SERVICE BULLETINS

[For additional directions for use, including Service Bulletins, visit www.clorox.com/bleachuse.]
Note to reviewer: only approved language from the most recently approved federal master label will be posted to the website.

PUMA (EPA Reg. No. 5813-100 -or- 5813-100-67619 *if sub-registration*)
[REGISTERED AS (*Insert Registered Alternate Brand Name -or- sub-registration name*)]
CONSUMER USES
HOUSEHOLD [HINTS] [USE]

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

Clean [&] [Disinfect] Flower Pots and Planters:
Cleaning flower containers helps prevent the transfer of molds and diseases from old plants to new ones. Wash and [thoroughly] rinse pots and planters. Soak 5 minutes in a solution of 1/2 cup of this product to one gallon of water, then rinse.

Cold & Flu: [[To] Prevent the Spread of Cold & Flu Viruses -or- [To] Kill [the] Flu Virus[es] [on treated Hard, Nonporous Surfaces]:]
This product kills [99.9% of] all common household germs to help prevent the spread of germs in high traffic areas and children's items. Disinfect cribs, high chairs, and washable colorfast hard, nonporous toys quickly and easily with this product: Wash, wipe or rinse items with water. -or- Prewash items[.] [then] disinfect with a solution of 1/2 cup of this product per gallon of water. Let stand 5 minutes. Rinse thoroughly and air dry.

Deodorizing Cat's Litter Box:
Unpleasant cat box odors can be eliminated when this product is used to kill odor-causing germs. Wash litter box with sudsy water and rinse. Then wipe with a solution of 1/2 cup of this product per gallon of water. Let solution stand 5 minutes before rinsing thoroughly.

Disinfecting Baby Furniture and Hard, Nonporous Toys -or- Hard, Nonporous Kid's Toys:
Painted and enameled cribs, changing tables and high chairs, plastic mattress covers and bumpers, and washable colorfast hard, nonporous toys are disinfected quickly and easily with this product. Plus, this product kills [99.9% of] all common household germs, including those that cause odors. This product leaves baby's room clean and fresh smelling. Disinfect with a solution of 1/2 cup product in 1 gallon of water. Let stand 5 minutes. Rinse and allow to [air] dry. -or- For washable colorfast hard, nonporous toys, disinfect with a solution of 3/4 cup bleach in 1 gallon of water. Let stand 5 minutes. Rinse and allow to [air] dry.

Disinfect Pet Areas -and/or- Nonporous Toys -and/or- Accessories
This product can disinfect your pet areas -and/or- nonporous toys -and/or- accessories. Disinfect with a solution of 1/2 cup product in 1 gallon of water. [Pre-]wash surface, soak or wipe with bleach solution[. Allow solution to contact surface] for at least 5 minutes. Rinse well and air dry.

Eliminating Garbage Can Odors:
This product can deodorize and sanitize your garbage cans by eliminating the bacteria that cause odors. Wash garbage cans with soapy water and rinse. Then to deodorize and sanitize, swish a solution of 1/2 cup of this product per gallon of water over the inside of the can. Let the solution stand 5 minutes before rinsing.

Eliminating Refrigerator Odors:
This product kills odor causing bacteria and leaves your refrigerator smelling fresh and clean. Use it inside and out. Remove food before using this product. Wash surfaces with a solution of 1/2 cup of this product per gallon of soapy water. Let stand 5 minutes. Rinse and then air dry interior surfaces a few minutes before replacing food.

Keep Christmas Trees Fresher Longer:
To prolong the life of a fresh cut tree, instead of using plain water in the tree stand bowl, use a solution of 1 1/2 tsp product per 1/2 gallon hot water, 1 cup corn syrup and 1/8 cup powdered chelated iron (available from local nurseries).

Keep Cut Flowers Fresh Longer:
Fresh cut flowers will stay beautiful longer if you add 1/4 teaspoon of this product to each quart of cold water. This product can also be used to remove flower vase stains and odors. Wash the vase thoroughly and then fill with a solution of 1/2 cup bleach to (1) gallon water. Let stand 5 minutes before rinsing.

Keep Wading Pools Sanitary:
As a general rule, use 5 tsp per 100 gallons of water. For example, an 8-foot diameter pool holding 1 foot of water would require 20 tsp -or- 3 oz of this product. To chlorinate, mix required amount of bleach with 2 gallons of water and scatter over surface of empty pool. Fill remainder of pool with water. Empty small pools daily.

Kitchen and Bathroom:
Clean, disinfect and deodorize sinks, countertops, bathtubs, showers, floors, vinyl and glazed tile.
1) Wash, wipe or rinse items with water.
2) Apply disinfecting solution of 1/2 cup of this product per gallon of water.
3) Let stand 5 minutes before rinsing.
4) Rinse thoroughly and air dry.

Recharge Instructions for HaloSource™ [Treated] Products in Sink:
[To Recharge [the] antimicrobial properties:]
Fill sink with a gallon of water. Add 1/2 cup of this product. Soak HaloSource™ [treated] products in solution for [at least] 5 minutes, then rinse products and sink. Allow to air dry.
-or-
Recharge HaloSource™ Products in Sink
This product can maintain or recharge products containing HaloShield™ or HaloFresh™, a patented textile treatment from HaloSource™. Fill sink with a gallon of water. Add 1/2 cup of this product. Soak cloths in solution for [at least] 5 minutes, then rinse sink and cloths. Allow to air dry.

Recharge HaloSource™ Products in Washer
This product can maintain or recharge products containing HaloShield™ or HaloFresh™, a patented textile treatment from HaloSource™. Wash regularly in a laundry load with 1/2 cup of this product. For HE -or- High Efficiency machines - use detergent and this product [(at least 1/3 cup)] as indicated in the machine dispenser[s]. Follow laundry use instructions.
-or-
Washer -or- Recharge Instructions for HaloSource™ [Treated] Products: Before Use: Wash in a [normal] laundry load with 1/2 cup of this product to activate [the] antimicrobial properties. Laundry detergent [and fabric softener] may be added [to the load]. For HE -or- High Efficiency machines - use detergent and this product [(at least 1/3 cup)] as indicated in the machine dispenser[s]. Dry in [the] dryer -or- tumble dry -or- air dry.
-or-
To Clean and Recharge [the] Antimicrobial Properties: Wash in a [normal] laundry load with detergent [and fabric softener] and 1/2 cup of this product. Dry in [the] dryer or air dry. Launder HaloSource™ [treated] products when visibly soiled -and/or- odor develops -and/or- during your regular laundry routine.

Removing Exterior Mold:
Mold [growing] on washable and colorfast exterior surfaces of your home, like siding, tile roofs, sealed brick, stucco and patio stone can be easily removed using this product. First, hose surfaces to remove loose soil. Then apply a solution of 3/4 cup of this product per 1 gallon of water to wet surfaces. Reapply the solution as needed to keep the area wet for 5 minutes. Rinse thoroughly to remove residue. [Avoid applying solution in direct sunlight or to unfinished wood.] Rinse quickly and thoroughly if solution comes in contact with aluminum window frames or gutters since metal corrosion may occur.

Removing Mold and Mildew:
[Mold and mildew in the bathroom can be removed easily and effectively using this product.] Simply wipe down surfaces using a solution of 3/4 cup of this product to each gallon of warm water. Keep surface wet 5 minutes; then rinse thoroughly and wipe dry. -or- Simply wipe down surfaces using a solution of 1/2 cup of this product to each gallon of warm water. Keep surface wet 10 minutes; then rinse thoroughly and wipe dry. Repeat, if necessary, on heavily soiled surfaces.

Removing Patio Moss and Mildew Stains:
Protect nearby plants and grass by watering area thoroughly before and after product use. Patio moss and mildew stains can be unsightly, slippery and dangerous. Hose patio to remove loose debris. Then use this product to remove moss and mildew stains by washing the area with a solution of 3/4 cup of this product to 1 gallon of water. Reapply the solution as needed to keep the area wet for 5 minutes. Brush as needed to remove moss and then rinse thoroughly. [Do not use on painted wood.] Avoid excessive runoff near plants.

Sanitize and Remove Stains from Kitchenware:
Tough stains can be removed from china, dinnerware, dishes, plastic and glassware with this product. Plus, this product sanitizes as it cleans. Wash items thoroughly as you normally would. Then soak for 2 minutes in a solution of 2 tsp of this product to each gallon of water. Then drain and air dry.

