ENVIRO SAN ™

Commercial Sterilant for Aseptic Manufacturing and Packaging Equipment for Food Processing

ACTIVE INGREDIENTS:
Hydrogen Peroxide ................................. 11.2%  
Peroxynacetic Acid .................................. 15.2%  
INERT INGREDIENTS: .............................. 73.6%  
TOTAL: ........................................ 100.0%

KEEP OUT OF REACH OF CHILDREN
DANGER

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
DANGER: CORROSIVE. Causes irreversible eye damage and skin burns. May be fatal if inhaled or absorbed through the skin. Harmful if swallowed. Do not get in eyes, on skin or on clothing. Do not breathe vapor or spray mist. Wear protective eyewear (goggles, face shield, or safety glasses), protective clothing and rubber gloves. Wash thoroughly after handling with soap and water, and before eating, drinking or using tobacco. Remove contaminated clothing and wash clothing before reuse. Wear a mask or respirator approved by Mine Safety and Health Administration and the National Institute for Occupational Safety and Health.
PHYSICAL AND CHEMICAL HAZARDS: Strong oxidizing agent. Corrosive. Do not use in concentrated form. Mix only with water according to label instructions. Never bring concentrate in contact with other sanitizers, cleaners or organic substances.

Consult your Ecolab Representative for specific use instructions and recommended dispensing equipment. Please refer to the Material Safety Data Sheet before use.

FOR COMMERCIAL USE
STRONG OXIDIZING AGENT

FIRST AID
IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
IF SWALLOWED: Call a poison control center or doctor for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.
FOR EMERGENCY MEDICAL INFORMATION IN USA OR CANADA, CALL: 1-800-328-0026.
FOR EMERGENCY MEDICAL INFORMATION WORLDWIDE, CALL: 1-651-222-5352 (IN THE USA).
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.
NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage.
ENVIRONMENTAL HAZARDS: Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

EPA Reg. No. 1677-185
EPA Est. 1677-MN-1 (P), 61056-IL-1 (S), 1677-CZ-2 (R), 1677-TX-1 (O), 1677-IL-2 (J), 1677-CA-1 (S), 1677-CA-1 (S), 1677-CA-1 (M), 1677-WV-1 (O).
Superscript refers to first letter of date code.

U.S. Patent No's: 6,544,942; 6,593,283; and 6,927,237
DIRECTIONS FOR USE

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

COMMERCIAL STERILIZATION

Enviro San can be used in food processing aseptic packaging systems as a commercial sterilant to treat clean, non- porous food packaging materials and equipment. This product is effective as a commercial sterilant in conjunction with ES-1000 or ES-2000 when the solution is prepared in water of up to 500 ppm hardness. Refer to Directions for Use to determine the suitable application with alternative concentrations and contact times. Where a minimum concentration is specified in the use instructions a lost kit or titration method is recommended for verifying that the appropriate concentration is maintained.

COMMERCIAL STERILIZATION OF FOOD PACKAGING MATERIALS

This product may be used to sterilize food packaging materials for aseptic packaging of low acid foods that has a schedule process accepted by FDA. The aseptic food processing operation must comply with all applicable FDA regulations, including, but not limited to, 21 CFR parts 108, 110, 113, and/or 114. Use in an aseptic food processing operation includes testing required for the process validation.

ENVIRONMENT WITH ES-2000 AT 50°C (4000 PPM POA)

Commercially sterilize clean, non-porous food packaging materials with a concentration of 5.0 ounces of Enviro San concentrated per 1.0 gallon of water (6597 ppm peroxyacetic acid by weight) and 0.01 ounces of ES-2000 concentrate per 1.0 gallon of water (500 ppm by weight) at a temperature of 50°C. Sterilization solution must be maintained at a minimum of 4000 ppm peroxyacetic acid and a maximum of 500 ppm H₂O₂. ES-2000 should be added to the recirculating system to achieve 500 ppm H₂O₂ or less and not to exceed 650 ppm ES-2000. For example, in one gallon of water add 5.0 ounces of Enviro San and 0.01 ounces of ES-2000. Use immersion, coarse spray or circulation techniques as appropriate to sterilize the food packaging material. Surfaces should be exposed to the solution for a period of not less than 15 seconds unless a longer time is specified by the governing food processing authority. After thorough draining, rinse surfaces with a disinfected water rinse free of pathogenic microorganisms or sterile water. This product when used per label directions is effective against Bacillus cereus, Bacillus subtilis, and Clostridium sporogenes in water up to 500 ppm hardness.

