 500 gallons of water.
3. **Periods of Disuse:** During periods of disuse, add Commercial Solutions® Ultra Clorox® Germicidal Bleach I daily to maintain a 3 ppm chlorine concentration.

HUBBARD AND IMMERSIONS TANKS: Before patient use, add Commercial Solutions® Ultra Clorox® Germicidal Bleach I to obtain a chlorine residual of 25 ppm, as determined by a suitable test kit. Adjust and maintain the water pH to between 7.2 and 7.6. After each use, drain the tank. Add 10 ounces of Commercial Solutions® Ultra Clorox® Germicidal Bleach I to a bucket of water and circulate this solution through the agitator of the tank for 15 minutes and then rinse out the solution. Clean tank thoroughly and dry with clean cloths.

HYDROTHERAPY TANKS: Add Commercial Solutions® Ultra Clorox® Germicidal Bleach I to the water to obtain a chlorine residual of 1 ppm as determined by a suitable chlorine test kit. Pool should not be entered until the chlorine residual is below 3 ppm. Adjust and maintain the water pH to between 7.2 and 7.6. Operate pool filter continuously. Drain pool weekly, and clean before refilling.



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COMMERCIAL SOLUTIONS® ULTRA CLOROX® GERMICIDAL BLEACH I (EPA Reg. No. 67619-8) FOR WATER DISINFECTION

Individual Systems

DUG WELLS: Upon completion of the casing (lining), wash the interior of the casing (lining) with a 100 ppm available chlorine solution using a stiff brush. After covering the well, pour the sanitizing solution into the well through both the pipesleeve opening and the pipeline. Wash the exterior of the pump cylinder also with the sanitizing solution. Start pump water until strong odor of chlorine in water is noted. Stop pump and wait at least 24 hours. After 24 hours flush well until all traces of chlorine have been removed from the water. Consult your local Health Department for further details.

Individual Water Systems

DRILLED, DRIVEN AND BORED WELLS: Run pump until water is as free from turbidity as possible. Pour a 100 ppm available chlorine sanitizing solution into the well. Add 5 to 10 gallons of clean, chlorinated water to the well in order to force the sanitizer into the rock formation. Wash the exterior of pump cylinder with the sanitizer. Drop pipeline into well, start pump and pump water until strong odor of chlorine in water is noted. Stop pump and wait at least 24 hours. After 24 hours flush well until all traces of chlorine have been removed from the water. Deep wells with high water levels may necessitate the use of special methods for introduction of the sanitizer into the well. Mix well [(2 drops to 1 quart)]. Consult your local Health Department for further details.

FLOWING ARTESIAN WELLS: Artesian wells generally do not require disinfection. If analysis indicates persistent contamination, the well should be disinfected. Consult your local Health Department for further details.

Emergency Disinfection

When boiling of water for 1 minute is not practical, water can be made potable by using Commercial Solutions® Ultra Clorox® Germicidal Bleach I. **Prior** to addition of the sanitizer, remove all suspended material by filtration or by allowing it to settle to the bottom. Decant the **clarified** contaminated water to a clean container and add 8 drops of Commercial Solutions® Ultra Clorox® Germicidal Bleach I to 1 gallon of water [(2 drops to 1 quart)]. Allow the treated water to stand for 30 minutes. Properly treated water **should** have a slight chlorine odor. If not, repeat dosage and allow the **water** to stand an additional 15 minutes. The treated water can then be made palatable by pouring it between clean containers for several times.

For cloudy water, use 16 drops of Commercial Solutions® Ultra Clorox® Germicidal Bleach I per gallon of water (4 drops to 1 quart). If no chlorine odor is apparent after 30 minutes, repeat dosage and wait an additional 15 minutes.



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COMMERCIAL SOLUTIONS® ULTRA CLOROX® GERMICIDAL BLEACH I (EPA Reg. No. 67619-8) FOR:

Crop/Site: Asparagus Seed treatment

Target Pest/Problem: To aid in the prevention of asparagus root rot (*Fusarium oxysporium* and *F. asparagi*)

Dosage: 5000 ppm available chlorine solution.

Dilution or Application Rate: Use 1 gallon of solution per pound of seed.

Method of Application: Wash seed in solution for 40 minutes, providing continuous agitation. After washing seed, spread and air dry.

Frequency/Timing of Applications: 1 application.

Preharvest Interval: Preplant treatment.

Other Requirements: Do not use treated seeds for food or feed. Allow to dry before storing, planting, or treating with other chemicals. Prepare fresh solution for each batch of seed.

Crop/Site: Pepper Seed treatment

Target Pest/Problem: To aid in the prevention of bacterial spot (*Xanthomonas vesicatoria*)

Dosage: 10,000 ppm available chlorine solution.

Dilution or Application Rate: Use 1 gallon of solution per pound of seed.

Method of Application: Wash seed in solution for 40 minutes, providing continuous agitation. After washing seed, spread to air dry.

Frequency/Timing of Application: 1 application.

Preharvest Interval: Preplant treatment.

Other Requirements: Do not use treated seed for food or feed. Allow to dry before storing, planting, or treating with other chemicals. Prepare fresh solution for each batch of seed.