Sanitize Pet's Food and Water Bowls -or- Pet Bowl:
To sanitize pet food containers, wash bowls with detergent and rinse. Fill bowls with a solution of 2 tsp of this product -or- bleach per gallon of water. Let stand 2 minutes, drain and air dry.

Sanitize Wooden Cutting Boards -or- Cutting Boards:
1) Wash, wipe or rinse items with detergent and water.
2) Apply sanitizing solution of 2 tablespoons of this product -or- bleach per gallon of water.
3) Let stand 2 minutes.
4) Rinse all surfaces with a solution of 2 tsp of this product -or- bleach per gallon of water.
5) Do not rinse or soak equipment overnight.

Sanitizing Baby Items:
Baby bottles, nipples and dishes can be easily sanitized using this product. Soak washed items for 2 minutes in a solution of 2 tsp of this product per gallon of water. Pour solution through nipples; then drain dry.

Sanitizing Kitchen Cloths:
This product can help you deodorize and sanitize dishcloths while cleaning your sink at the same time. Fill sink with a gallon of water. Add 1/2 cup of this product. Soak kitchen cloths in solution for [at least] 5 minutes, then rinse sink and cloths. Allow to air dry.

Spring Cleaning: [[For] Eliminating Bacteria that Cause Household Odors:]
Sanitize and deodorize common household items, such as sinks, garbage cans, and refrigerators by eliminating the bacteria that cause odors.

Sinks:
Wash, wipe or rinse items with water. Apply solution of 1/2 cup of this product per gallon of water. Let stand 5 minutes before rinsing. Rinse thoroughly and air dry.

Garbage cans:
Wash garbage cans with soapy water and rinse. Swish a solution of 1/2 cup of this product per gallon of water over the inside of the can. Let the solution stand 5 minutes before rinsing.

Refrigerators:
Remove food before using this product. Wash surfaces with a solution of 1/2 cup of this product per gallon of soapy water. Let stand 5 minutes. Rinse thoroughly and then air dry interior surfaces a few minutes before replacing food.

Toilet Bowls:
Disinfect and deodorize your toilet.
1) Flush toilet.
2) Pour 3/4 cup of this product into bowl.
3) Brush entire bowl, including rim, with a scrub brush or mop.
4) Let stand 10 minutes before flushing again.

PUMA (EPA Reg. No. 5813-100 -or- 5813-100-67619 *if sub-registration*) [REGISTERED AS (*Insert Registered Alternate Brand Name -or- sub-registration name*)]

BACTERICIDAL EFFICACY

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

This product, when used as directed below, is effective against the following bacteria:

Acinetobacter baumannii	[ATCC 19606]
Clostridium difficile [(C. diff)] [spore]¥¥¥	[ATCC 43598]
Community Acquired Methicillin Resistant Staphylococcus aureus [- (CA-MRSA)]	[NARSA NRS123] [(Genotype USA400)]
Escherichia coli O157:H7 [(E. coli)]	[ATCC 35150]
Extended Spectrum Beta Lactamase producing Escherichia coli [(ESBL producing E. coli)]	[ATCC BAA-196]
Legionella pneumophila [(the bacteria that causes Legionnaire's disease)]	[ATCC 33153]
Methicillin resistant Staphylococcus aureus [- (MRSA)]	[ATCC 33592]
Pseudomonas aeruginosa[1]	[ATCC 15442]
Salmonella enterica [(a common cause of food-borne illness)]	[ATCC 10708]
Shigella dysenteriae [(a common cause of food-borne illness)]	[ATCC 11835]
Staphylococcus aureus [(a common cause of Staph infection)]	[ATCC 6538]
Streptococcus pneumoniae	[ATCC 6305]
Streptococcus pyogenes	[ATCC 19615]
Vancomycin Resistant Enterococcus faecalis [(VRE)]	[ATCC 51575]

[1]10 min[ute] contact time
¥¥¥ Follow [the] Special Instructions for Cleaning Prior to Disinfection [listed on label]

Directions for Use:
Hard, Nonporous Surfaces:
To disinfect hard, nonporous surfaces: [First] Clean surface by removing gross filth (loose dirt, debris, food materials, etc.). Use 1/2 cup of ***This Product*** in 1 gallon of water. -or- Prepare a 2400 ppm available chlorine solution. [Use chlorine test strips to determine exact available chlorine concentration -or- verify the appropriate available chlorine concentration is achieved.] Thoroughly wet surface with the solution and allow it to remain on the surface for 5 minutes. Rinse with clean water and dry.

For hospital -and/or- healthcare disinfection -or- To kill Pseudomonas aeruginosa: [First] Clean surface by removing gross filth (loose dirt, debris, food materials, etc.) Use 1/2 cup of ***This Product*** in 1 gallon of water. -or- Prepare a 2400 ppm available chlorine solutions. [Use chlorine test strips to determine exact available chlorine concentration -or- verify the appropriate available chlorine concentration is achieved.] Thoroughly wet surface with the solution and allow it to remain in contact with the surface for 10 minutes. Rinse with clean water and dry.

To Sanitize Garbage Cans/Diaper Pails: Preclean garbage can/diaper pail with a cleaning product prior to sanitization. Rinse with water and drain. Pour in 2400 ppm available chlorine solution. [Use chlorine test strips to determine exact available chlorine concentration -or- verify the appropriate available chlorine concentration is achieved.] Let stand [at least] 5 minutes. Rinse and air dry.

Toilet Bowls: Flush toilet to remove gross filth. Add 3/4 cup of bleach to the bowl and brush surfaces thoroughly, making sure to get under the rim. Let stand 10 minutes before flushing again.

Use Sites:
This product can be used on hard, nonporous surfaces in commercial, institutional, hospital and household premises (including kitchens, bathrooms, nurseries, sick rooms, laundry rooms), eating establishments, pet kennels and veterinary premises.

PUMA (EPA Reg. No. 5813-100 -or- 5813-100-67619 *if sub-registration*)
[REGISTERED AS (*Insert Registered Alternate Brand Name -or- sub-registration name*)]
VIRUCIDAL‡ EFFICACY

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

This product, when used as directed below, is effective against the following viruses on hard, nonporous, inanimate surfaces

Viruses Enveloped[‡]	
[‡]2009-H1N1 Influenza A virus [(Novel H1N1)]	[Strain A/Mexico/4108/2009 CDC #2009712192]
[‡]Avian Influenza A virus [(H3N2)]	[Strain A/Washington/897/80 X A/Mallard/ New York/6750/78 [ATCC VR-2072]
[‡]Cytomegalovirus	[Strain AD-169] [ATCC VR-538]
[‡]Herpes Simplex virus type 2 [causative agent of genital herpes]	[(Strain G)] [ATCC VR-734]
[‡]Human Coronavirus	[Strain 229E] [ATCC VR-740]
[‡]Influenza A virus [Influenza A2] [Flu Virus]	[ATCC VR-544, Strain Hong Kong]
[‡]Influenza B virus	[Strain B/Hong Kong/5/72] [ATCC VR-823]
[‡]Parainfluenza virus [(type 3)]	[(Strain C243)] [ATCC VR-93]
[‡]Respiratory Syncytial virus [(RSV)] [(cause of respiratory infections in infants)]	[(Strain Long)] [ATCC VR-26]
[‡]Rubella virus [(German Measles virus)]	[Strain M-33] [ATCC VR-315]
[‡]Varicella Zoster Virus	[ATCC VR-1367]
Viruses Non-Enveloped[‡]	
[‡]Adenovirus [type 2] [(common cause of respiratory infections)]	[Strain Adenoid 6] [ATCC VR-846]
[‡]Canine Parvovirus[1]	[Strain Cornell] [ATCC VR-2017]
[‡]Feline Calicivirus [as surrogate for Norovirus -or- Norwalk Virus]	[ATCC VR-782]
[‡]Feline Parvovirus[1] [(Feline panleukopenia virus)]	[ATCC VR-648]
[‡]Hepatitis Type A virus [(HAV)]	[Strain HM-175]
[‡]Poliovirus [type 1]	[Strain Chat] [ATCC VR-1562]
[‡]Rotavirus [([most] common cause of childhood diarrhea)]	[Strain WA]
[‡]Rhinovirus type 37 [(a [common] cause of the common cold)]	[ATCC VR-1147, Strain 151-1]

[1]10 min[ute] contact time

Directions for Use:
Hard, Nonporous Surfaces:
To disinfect hard, nonporous surfaces: [First] Clean surface by removing gross filth (loose dirt, debris, food materials, etc.). Use 1/2 cup of ***This Product*** in 1 gallon of water. -or- Prepare a 2400 ppm available chlorine solution. [Use chlorine test strips to determine exact available chlorine concentration -or- verify the appropriate available chlorine concentration is achieved.] 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.