ENVIRONMENT ALONE AT 60°C

Commercially sterilize clean, non-porous food packaging materials with a concentration of 5.0 ounces of Enviro San concentrated per 1.0 gallon of water (6597 ppm peroxyacetic acid by weight) at a temperature of 60°C – 70°C. Sterilization solution must be maintained at a minimum of 4100 ppm peroxyacetic acid. Use immersion, coarse spray or circulation techniques as appropriate to sterilize the food packaging material. Surfaces should be exposed to the solution for a period of not less than 19 seconds unless a longer time is specified by the governing food processing authority. After thorough draining, rinse surfaces with a disinfected water rinse free of pathogenic microorganisms or sterile water. This product when used per label directions is effective against Bacillus cereus, Bacillus subtilis, and Clostridium sporogenes in water up to 500 ppm hardness.

COMMERCIAL STERILIZATION OF MANUFACTURING, FILLING, AND PACKAGING EQUIPMENT FOR FOOD PROCESSING

Enviro San can be used to sterilize manufacturing equipment such as pipelines, pumps, tanks, vats, fillers, evaporators, and pasteurizers. Refer to the equipment manufacturer’s instructions to determine how to sterilize the equipment in place or to disassemble the equipment for sterilization by immersion. It is suitable for use on equipment or surfaces composed of glazed porcelain, plastic (such as polypropylene and polyethylene), stainless steel, or glass.

This product may be used for Acid Foods that has a scheduled process by FDA. The aseptic food processing operation must comply with all applicable FDA regulations, including, but not limited to, 21 CFR parts 108, 110, 113, and/or 114. Use in an aseptic food processing operation includes testing required for the process validation.

ENVIRONMENT WITH ES-1000 AT 60°C

Prior to use of this product, remove gross soil particles from equipment surfaces, thoroughly clean surfaces, and follow with a potable water rinse. Commercially sterilize clean manufacturing, filling, and packaging equipment with a concentration of 5.0 ounces of Enviro San concentrated per 1.0 gallon of water (6597 ppm peroxyacetic acid by weight) and 0.2 ounces of ES-1000 concentrate per 1.0 gallon of water (1000 ppm by weight) at a temperature of 60° - 70°C. Sterilization solution must be maintained at a minimum of 4100 ppm peroxyacetic acid and 1000 ppm ES-1000. For example, in one gallon of water add 5.0 ounces of Enviro San and 0.2 ounces of ES-1000. Use immersion, coarse spray or circulation techniques as appropriate to sterilize the food packaging material. Surfaces should be exposed to the solution for a period of not less than 19 seconds unless a longer time is specified by the governing food processing authority. After thorough draining, rinse surfaces with a disinfected water rinse free of pathogenic microorganisms or sterile water. This product when used per label directions is effective against Bacillus cereus, Bacillus subtilis, and Clostridium sporogenes in water up to 500 ppm hardness.

ENVIRONMENT WITH ES-1000 AT 50°C

Commercially sterilize clean, non-porous food packaging materials with a concentration of 3.7 ounces of Enviro San concentrated per 1.0 gallon of water (4838 ppm peroxyacetic acid by weight) and 0.2 ounces of ES-1000 concentrate per 1.0 gallon of water (1500 ppm by weight) at a temperature of 50° - 60°C. Sterilization solution must be maintained at a minimum of 3000 ppm peroxyacetic acid and 1000 ppm ES-1000. For example, in one gallon of water add 5.0 ounces of Enviro San and 0.2 ounces of ES-1000. Use immersion, coarse spray or circulation techniques as appropriate to sterilize the food packaging material. Surfaces should be exposed to the solution for a period of not less than 40 seconds unless a longer time is specified by the governing food processing authority. After thorough draining, rinse surfaces with a disinfected water rinse free of pathogenic bacteria or sterile water. This product when used per label directions is effective against Bacillus cereus, Bacillus subtilis, and Clostridium sporogenes in water up to 500 ppm hardness.

ENVIRONMENT ALONE AT 60°C

Commercially sterilize clean, non-porous food packaging materials with a concentration of 5.7 ounces of Enviro San concentrated per 1.0 gallon of water (4838 ppm peroxyacetic acid by weight) at a temperature of 60°C – 70°C. Sterilization solution must be maintained at a minimum of 3000 ppm peroxyacetic acid. Use immersion, coarse spray or circulation techniques as appropriate to sterilize the food packaging material. Surfaces should be exposed to the solution for a period of not less than 40 seconds unless a longer time is specified by the governing food processing authority. After thorough draining, rinse surfaces with a disinfected water rinse free of pathogenic bacteria or sterile water. This product when used per label directions is effective against Bacillus subtilis, and Clostridium sporogenes in water up to 500 ppm hardness.
50 – 60°C. Sterilization solution must be maintained at a minimum of 3000 ppm peroxycatic acid and 1000 ppm ES-1000. For example, in one gallon of water add 5.0 ounces of Enviro San and 0.2 ounces of ES-1000. Use immersion, coarse spray or circulation techniques as appropriate to sterilize the equipment. Surfaces should be exposed to the solution for a period of not less than 40 seconds unless a longer time is specified by the governing food processing authority. After thorough draining, rinse surfaces with a disinfected water rinse free of pathogenic bacteria or sterile water. This product when used per label directions is effective against Bacillus cereus, Bacillus subtilis, and Clostridium sporenens in water up to 500 ppm hardness.