Crop/Site: Tomato Seed treatment

Target Pest/Problem: To aid in the control of bacterial canker (*Corynebacterium michiganense*) and tobacco mosaic virus (TMV).

Dosage: 10,000 ppm available chlorine solution.

Dilution or Application Rate: Use 1 gallon solution per pound of seed.

Method of Application: Wash seed in solution for 40 minutes, providing continuous agitation. After washing seed, spread to air dry.

Frequency/Timing of Application: 1 application.

Preharvest Interval: Preplant treatment.

Other Requirements: Do not use treated seed for food or feed. Allow to dry before storing, planting, or treating with other chemicals. Prepare fresh solution for each batch of seed.



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**COMMERCIAL SOLUTIONS® ULTRA CLOROX® GERMICIDAL BLEACH I (EPA Reg. No. 67619-8)
FOR PORT ORFORD CEDAR ROOT DISEASE (*Phytophthora lateralis*) TREATMENT USE**

When used as directed, Commercial Solutions® Ultra Clorox® Germicidal Bleach I is effective in controlling the spread of the fatal fungus *Phytophthora lateralis* [Port Orford Cedar Root Disease] in areas of California and Oregon where Port Orford Cedar (*Chamaecyparis lawsoniana*) grows.

Water is commonly drafted from streams and fire ponds within forested areas to use in dust abatement on forest roads, equipment cleaning and for fire suppression. The water source can spread the root disease fungus to uninfested areas. Treating water prior to use helps control the spread of the fungus.

Directions for Use: Add 1 gallon of Commercial Solutions® Ultra Clorox® Germicidal Bleach I to 1000 gallons (~50 ppm available chlorine) of drafted water. Prepare the mixture at least 5 minutes prior to application dust abatement, fire suppression and cleaning trucks, and logging, road building and maintenance equipment.



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COMMERCIAL SOLUTIONS® ULTRA CLOROX® GERMICIDAL BLEACH I (EPA Reg. No. 67619-8) DILUTION TABLE

To obtain a solution with an approximate available chlorine level (parts per million), thoroughly mix the indicated amounts of Commercial Solutions® Ultra Clorox® Germicidal Bleach I and water. Chlorine test strips should be used to adjust to the desired available chlorine level. Always test to ensure efficacy.

| Approximate ppm Available Chlorine | Volume of Commercial Solutions® Ultra Clorox® Germicidal Bleach I | Volume of Water |
|------------------------------------|-------------------------------------------------------------------|-----------------|
| 10,000 | 2 pints | 9 1/2 pints |
| 5,000 | 3 oz | 1 quart |
| | 1 1/2 cups | 1 gallon |
| | 7 1/2 cups | 5 gallons |
| 2,400 | 1 part | 23 parts |
| | 4 tsp | 1 pint |
| | 2 2/3 Tbsp | 1 quart |
| | 2/3 cup | 1 gallon |
| | 1 1/3 cup | 2 gallons |
| | 2 cups | 3 gallons |
| 1,600 | 3 1/3 cups | 5 gallons |
| | 7 Tbsp | 1 gallon |
| 1,200 | 7 oz | 2 gallons |
| | 1/3 cup | 1 gallon |
| 800 | 1 cup | 3 gallons |
| | 4 tsp | 1 1/2 quart |
| | 3 1/2 Tbsp | 1 gallon |
| 400 | 7 oz | 4 gallons |
| | 2 tsp | 1 1/2 quart |
| | 1 3/4 Tbsp | 1 gallon |
| | 7 Tbsp | 4 gallons |

| Approximate ppm Available Chlorine | Volume of Commercial Solutions® Ultra Clorox® Germicidal Bleach I | Volume of Water |
|------------------------------------|-------------------------------------------------------------------|-----------------|
| 200 | 1 Tbsp | 1 gallon |
| | 1 oz | 2 gallons |
| | 2 1/2 oz | 5 gallons |
| | 5 oz | 10 gallons |
| | 1 quart 20 oz | 100 gallons |
| 75 | 4 gallons | 1000 gallons |
| | 1/4 tsp | 1 quart |
| | 1 tsp | 1 gallon |
| 50 | 1 Tbsp | 3 gallons |
| | 16 drops | 1 quart |
| | 3/4 tsp | 1 gallon |
| 25 | 1/2 oz | 4 1/2 gallons |
| | 2 1/2 Tbsp | 10 gallons |
| | 1 tsp | 3 gallons |
| 10 | 2 1/2 tsp | 7 1/2 gallons |
| | 5 tsp | 15 gallons |
| | 16 drops | 1 gallon |
| 5 | 3/4 tsp | 5 gallons |
| | 1 1/2 tsp | 10 gallons |
| 5 | 8 drops | 1 gallon |
| | 3/4 tsp | 10 gallons |

Table of Liquid Measures:

- 1 drop = 0.0017 oz
- 1 Tbsp = 3 tsp
- 1 ounce = 2 Tbsp
- 1 cup = 8 oz
- 1 pint = 2 cups = 16 oz
- 1 quart = 4 cups = 2 pints = 32 oz
- 1 gallon = 4 quarts = 8 pints = 16 cups = 128 oz