To sanitize garbage cans/diaper pails: Preclean garbage can/diaper pail with a cleaning product prior to sanitization. Rinse with water and drain. Pour in 2400 ppm available chlorine solution. [Use chlorine test strips to determine exact available chlorine concentration -or- verify the appropriate available chlorine concentration is achieved.] Let stand [at least] 5 minutes. Rinse and air dry.

Toilet Bowls: Flush toilet to remove gross filth. Add 3/4 cup of bleach to the bowl and brush surfaces thoroughly, making sure to get under the rim. Let stand 10 minutes before flushing again.

Use Sites:
This product can be used on hard, nonporous surfaces in commercial, institutional, hospital and household premises (including kitchens, bathrooms, nurseries, sick rooms, laundry rooms), eating establishments, pet kennels and veterinary premises.

PUMA (EPA Reg. No. 5813-100 -or- 5813-100-67619 *if sub-registration*) [REGISTERED AS (*Insert Registered Alternate Brand Name -or- sub-registration name*)] FUNGICIDAL EFFICACY

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

This product, when used as directed below, is effective against mold, Trichophyton mentagrophytes [(common cause of Athlete's Foot)] [ATCC 9533], and mildew (Aspergillus brasiliensis -or- Aspergillus niger) [ATCC 16404].

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 2400 ppm available chlorine solution. Thoroughly wet surface with the solution and allow it to remain on the surface for 10 minutes. Rinse with clean water and dry.
-or-
[First] Clean surface by removing gross filth (loose dirt, debris, food materials, etc.). Prepare a 3600 ppm available chlorine solution. Thoroughly wet surface with the solution and allow it to remain on the surface for 5 minutes. Rinse with clean water and dry.

Use Sites: This product can be used on hard, nonporous surfaces in commercial, institutional, hospital and household premises (including kitchens, shower stalls, bathrooms, nurseries, sick rooms, laundry rooms), eating establishments, pet kennels and veterinary premises.

PUMA (EPA Reg. No. 5813-100 -or- 5813-100-67619 *if sub-registration*) [REGISTERED AS (*Insert Registered Alternate Brand Name -or- sub-registration name*)] CANDIDA ALBICANS [ATCC 10231] EFFICACY

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

Directions for Use:
Hard, Nonporous Surfaces:

To disinfect hard, nonporous surfaces: [First] Clean surface by removing gross filth (loose dirt, debris, food materials, etc.). Use 1/2 cup of ***This Product*** in 1 gallon of water. -or- Prepare a solution of 2400 ppm available chlorine solution. [Use chlorine test strips to determine exact available chlorine concentration -or- verify the appropriate available chlorine concentration is achieved.] 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.

To disinfect diaper pails: Preclean diaper pails with a cleaning product prior to sanitization. Rinse with water and drain. Pour in 2400 ppm available chlorine solution. [Use chlorine test strips to determine exact available chlorine concentration -or- verify the appropriate available chlorine concentration is achieved.] Let stand [at least] 5 minutes. Rinse and air dry.

Use Sites:
This product can be used on hard, nonporous surfaces in commercial, institutional, hospital and household premises (including kitchens, bathrooms, nurseries, sick rooms, laundry rooms), eating establishments, pet kennels and veterinary premises.

PUMA (EPA Reg. No. 5813-100 -or- 5813-100-67619 *if sub-registration*)

this bulletin only to be used on institutional labels

[REGISTERED AS (*Insert Registered Alternate Brand Name -or- sub-registration name*)]
DISINFECTION AGAINST CLOSTRIDIUM DIFFICILE IN HEALTHCARE SETTINGS

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

Clostridium difficile spores have been found on hard, nonporous surfaces in healthcare settings, have been shown to survive on surfaces for extended periods of time (up to 5 months), and have been cultured from the hands of hospital personnel working in environments with surface contamination. Laboratory studies indicate that 1:9 diluted this product reduces C. difficile spores on surfaces by six logs in 5 minutes. Environmental disinfection interventions that include the use of 1:9 sodium hypochlorite for surface disinfection can reduce exposure to C. difficile from treated surfaces in healthcare settings.

Special Instructions for Cleaning Prior to Disinfection against Clostridium difficile [endo] spores.

Personal Protection: Wear appropriate barrier protection such as gloves, gowns, masks or eye covering.

Cleaning Procedure: Fecal matter/waste must be thoroughly cleaned from surfaces/objects before disinfection by application with clean cloth, mop and/or sponge saturated with diluted bleach solution. Cleaning must include vigorous wiping and/or scrubbing until visible soil is removed. Special attention is needed for high-touch surfaces. Surfaces in patient rooms must be cleaned in a consistent manner (for example right to left) with restrooms cleaned last. Do not reuse soiled cloths.

Infectious Materials Disposal: Cleaning materials used that may contain feces/waste must be disposed of immediately in accordance with local regulations for infectious materials disposal.

Directions for Use: [For] Killing Clostridium difficile [spores]: Add 1 part bleach to 8 parts water to achieve a 1:9 dilution (at least 8700 ppm available chlorine) before use. Clean hard, nonporous surfaces by removing gross filth [loose dirt, debris, blood/bodily fluids, etc.]. Apply 1:9 solution and let stand for 5 minutes. Rinse and air dry. Prepare fresh solution daily. [Avoid contact with surfaces that may be damaged by bleach.] Do not use on non-stainless steel, aluminum, silver or chipped enamel.

PUMA (EPA Reg. No. 5813-100 -or- 5813-100-67619 *if sub-registration*)
[REGISTERED AS (*Insert Registered Alternate Brand Name -or- sub-registration name*)]
SPECIAL INSTRUCTIONS TO CLEAN AND DECONTAMINATE AGAINST HIV, HBV, and HCV ON SURFACES/OBJECTS SOILED WITH BLOOD/BODY FLUIDS

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

This product kills HIV-1, HBV, and HCV on precleaned 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), [Human] Hepatitis B Virus (HBV), and [Human] Hepatitis C Virus (HCV).

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 this product. Dilution and Contact time: Prepare a solution of 1/2 cup of bleach + 1 gallon of water (at least 1700 ppm available chlorine) and spray or flood surface; let stand 5 minutes.

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

PUMA (EPA Reg. No. 5813-100 -or- 5813-100-67619 *if sub-registration*) [REGISTERED AS (*Insert Registered Alternate Brand Name -or- sub-registration name*)] FOR CONTROLLING THE SPREAD OF *PHYTOPHTHORA RAMORUM* [CAUSE OF SUDDEN OAK DEATH] IN FORESTS

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

When used as directed, this product is effective in controlling the spread of the invasive pathogen *Phytophthora ramorum* in forests. *P. ramorum* causes a fatal canker disease of several tree species and damages many other plant species.

Water is commonly drafted from streams and fire ponds within forested areas to use in dust abatement on forest roads, equipment cleaning and fire suppression. The use of infested water sources can spread *P. ramorum* to uninfested areas. Treating water prior to use helps control the spread of this pathogen.

Directions for Use: Add 3/4 gallon of this product to 1000 gallons (~50 ppm available chlorine) of drafted water. Prepare the mixture at least 5 minutes prior to application for dust abatement, fire suppression, and cleaning vehicles and logging, road building, and maintenance equipment.

PUMA (EPA Reg. No. 5813-100 -or- 5813-100-67619 *if sub-registration*) [REGISTERED AS (*Insert Registered Alternate Brand Name -or- sub-registration name*)]] FOR PORT ORFORD CEDAR ROOT DISEASE (*PHYTOPHTHORA LATERALIS*) TREATMENT USE

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

When used as directed, this product 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 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 3/4 gallon this product to 1000 gallons (~50 ppm available chlorine) of drafted water. Prepare the mixture at least 5 minutes prior to application for dust abatement, fire suppression and cleaning trucks, and logging, road building and maintenance equipment.

PUMA (EPA Reg. No. 5813-100 -or- 5813-100-67619 *if sub-registration*) [REGISTERED AS (*Insert Registered Alternate Brand Name -or- sub-registration name*)] FOR ENCLOSURES AND EQUIPMENT USED FOR AMPHIBIAN CARE: SPECIAL INSTRUCTIONS FOR CONTROLLING THE SPREAD OF *BACTRACHOCHYTRIUM DENDROBATIDIS* (CHYTRID FUNGUS, FUNGAL PATHOGEN OF AMPHIBIANS)

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

For Use on Hard, Nonporous Surfaces of Enclosures and Equipment:

Use protective gloves and ventilate area.