ENVIRO SAN ALONE AT 60°C
Prior to use of this product, remove gross soil particulates from equipment surfaces, thoroughly clean surfaces, and follow with a potable water rinse. Commercially sterilize clean, manufacturing, filling, and packaging equipment with a concentration of 5.0 ounces of Enviro San concentrate per 1.0 gallon of water (8537 ppm peroxycatic acid by weight) at a temperature of 60°C – 70°C. Sterilization solution must be maintained at the minimum of 4100 ppm peroxycatic acid. Use immersion, coarse spray or circulation techniques as appropriate to sterilize the equipment. Surfaces should be exposed to the solution for a period of not less than 19 seconds unless a longer time is specified by the governing food processing authority. After thorough draining, rinse surfaces with a disinfected water rinse free of pathogenic bacteria or sterile water. This product when used per label directions is effective against Bacillus subtilis, and Clostridium sporenens in water up to 500 ppm hardness.

ENVIRO SAN ALONE AT 50°C
Prior to use of this product, remove gross soil particulates from equipment surfaces, thoroughly clean surfaces, and follow with a potable water rinse. Commercially sterilize clean, manufacturing, filling, and packaging equipment with a concentration of 3.7 ounces of Enviro San concentrate per 1.0 gallon of water (4238 ppm peroxycatic acid by weight) at a temperature of 50°C – 60°C. Sterilization solution must be maintained at a minimum of 3000 ppm. Use immersion, coarse spray or circulation techniques as appropriate to sterilize the equipment. Surfaces should be exposed to the solution for a period of not less than 40 seconds unless a longer time is specified by the governing food processing authority. After thorough draining, rinse surfaces with a disinfected water rinse free of pathogenic bacteria or sterile water. This product when used per label directions is effective against Bacillus subtilis, and Clostridium sporenens in water up to 500 ppm hardness.

ENVIRO SAN WITH ES-2000 AT 50°C (4000 PPM POAA)
Commercially sterilize clean, non-porous food packaging materials with a concentration of 5.0 ounces of Enviro San concentrate per 1.0 gallon of water (8537 ppm peroxycatic acid by weight) and 0.01 ounces of ES-2000 concentrate per 1.0 gallon of water (100 ppm by weight) at a temperature of 50°C. Sterilization solution must be maintained at a minimum of 4100 ppm peroxycatic acid and a maximum of 5000 ppm H2O2. ES-2000 should be added to the recirculating system to achieve 500 ppm H2O2 or less and not to exceed 650 ppm ES-2000. For example, in one gallon of water add 5.0 ounces of Enviro San and 0.01 ounces of ES-2000. Use immersion, coarse spray or circulation techniques as appropriate to sterilize the food packaging material. Surfaces should be exposed to the solution for a period of not less than 15 seconds unless a longer time is specified by the governing food processing authority. After thorough draining, rinse surfaces with a disinfected water rinse free of pathogenic bacteria or sterile water. This product when used per label directions is effective against Bacillus cereus, Bacillus subtilis, and Clostridium sporenens in water up to 500 ppm hardness.

ENVIRO SAN WITH ES-2000 AT 50°C (3000 PPM POAA)
Commercially sterilize clean, non-porous food packaging materials with a concentration of 3.7 ounces of Enviro San concentrate per 1.0 gallon of water (4238 ppm peroxycatic acid by weight) and 0.01 ounces of ES-2000 concentrate per 1.0 gallon of water (100 ppm by weight) at a temperature of 50°C. Sterilization solution must be maintained at a minimum of 3000 ppm peroxycatic acid and a maximum of 5000 ppm H2O2. ES-2000 should be added to the recirculating system to achieve 500 ppm H2O2 or less and not to exceed 650 ppm ES-2000. For example, in one gallon of water add 3.7 ounces of Enviro San and 0.01 ounces of ES-2000. Use immersion, coarse spray or circulation techniques as appropriate to sterilize the food packaging material. Surfaces should be exposed to the solution for a period of not less than 35 seconds unless a longer time is specified by the governing food processing authority. After thorough draining, rinse surfaces with a disinfected water rinse free of pathogenic bacteria or sterile water. This product when used per label directions is effective against Bacillus cereus, Bacillus subtilis, and Clostridium sporenens in water up to 500 ppm hardness.

This product is not for use as a sterilant or high level disinfectant on medical devices.

SANITIZATION
Enviro San acid sanitizer is recommended for use on pre-cleaned such as equipment, pipelines, tanks, vats, fillers, evaporators, pasteurizers and aseptic equipment in dairies, breweries, wineries, and food processing plants. This product is effective as a sanitizer when solution is prepared in water of up to 500 ppm hardness.

SANITIZING FOOD CONTACT SURFACES
Prior to use of this product, remove gross soil particles from surfaces, thoroughly clean surfaces, and follow with a potable water rinse. Sanitize clean surfaces with a concentration of 0.10 – 0.19% v/v (1000 to 1800 ppm v/v or 1 to 1.8 ounces per 8 gallons of water) at room temperature. Use immersion, coarse spray or circulation techniques as appropriate to sanitize the surfaces. All surfaces should be exposed to the sanitizing solution for a period of not less than one minute unless otherwise specified by governing sanitary code. Allow surfaces to drain thoroughly and air dry. Do not rinse. This product when used per label directions is effective against Staphylococcus aureus, Pseudomonas aeruginosa, Salmonella typhimurium, Staphylococcus epidermidis, and Lactobacillus casei var. delbrueckii.

SANITIZING NON-FOOD CONTACT SURFACES
Prior to use of this product, remove gross soil particles from surfaces, thoroughly clean surfaces, and follow with a potable water rinse. Sanitize clean surfaces with a concentration of 0.2 – 1.5% v/v (2000 to 15,000 ppm v/v or 2 oz. to 15 oz. per 8 gallons of water) at a temperature of 25 to 45°C. Use immersion, coarse spray or circulation techniques as appropriate to sanitize the surfaces. All surfaces should be exposed to the sanitizing solution for a period of not less than five minutes unless otherwise specified by governing sanitary code. Allow surfaces to drain thoroughly before routine operations. Drainage may be followed by a potable or sterile water rinse. The product when used per label directions is effective against Enterobacteriaceae, Enterococcus faecium, Escherichia coli, Listeria monocytogenes, Pseudomonas aeruginosa, Salmonella typhimurium, Staphylococcus aureus, Pediococcus dammous, and Lactobacillus casei var. delbrueckii.

ANTIMICROBIAL RINSE OF PRECLEANED OR NEW RETURNABLE OR NON-RETURNABLE CONTAINERS
To reduce the number of beverage spoilage organisms, Lactobacillus casei var. delbrueckii, Saccharomyces cerevisiae, Alkylhydroxyl acid derivatives, and Peracetic acid, apply Enviro San at a concentration of 2 to 15 ounces per gallon of water (0.58% to 4.4% by weight) at a temperature of 40 to 65°C for at least 7 seconds. After thorough draining, rinse surfaces with a disinfected water rinse free of pathogenic bacteria or sterile water.

To reduce the number of beverage spoilage organisms, Lactobacillus casei var. delbrueckii, Pediococcus dammous, Saccharomyces cerevisiae, and Alkylhydroxyl acid derivatives, apply Enviro San at a concentration of 6 to 25 ounces per gallon of water (1.0% to 4.4% by weight) at ambient temperature for at least 10 seconds. After thorough draining, rinse surfaces with a disinfected water rinse free of pathogenic bacteria or sterile water.

BOOSTER FOR ALKALINE AND ACIDIC DETERGENTS TO CLEAN FOOD PROCESSING EQUIPMENT
Enviro San is an effective oxygen bleach cleaning booster for use with alkaline and acidic detergents. For cleaning applications as a detergent booster, use 2 to 6 ounces concentrate per 3 gallons of water (0.56% to 2.3% by weight) to aid in the removal of organic soils. All hard non-food contact surfaces treated with this boosted detergent must be rinsed thoroughly with a potable water rinse followed by sanitizing with an approved food contact surface sanitizer.

NOTE: This product in its use solutions is compatible with stainless steel and aluminum surfaces. If product is intended to be used on any other surface, it is recommended that you apply product to a smaller test area to determine compatibility before proceeding with its use.

STORAGE & DISPOSAL
DO NOT CONTAMINATE WATER, FOOD OR FEED BY STORAGE OR DISPOSAL.
PESTICIDE STORAGE: Product should be kept cool and in a vented container to avoid any explosion hazard.
PESTICIDE DISPOSAL: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinseate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.
CONTAINER DISPOSAL: FOR USE ON NON-REFILLABLE CONTAINERS WITH INDUSTRIAL/COMMERCIAL/INSTITUTIONAL – PUBLIC HEALTH USES: Non-refillable container. Do not reuse this container to hold materials other than pesticides or diluted pesticide rinsates. Other than for recycling if available or puncture and dispose in a sanitary landfill, or by other procedures approved by state and local authorities.