(1) Remove amphibians from area to be treated.
(2) Mix 1 part of this product to 5.5 parts water (approximately 1.2% sodium hypochlorite) (11,500 ppm).
(3) Thoroughly clean and saturate surfaces for 5 minutes.
(4) Rinse thoroughly with water before placing amphibians in enclosures or in contact with equipment.

Note: All water used for cleaning enclosures and equipment must be treated with the bleach solution to avoid rinsing the Chytrid fungus down the drain or contaminating other surfaces.

For Use on Hard, Nonporous Field Equipment:
Any hard, nonporous equipment, that comes into contact with water must be treated with bleach to prevent the fungal pathogen from spreading to clean sites (see instructions above). Care must be taken to avoid environmental contamination when disinfecting in the field.
Note: All water used for cleaning equipment must be treated with the bleach solution to avoid spreading the Chytrid fungus.

PUMA (EPA Reg. No. 5813-100 -or- 5813-100-67619 *if sub-registration*) [REGISTERED AS (*Insert Registered Alternate Brand Name -or- sub-registration name*)] FOR CLOSED-LOOP LAUNDRY DISPENSING SYSTEMS

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

FOR USE WITH [*Insert Dispenser Name*] APPROVED DISPENSING SYSTEM. Installation and service should only be performed by a [*Company Name*]: Laundry Expert.

To Sanitize Laundry: Add enough of this product to reach 200 ppm (parts per million) available chlorine. Use a detergent. This product used according to the laundry use directions is effective against Staphylococcus aureus [(Staph)], Pseudomonas aeruginosa [(Pseudomonas)], Klebsiella pneumoniae, and Methicillin Resistant Staphylococcus aureus [(MRSA)].

[For use with 4 to 6 gallon buckets/containers as defined in the ASTM standard; see Child Hazard Drowning Pictogram text below:

NOTICE: CHILDREN CAN FALL INTO BUCKET AND DROWN. KEEP CHILDREN AWAY FROM BUCKET WITH EVEN A SMALL AMOUNT OF WATER.]

PUMA (EPA Reg. No. 5813-100 -or- 5813-100-67619 *if sub-registration*) [REGISTERED AS (*Insert Registered Alternate Brand Name -or- sub-registration name*)] FOR SANITIZING HOSPITAL LAUNDRY

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

To sanitize laundry, add enough of this product to reach 200 ppm (parts per million) available chlorine. -or- Use 1/2 cup of this product per standard washer, 1 cup for extra large washers or heavily soiled loads. Use a detergent. This product used according to these directions is effective against Staphylococcus aureus [(Staph)] [ATCC 6538], 2093], Klebsiella pneumoniae [ATCC 4352], Pseudomonas aeruginosa [(Pseudomonas)] [ATCC 15442], and Methicillin Resistant Staphylococcus aureus [(MRSA)] [ATCC 33592].

PUMA (EPA Reg. No. 5813-100 -or- 5813-100-67619 *if sub-registration*) [REGISTERED AS (*Insert Registered Alternate Brand Name -or- sub-registration name*)] FOR DISINFECTION OF FLOORS, WALLS, SHOWERS AND TOILETS

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

To disinfect floors, walls and showers: For nonporous surfaces such as vinyl or ceramic glazed tile, clean surfaces to remove gross filth. Rinse surfaces thoroughly with a 2400 ppm available chlorine solution. [Use chlorine test strips to determine exact available chlorine concentration -or- verify the appropriate available chlorine concentration is achieved.] Allow solution to remain on the surface for 5 minutes. Rinse. [Let air dry.]

To disinfect toilets: Flush toilet. Pour [3/4 cup of] bleach into bowl. Brush bowl [thoroughly], making sure to get under the rim and let solution stand for 10 minutes and flush again.

PUMA (EPA Reg. No. 5813-100 -or- 5813-100-67619 *if sub-registration*) [REGISTERED AS (*Insert Registered Alternate Brand Name -or- sub-registration name*)] DISINFECTING GUIDE

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

This product—a germicide—is an 8.25% sodium hypochlorite solution containing approximately 7.85% available chlorine by weight. In addition to being a highly effective liquid chlorine bleach for laundering and household 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 product 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 stainless steel [and other acceptable metals], let solution 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 this product.

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:

THE CLOROX COMPANY
Consumer Services Department
1221 Broadway, Oakland, California 94612-1888

PUMA (EPA Reg. No. 5813-100 -or- 5813-100-67619 *if sub-registration*)
[REGISTERED AS (*Insert Registered Alternate Brand Name -or- sub-registration name*)]
FOR ASPHALT OR WOOD ROOFS AND SIDINGS

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

To control fungus and mildew, first remove all physical soil by brushing and hosing with clean water. Apply a 6000 ppm available chlorine solution by brushing or spraying roof or siding. After 30 minutes, rinse by hosing with clean water.

PUMA (EPA Reg. No. 5813-100 -or- 5813-100-67619 *if sub-registration*)
[REGISTERED AS (*Insert Registered Alternate Brand Name -or- sub-registration name*)]
HOW TO SANITIZE AND DISINFECT WITH THIS PRODUCT

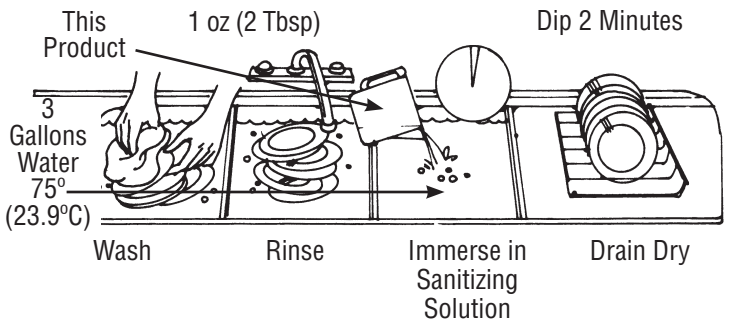
It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

[This product is] An effective multi-purpose sanitizer/disinfectant that kills many bacteria that may cause food poisoning.

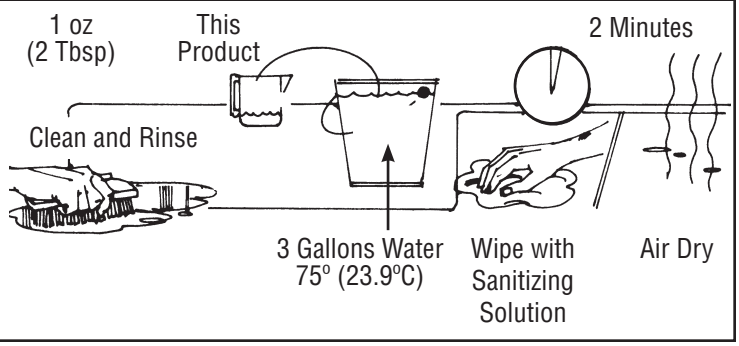
Two teaspoons of this product in a gallon of water is equivalent to 200 parts per million (ppm) available chlorine. DO NOT use this product full strength for cleaning surfaces. Always dilute strictly in accordance with the directions. For prolonged use, wear gloves.

TO SANITIZE

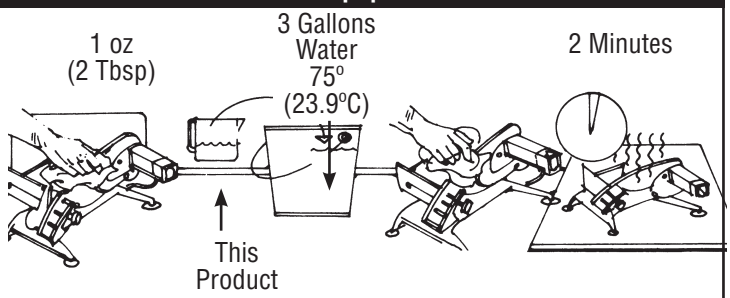
Pots & Pans, Glasses, Dishes, Utensils



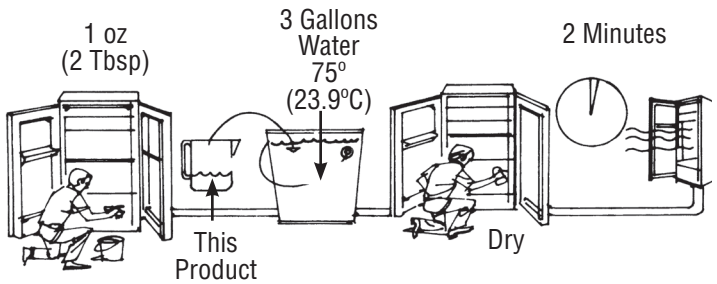
Food Contact Surfaces



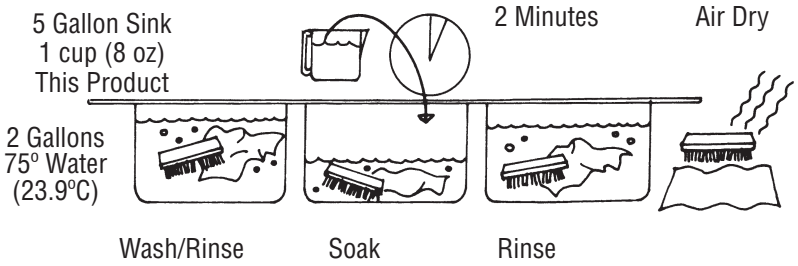
Food Equipment



Refrigerators & Freezers

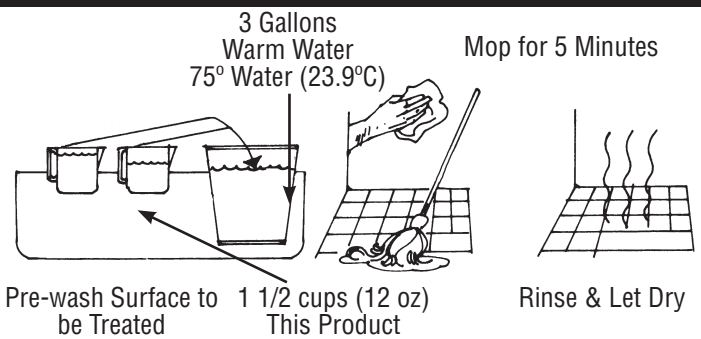


Mops, Brushes, Rags

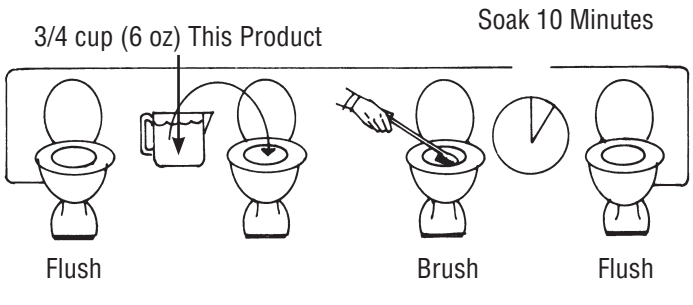


TO DISINFECT

Floors & Walls



Toilets



PUMA (EPA Reg. No. 5813-100 -or- 5813-100-67619 *if sub-registration*) [REGISTERED AS (*Insert Registered Alternate Brand Name -or- sub-registration name*)] IN SANITATION OF RESTAURANTS AND TAVERNS

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

An unclean kitchen and contaminated food result in the hazards of contaminated surfaces. To help avoid this, it is important to keep all work surfaces, equipment and utensils hygienically clean. This product 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 5 minutes. Rinse with potable water. Air dry.

To sanitize dishes, glassware, utensils: Wash thoroughly; then soak 2 minutes 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 non-stainless steel, aluminum, silver, or chipped enamel. Disinfect these by scalding.)

Disinfecting sink and sanitizing dishcloth[s]: 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 5 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 this product. Wait 5 minutes; flush out with clear water.

To sanitize refrigerators: Remove food before using this product. First wash inside surfaces. Then wipe with a 200 ppm available chlorine solution made with warm water. Let stand for [at least] 2 minutes. Air dry. (Do not use on non-stainless 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 450 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 5 minutes. Rinse.

To sanitize brushes, mops and brooms: After using brushes, mops and brooms, wash thoroughly; then soak for 5 minutes in a 2400 ppm available chlorine solution made with warm water. Rinse with clear water; dry. (Do not use on -or- with cellulose sponge mops.)

Pails and dustpans: Remove heavy dirt prior to cleaning. Wash with a 2400 ppm available chlorine solution. Let stand 5 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 5 minutes. Rinse with clear water; dry.

1/3 oz this product (2 tsp)	+ One Gallon Water	= 200 ppm
4 oz this product	+ One Gallon Water	= 2400 ppm

PUMA (EPA Reg. No. 5813-100 -or- 5813-100-67619 *if sub-registration*) [REGISTERED AS (*Insert Registered Alternate Brand Name -or- sub-registration name*)] IN SANITIZING CYCLE OF CHEMICAL SANITIZING DISHWASHING MACHINES

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

This product is an approved sanitizing agent for use in the sanitizing cycle of chemical sanitizing dishwashing machines.

Directions for Use:

1. Hook up a Clorox bleach -or- ***This Product*** bottle to the automatic bleach dispensing system of the chemical sanitizing dishwashing machine. If the bottle is already in place, make sure that sufficient product 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.

Caution: Do not sanitize silverware or pewter with this product as these metals may darken.

Bleach Dispensing System Adjustments

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

a. Start machine and let run until the machine has begun the final rinse cycle.
b. Take a sample of the rinse water.
c. Using a chlorine test kit, determine the parts per million (ppm) of available chlorine in the sample.
d. 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.
e. Repeat steps "a" through "c" 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.

PUMA (EPA Reg. No. 5813-100 -or- 5813-100-67619 *if sub-registration*) [REGISTERED AS (*Insert Registered Alternate Brand Name -or- sub-registration name*)] FOR CROP/SITE TREATMENT

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

CROP/SITE: ASPARAGUS SEED TREATMENT

Target Pest/Problem:

To aid in the prevention of asparagus root rot *(Fusarium oxysporium and F. asparagi)*

Dosage:

6000 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.

CROP/SITE: RICE SEED TREATMENT

Target Pest/Problem:
For prevention of bakanae disease *Fusarium fujikuroi* [*syn F. moniliforme*] -or- *Gibberella fujikuroi*

Dosage:
3000 ppm available chlorine solution.

Dilution or Application Rate:
4 gallons of solution per 96 gallons water.

Method of Application:
Using a thoroughly pre-mixed solution, soak seed for two hours then drain solution and replace with fresh water. Continue seed soaking and draining as usual. Do not apply undiluted product directly to seed.

Dosage:
1500 ppm available chlorine solution.

Dilution or Application Rate:
2 gallons solution per 98 gallons of water.

Method of Application:

Using a thoroughly pre-mixed solution, soak and drain seed as usual (no rinse required). Do not apply undiluted product directly to seed.

Frequency/Timing of Applications:

1 application during preplant soaking of seed.

Pre-harvest Interval:

Preplant treatment.

Other Requirements:

Do not use treated seeds for food or feed. Prepare fresh solution for each batch of seed.

Note: this language applicable to any seed treatment listed above

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear coveralls worn over long-sleeved shirt and long pants, chemical-resistant footwear, chemical-resistant gloves made of any waterproof material, rubber boots plus socks and protective eyewear.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

ENGINEERING CONTROLS STATEMENTS

When handlers use closed systems, enclosed cabs or aircraft in a manner that meets the requirements listed in the worker protection standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS. **IMPORTANT:** When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "applicators and other handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment break-down.]

THIS LABEL MUST BE IN POSSESSION OF THE USER.

REFER TO THE MAIN LABEL FOR ADDITIONAL PRECAUTIONARY STATEMENTS.

USER SAFETY REQUIREMENTS

USERS MUST:

Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the worker protection standard, 40 CFR, part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the worker protection standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours.

PPE required for early entry to treated areas that is permitted under the worker protection standard and that involves contact with anything that has been treated, such as plants, soil, or water, is: coveralls worn over long-sleeved shirt and long pants, chemical-resistant footwear, chemical-resistant gloves made of any waterproof material, rubber boots plus socks, and protective eyewear.

PUMA (EPA Reg. No. 5813-100 -or- 5813-100-67619 *if sub-registration*)
[REGISTERED AS (*Insert Registered Alternate Brand Name -or- sub-registration name*)]
PLANT PARASITIC NEMATODES AND PLANT DISEASE-CAUSING FUNGI QUARANTINE USE DIRECTIONS

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

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 general surface disinfection
Dosage:	See dilution rate.
Dilution or Application Rate:	Eight parts water with one part this product (equals approximately 0.85% active ingredient)
	Laboratory work areas, equipment and specimens: Prepare a solution of seven or eight parts water to one part product. Scrub areas and implements thoroughly, then wipe or allow to dry naturally. Workers doing the treatment must wear waterproof gloves. Small tools or implements and other items covered above may be immersed for 5 to 10 minutes in the solution instead of scrubbing manually. Wipe off plant tissue or soak tissue in the solution.

Deciduous Fruit Tree Nursery Stock:	Seven or eight parts water with one part product (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 Applications:	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.

PUMA (EPA Reg. No. 5813-100 -or- 5813-100-67619 *if sub-registration*) [REGISTERED AS (*Insert Registered Alternate Brand Name -or- sub-registration name*)] KARNAL BUNT QUARANTINE TREATMENT USE DIRECTIONS

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

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 this product to 4 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. Wash down the equipment or site thoroughly with clean water after 15 minutes to minimize corrosion.
Crop/Site/Commodity:	Wheat and triticale germplasm for research or seed increase use. Commodities may not be used for food, feed or oil purposes.
Target Pest/Problem:	Karnal bunt (*Tilletia indica*)
Dosage:	See dilution rate.
Dilution Rate:	Mix 1 part this product to 4 parts water (equals approximately 1.5% active ingredient) with 2mL/L Tween added.
Method of Application:	Treat seed with the dilute solution and agitate for 10 minutes at room temperature. Follow seed treatment by a 15 minute rinse with clean, running water, then drying of the seed.
Additional Restrictions, User Precautions and Requirements:	Be sure treated surfaces are dry before handling. Read and follow precautionary statements on product label.

PUMA (EPA Reg. No. 5813-100 -or- 5813-100-67619 *if sub-registration*) [REGISTERED AS (*Insert Registered Alternate Brand Name -or- sub-registration name*)] CITRUS CANKER TREATMENT USE DIRECTIONS

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

Crop/Site/Commodity:	T511-1 Citrus and other Rutaceous seeds from citrus canker countries
Target Pest/Problem:	*Xanthomonas axonopodis, pv. citri* (citrus canker)
Dosage:	See dilution rate.
Dilution Rate:	Mix 1 part of this product to 12 parts water (equals approximately 0.6% active ingredient).
Method of Application:	T511-1 seeds shall be treated for possible infection with citrus canker bacteria by first washing seeds if any mucilaginous materials are adhering. Next, immerse the seeds in water at 125 degrees F or higher for 10 minutes. Then immerse seeds for a period of at least 2 minutes in a 0.6% sodium hypochlorite solution. Drain, dry and repack near original moisture content.

PUMA (EPA Reg. No. 5813-100 -or- 5813-100-67619 *if sub-registration*) [REGISTERED AS (*Insert Registered Alternate Brand Name -or- sub-registration name*)] SOUTHERN SEA OAT SEEDS (*UNIOLA PANICULATA*)

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

Crop/Site/Commodity:	Southern sea oat seeds (*Uniola Paniculata*)
Target Pest/Problem:	Plant disease-causing bacteria and fungi
Dilution of Product:	Mix 1 part of this product to 2 parts water (27000 ppm).
Method of Application:	Soak seeds in solution for 15 minutes, rinse with tap water and allow to dry at 21°C (70°F) for 30 minutes. Store in cool dry location prior to germination.
Frequency/Timing of Application:	Treat seeds prior to germination.
Precautions:	As sodium hypochlorite is corrosive to many metals, chains and other machine parts must be either plastic or plastic coated and must be rinsed with clear water after use of product. Do not mix full-strength product or treatment solution with any other agricultural chemical, ammonia, or acid. Read and follow precautionary statements on product label.
NOTE:	DO NOT USE TREATED SEED FOR FOOD OR FEED. Use bleach treatment only on crops and for the purposes listed. Apply only as specified above.

PUMA (EPA Reg. No. 5813-100 -or- 5813-100-67619 *if sub-registration*) [REGISTERED AS (*Insert Registered Alternate Brand Name -or- sub-registration name*)] FOR FRUIT & VEGETABLE WASHING

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

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.

PUMA (EPA Reg. No. 5813-100 -or- 5813-100-67619 *if sub-registration*) [REGISTERED AS (*Insert Registered Alternate Brand Name -or- sub-registration name*)] AS A FUNGICIDE FOR SEED POTATOES

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

This product is fungicidal to the Verticillium wilt organism *V. albo-atrum* (microsclerotial type) on seed potatoes. A bleach solution of this product 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[2] 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 6000 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 is 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 product or treatment solution with any other agricultural chemical, ammonia, or acid. Avoid prolonged contact of this product 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.

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.

[2]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.

PUMA (EPA Reg. No. 5813-100 -or- 5813-100-67619 *if sub-registration*) [REGISTERED AS (*Insert Registered Alternate Brand Name -or- sub-registration name*)] FOR MEAT AND POULTRY PROCESSING WATER

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

This product 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.

PUMA (EPA Reg. No. 5813-100 -or- 5813-100-67619 *if sub-registration*) [REGISTERED AS (*Insert Registered Alternate Brand Name -or- sub-registration name*)] FOR SANITIZING SOLUTIONS FOR EQUIPMENT AND UTENSILS

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

This product is authorized for use as a sanitizing solution in official establishments operating under the USDA meat, poultry, shell egg grading and egg products inspection programs.

Before using this product, 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 must not exceed 200 ppm (parts per million) available chlorine. (Use chlorine test strips to adjust to 200 ppm available chlorine.) The bleach solution must be applied by spraying, soaking or scrubbing. Treated surfaces must remain wet for at least 2 -or- two min[utes].

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 must remain to adulterate or otherwise affect edible products.

PUMA (EPA Reg. No. 5813-100 -or- 5813-100-67619 *if sub-registration*) [REGISTERED AS (*Insert Registered Alternate Brand Name -or- sub-registration name*)] FOR MEAT & POULTRY PLANT LAUNDRY USE

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

This product 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 this product to reach 200 ppm (parts per million) available chlorine (3/4 cup of bleach per standard washer, 1 cup for extra large washers or heavily soiled loads). Use a good detergent. For best results, dilute bleach with a quart of water and add to wash 5 min[utes] after the wash has begun -or- For best results, add to wash 5 min[utes] after wash cycle has begun. Use chlorine test strips to adjust to exactly 200 ppm available chlorine.

PUMA (EPA Reg. No. 5813-100 -or- 5813-100-67619 *if sub-registration*) [REGISTERED AS (*Insert Registered Alternate Brand Name -or- sub-registration name*)]

SANITATION IN CARE OF SWINE

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

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.[3] Let stand for [at least] 5 minutes.
(3) Scrub or pressure-spray all surfaces with this solution. Rinse with clear, cold water.
(4) Allow to dry before housing pigs.

Remove all animals, poultry, and feed from premises, vehicles, and enclosures. Remove all litter and manure from floors, walls and surfaces of barns, pens, stall chutes and other facilities occupied or traversed by animals. Empty all troughs, feeding and watering appliances. Thoroughly clean all surfaces with soap or detergents and rinse with water.

Ventilate buildings, cars, boats and other closed spaces. Do not house livestock, poultry or employ equipment until chlorine has dissipated. All treated feed racks, mangers, troughs, automatic feeders, fountains and waterers must be rinsed with potable water before reuse.

Clean and disinfect metal watering troughs and feeders by pressure-spraying or scrubbing with solution prepared by thoroughly mixing 1 oz [powdered] detergent with each gallon of 2400 ppm available chlorine solution.[3] Let stand for [at least] 5 minutes. Rinse thoroughly with clear, cold water; drain dry. (Clean and disinfect drinking troughs and feeders 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.

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

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

PUMA (EPA Reg. No. 5813-100 -or- 5813-100-67619 *if sub-registration*) [REGISTERED AS (*Insert Registered Alternate Brand Name -or- sub-registration name*)]

FOR POULTRY CARE

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

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 this product 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, prepare a 2 ppm available chlorine solution 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., an 1800 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: Clean and disinfect poultry houses between cycles. Clean hatcheries 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 with each gallon of 2400 ppm available chlorine solution.[4]
(3) Using this solution, scrub or pressure-spray all exposed areas, including floor, walls, ceiling posts and support beams. Let stand for 5 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 1400 ppm available chlorine solution.[4] 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.

[4]Where this **product/detergent** solution is recommended for sanitizing poultry houses and equipment, use **hot** water (140° F or above) if available.

PUMA (EPA Reg. No. 5813-100 -or- 5813-100-67619 *if sub-registration*) [REGISTERED AS (*Insert Registered Alternate Brand Name -or- sub-registration name*)] SPECIAL INSTRUCTIONS FOR INACTIVATING AVIAN INFLUENZA A

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

FOR INACTIVATION OF AVIAN INFLUENZA A IN POULTRY HOUSES, BROODERS, HATCHERIES:

1. Remove all poultry or animals and feeds from the premises, trucks, vehicles, coops, crates and enclosures.
2. Remove all litter and manure or droppings from floors, walls and surfaces of barns, pens, stalls, chutes, and other facilities and fixtures occupied or traversed by animals or poultry.
3. Empty all troughs, racks and other feeding and watering appliances.
4. Thoroughly clean all surfaces with soap or detergent and rinse with water.
5. Mix 1 part of this product with 31 parts water. Saturate all surfaces with the disinfecting solution for 5 minutes.
6. Immerse all halters, ropes, and other types of equipment used in handling and restraining animals, as well as forks, shovels, and scrapers used for removing litter and manure.
7. Ventilate buildings, coops, and other closed spaces. Do not house livestock or poultry or employ equipment until treatment has been absorbed, set, or dried.
8. Thoroughly scrub all treated feed racks, mangers, troughs, automatic feeders, fountains, and waterers with soap or detergent, and rinse with potable water before reuse.

PUMA (EPA Reg. No. 5813-100 -or- 5813-100-67619 *if sub-registration*) [REGISTERED AS (*Insert Registered Alternate Brand Name -or- sub-registration name*)] IN CARE OF LIVESTOCK, HORSES, PETS

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

To clean and disinfect barns, 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.[3] Using the solution, thoroughly scrub or pressure-spray all exposed areas including floor, walls, ceiling posts and support beams. Let stand for [at least] 5 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 must 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.[3] Let stand for [at least] 5 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.[3] Let stand for [at least] 5 minutes. Rinse thoroughly with clear, **cold** water; allow to drain dry. (A solution of 1800 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.)

[3]For this **product/detergent** solution, use **hot** water if available.

PUMA (EPA Reg. No. 5813-100 -or- 5813-100-67619 *if sub-registration*) [REGISTERED AS (*Insert Registered Alternate Brand Name -or- sub-registration name*)] FOR FOOD EGG SANITIZATION

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

To sanitize food eggs: Thoroughly clean all eggs. Prepare a 200 ppm available chlorine solution. The sanitizer temperature must 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 must not be re-used to sanitize eggs.

PUMA (EPA Reg. No. 5813-100 -or- 5813-100-67619 *if sub-registration*) [REGISTERED AS (*Insert Registered Alternate Brand Name -or- sub-registration name*)] FOR DAIRY AND CREAMERY EQUIPMENT SANITATION

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

This product is effective as a chemical sanitizer of milk utensils, containers and equipment. This product 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 must 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 this product.

You must clean out large deposits of milk or other organic matter before applying this product/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. If this occurs, investigate promptly.

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 2 minutes, holding ends of tubes; coil tubes slowly into solution between milkings; drain thoroughly before using.

To maintain sanitizing solution at proper strength, add 2 teaspoons of this product daily (in hot weather, 3/4 oz) for each 3 gallons water, mix well. Old solution may be utilized for deodorizing and making floors and drains sanitary; for this purpose, add 3/4 oz of this product for each 5 gallons 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 2 minutes. 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 2 minutes; drain thoroughly and dry before using. **(Do NOT leave metal cups 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 must be 100° F to 130° F. **(DO NOT MIX THIS PRODUCT 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.**[5]

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. Use hot water if available, and maintain the temperature of the solution at 120-160° F throughout the entire circulation. **(DO NOT USE THIS PRODUCT 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.**[5]

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.**[5]

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.**[5]

[5]**BEFORE USE -** Rinse with a 200 ppm available chlorine sanitizing solution for 2 minutes; drain thoroughly.

PUMA (EPA Reg. No. 5813-100 -or- 5813-100-67619 *if sub-registration*) [REGISTERED AS (*Insert Registered Alternate Brand Name -or- sub-registration name*)] FISH PONDS AND EQUIPMENT

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

Fish Ponds: Remove fish from ponds prior to treatment. Thoroughly mix 163 oz of this product to 10,000 gallons of water to obtain 10 ppm available chlorine. Add more product to the water if the available chlorine level is below 1 ppm after 5 minutes. Return fish to pond after the available chlorine level reaches zero.

Fish Pond Equipment: Thoroughly clean all equipment prior to treatment. Thoroughly mix 3.5 oz of this product to 10 gallons of water to obtain 200 ppm available chlorine. Soak porous equipment for one hour.

PUMA (EPA Reg. No. 5813-100 -or- 5813-100-67619 *if sub-registration*) [REGISTERED AS (*Insert Registered Alternate Brand Name -or- sub-registration name*)] MAINE LOBSTER PONDS

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

Remove lobsters, seaweed, etc. from ponds prior to treatment. Drain the pond. Thoroughly mix 9800 oz of this product to 10,000 gallons of water to obtain 600 ppm available chlorine. Apply so that all barrows, gates, rocks and dams are treated with product. Permit high tide to fill the pond then close gates. Allow water to stand for 2 to 3 days until the available chlorine level reaches zero. Open gates and allow 2 tidal cycles to flush the pond before returning lobsters to pond.

PUMA (EPA Reg. No. 5813-100 -or- 5813-100-67619 *if sub-registration*) [REGISTERED AS (*Insert Registered Alternate Brand Name -or- sub-registration name*)]] CONDITIONING LIVE OYSTERS

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

Thoroughly mix 9 oz of this product to 10,000 gallons of water to 50 - 70°F to obtain 0.5 ppm available chlorine. Expose oysters to this solution for at least 15 minutes, monitoring the available chlorine level so that it does not fall below 0.05 ppm. Repeat entire process if the available chlorine level drops below 0.05 ppm or the temperature falls below 50°F.

PUMA (EPA Reg. No. 5813-100 -or- 5813-100-67619 *if sub-registration*) [REGISTERED AS (*Insert Registered Alternate Brand Name -or- sub-registration name*)] CONTROL OF SCAVENGERS IN FISH HATCHERY PONDS

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

Prepare a solution containing 200 ppm of available chlorine by mixing 3.5 oz of this product with 10 gallons of water. Pour into drained pond potholes. Repeat if necessary. Do not put desirable fish back into refilled ponds until chlorine residual has dropped to 0 ppm, as determined by a chlorine test kit.

PUMA (EPA Reg. No. 5813-100 -or- 5813-100-67619 *if sub-registration*) [REGISTERED AS (*Insert Registered Alternate Brand Name -or- sub-registration name*)] FOR EMERGENCY DISINFECTION OF DRINKING WATER (POTABLE)

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

Emergency disinfection:
When boiling of water for 1 minute is not practical, water can be made potable by using this product. Prior to addition of the sanitizer, remove all suspended material by filtration or by allowing it to settle to the bottom. Decant the clarified contaminated water to a clean container and add 12 drops or 1/8 teaspoon of this product to 2 gallons of water [(2 drops to 1 quart)]. Allow the treated water to stand for 30 minutes. Properly treated water will 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 several times.

For cloudy water, use 24 drops or 1/4 teaspoon of this product per 2 gallons of water [(3 drops to 1 quart)]. If no chlorine odor is apparent after 30 minutes, repeat dosage and wait an additional 15 minutes.

PUMA (EPA Reg. No. 5813-100 -or- 5813-100-67619 *if sub-registration*) [REGISTERED AS (*Insert Registered Alternate Brand Name -or- sub-registration name*)] FOR DISINFECTION OF POTABLE DRINKING WATER SYSTEMS

(Public and Individual Systems)

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

Public system:
Mix a ratio of this product 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.

Individual systems:
1. 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:
1. 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.
2. Flowing artesian wells: Artesian wells generally do not require disinfection. If analysis indicates persistent contamination, disinfect the well. Consult your local Health Department for further details.

PUMA (EPA Reg. No. 5813-100 -or- 5813-100-67619 *if sub-registration*) [REGISTERED AS (*Insert Registered Alternate Brand Name -or- sub-registration name*)] FOR EMERGENCY DISINFECTION AFTER FLOODS

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

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.

PUMA (EPA Reg. No. 5813-100 -or- 5813-100-67619 *if sub-registration*) [REGISTERED AS (*Insert Registered Alternate Brand Name -or- sub-registration name*)] FOR EMERGENCY DISINFECTION AFTER FIRES

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

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

PUMA (EPA Reg. No. 5813-100 -or- 5813-100-67619 *if sub-registration*) [REGISTERED AS (*Insert Registered Alternate Brand Name -or- sub-registration name*)] FOR EMERGENCY DISINFECTION AFTER DROUGHTS

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

A. Supplementary water supplies:
Set up the gravity or mechanical hypochlorite feeders 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.

B. 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 this product to provide at least a 0.22 ppm chlorine residual. Use a chlorine test kit.

PUMA (EPA Reg. No. 5813-100 -or- 5813-100-67619 *if sub-registration*) [REGISTERED AS (*Insert Registered Alternate Brand Name -or- sub-registration name*)] FOR EMERGENCY DISINFECTION AFTER MAIN BREAKS

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

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 this product by means of a hypochlorinator. Stop water flow when a chlorine residual test of 50 ppm is obtained at the low pressure end of the new main section after a 24 hour retention time. When chlorination is completed, the system must be flushed free of all heavily chlorinated water.

PUMA (EPA Reg. No. 5813-100 -or- 5813-100-67619 *if sub-registration*) [REGISTERED AS (*Insert Registered Alternate Brand Name -or- sub-registration name*)] FOR SPAS, HOT TUBS AND IMMERSION TANKS, ETC.

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

Spas/hot tubs:
Using a dilution chart or formula, calculate an approximate amount of product 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 product.

1. **Maintaining the water:** To maintain the water, apply the product 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 product at a rate of 1 1/4 cups to 500 gallons of water.
3. **Periods of disuse:** During periods of disuse, add product daily to maintain a 3 ppm chlorine concentration.
4. Do not reenter pool until the chlorine level is between 1 to 3 ppm. Re-entry to treated spas/hot tubs is prohibited above 5 ppm due to risk of bodily harm.

PUMA (EPA Reg. No. 5813-100 -or- 5813-100-67619 *if sub-registration*) [REGISTERED AS (*Insert Registered Alternate Brand Name -or- sub-registration name*)] FOR WADING POOL DISINFECTION

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

This product—a 8.25% sodium hypochlorite solution containing approximately 7.85% available chlorine by weight—is a convenient, economical source of chlorine for water treatment in swimming and wading pools. Also, because this product is a liquid with no insoluble particles, it is especially suitable for this use.

In chlorinating wading pools, use 3/4 oz per 100 gallons of new water. Mix required amount of this product with 2 gallons of water and scatter over surface of pool. Mix uniformly with pool water. Between fillings of pool, add 1 tablespoon of this product per 100 gallons of water each day. Empty small pools daily. (This product will not harm plastic pools.)

Do not reenter pool until the chlorine residual is between 1 to 3 ppm.

The chart below is a guide to the amount of this product to add to various sized round pools. Add three-fourths -or- 3/4 ounce -or- [fl] oz of this product to every 100 gallons of pool water.

Pool Diameter / Depth of Water	4 Ft	6 Ft	8 Ft	10 Ft	15 Ft
6 inches	2 teaspoons	3/4 oz	1 1/2 oz	2 1/4 oz	1/2 cup
1 foot	3/4 oz	1 1/2 oz	3 oz	1/2 cup	1 1/4 cups
2 feet	1 1/2 oz	3 oz	3/4 cup	1 1/4 cups	2 1/2 cups
3 feet	2 1/4 oz	1/2 cup	1 1/4 cups	1 2/3 cups	3 2/3 cups

TABLE OF LIQUID MEASURES

3 tsp =	1 Tbsp =	1/2 ounce =	1/16 cup
16 Tbsp =	8 ounces =	1 cup =	1/2 pint

Stabilized pools must 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.

PUMA (EPA Reg. No. 5813-100 -or- 5813-100-67619 *if sub-registration*) [REGISTERED AS (*Insert Registered Alternate Brand Name -or- sub-registration name*)] FOR SWIMMING POOL DISINFECTION

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

This product is a 8.25% sodium hypochlorite solution containing approximately 7.85% available chlorine by weight. The purity of its ingredients and the carefully supervised process of its manufacture make this product a quality source of chlorine for water treatment in swimming and wading pools. This product is especially suitable for use in chlorinators as it is a liquid and has no insoluble particles. This product 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 this product.

Swimming Pool Size in Gallons	Initial Dosage of this product	Swimming Pool Size in Gallons	Initial Dosage of this product
5,000	2 cups	20,000	10 cups
6,000	3 cups	25,000	13 cups
8,000	4 cups	30,000	15 cups
10,000	5 cups	35,000	17 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. One quart of this product per 8,000 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 this product with 10 parts water and feed this solution through a chlorinator into the main water supply line to the pool. Adjust the feeding rate so the required quantity of this product will be added uniformly throughout the filling of the pool; or, if the water is circulated through a filter, add the bleach throughout one complete circulation. If this product cannot be fed into the main water supply line, mix 3/4 cup of this product with 4 gallons of water and scatter over a portion of the pool surface; repeat until the required amount of this product has been scattered over entire surface of the pool.

Check chlorine level in pool water at least daily with a pool testing kit and add this product as needed to maintain 0.6 to 1.0 ppm available chlorine. One pint of this product per 8,000 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. Maintain the chlorine level for acid-stabilized pools at 1.0 to 1.5 ppm available chlorine.

Re-entry to treated pools is prohibited above 4 ppm due to risk of bodily harm.

Every 7 days, or as necessary, superchlorinate the pool with 75-150 oz of product for each 10,000 gallons of water to yield 5 to 10 ppm available chlorine by weight. Check the level of available chlorine with a test kit. Do not reenter pool until the chlorine residual is between 1 to 3 ppm.

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 must be checked daily using a pool pH testing kit and adjusted as necessary.

The regular use of this product, 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 this product for a few treatments (2 quarts instead of 1 quart per 8,000 gallons of new water). Add the additional product 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 45 oz of this product to 5 gallons of water applying solution with a fiber brush. Scrub the pool while wet and then rinse off after algae growth has been removed. Flush all of the growth and dirty solution from the pool with clear water before the pool is refilled. Avoid skin contact with undiluted product; if such contact occurs, rinse immediately with water. When added, this product has no deleterious effects on the eyes, nasal passages, or skin of people using the pool and will have no effect on swimming apparel.

PUMA (EPA Reg. No. 5813-100 -or- 5813-100-67619 *if sub-registration*)
[REGISTERED AS (*Insert Registered Alternate Brand Name -or- sub-registration name*)]
DILUTION TABLE

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

To obtain a solution with an approximate available chlorine level (parts per million), thoroughly mix the indicated amounts of bleach and water. Use chlorine test strips to adjust to the desired available chlorine levels. Always test to ensure efficacy.

Approximate ppm Available Chlorine	Volume of this product	Volume of Water
27000	1 part	2 parts
11,500	1 part	5 1/2 parts
10,000	1 part	6 1/2 parts
6,000	1 part	12 parts
3,600	3/4 cup (6 oz)	1 gallon
2,400	1/2 cup (4 oz)	1 gallon
	1 cup (8 oz)	2 gallons
	1 1/2 cups (12 oz)	3 gallons
	1 part	31 parts
1800	3/4 cup (6 oz)	2 gallons
1500	1 part	50 parts
600	9800 oz	10,000 gallons
500	1 part	150 parts
450	5 1/2 Tbsp (3 oz)	4 gallons

Approximate ppm Available Chlorine	Volume of this product	Volume of Water
200	2 tsp	1 gallon
	2 Tbsp (1 oz)	3 gallons
	1/4 cup (2 oz)	5 gallons
	3.5 oz	10 gallons
	3 gallons	1,000 gallons
100	1 tsp	1 gallon
	1/8 cup (1 oz)	5 gallons
	1/4 cup (2 oz)	10 gallons
50	1/2 tsp	1 gallon
	3/4 gallon	1,000 gallons
25	1/4 tsp	1 gallon
	2 tsp	7 1/2 gallons
10	3 drops	1 quart
	1/4 tsp	2 gallons
	24 drops	2 gallons
	163 oz	10,000 gallons
5	2 drops	1 quart
	12 drops	2 gallons
	1/2 tsp	10 gallons
0.5	9 oz	10,000 gallons

DILUTION TABLE: PPM (Parts Per Million Available Chlorine). Degrades with age and exposure to sunlight and heat. Check the level of available chlorine with a test kit.

1/3 oz this product (2 tsp) + One Gallon Water = 200 ppm
4 oz this product + One Gallon Water = 2400 ppm

Table of Liquid Measures:
1 drop = 0.0017 oz
1 Tbsp = 3 tsp
1 oz = 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