



F&B Divosan[®] Plus

Non-Foaming Liquid Peroxyacetic Sanitizer

Description

Divosan[®] Plus is a peracetic acid-based sanitizer. It is suitable for use in dairies, breweries, soft drink and other food processing operations. This product is completely non-foaming and sanitizes effectively at temperatures as low as 40°.

Easy-to-Use

- Completely non-foaming and suitable for clean-in-place (CIP) and spray applications
- Rapidly decomposes after use
- 1.0 - 5.7 ounces per 5 gallons of water (88-500 ppm peracetic acid)

Effective Sanitizer

- Sanitizes (reduces bacteria) in 1 minute, controls spoilage organisms; controls molds and yeast

Effective

- Effective at temperatures as low as 40°F

Acidic pH

- Suitable under CO₂ environments

Discussion

Divosan[®] Plus is based on peracetic acid, a strong oxidizing agent. It is highly effective as a sanitizing agent, at 40-120°F, against *Staphylococcus aureus*, *Esherichia coli*, *Salmonella typhi*, *Listeria monocytogenes*, and controls *Byssochlamys fulva*. Due to its completely non-foaming nature, it is particularly suited for clean-in-place (CIP) and spray applications where the presence of foam would be deleterious to the speed and efficiency of the sanitation process. As an acid sanitizer, it provides the additional suitability for use in an acid cleaning program for brewery tanks under a CO₂ atmosphere. Spent use solutions are only mildly acidic and decompose to water and weak acetic acid which has little, if any, impact on the plant effluent stream. Use solutions of this product are non-corrosive to the common materials found in most beverage and food processing operations. It is to be used in accordance with label directions. This product at 1.0-5.7 oz./ per 5 gallons water at 25°C passes the A.O.A.C. Germicidal and Detergent Sanitizer Test Method against food spoilage and pathogenic bacteria, including *Staphylococcus aureus*, *Esherichia coli*, *Salmonella typhi* and *Listeria monocytogenes*.



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DIRECTIONS FOR USE:

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

NOTE: FOR MECHANICAL OPERATIONS, prepared use-solutions may not be reused for sanitizing or disinfecting but may be reused for other purposes such as cleaning. FOR MANUAL OPERATIONS, fresh sanitizing or disinfecting solutions should be prepared at least daily or more often if the solution becomes diluted or soiled.

To Prepare Food Contact Sanitizer Use Solution: Unless otherwise directed, add concentrate according to the table by adding between 1.0-5.7 fl. oz. of product to 5 gallons of water:

fl. oz. of Concentrate	Gals. of Water	Organism to Control
1.0-5.7	5	<i>Staphylococcus aureus</i> , <i>Escherichia coli</i> , and <i>Salmonella typhi</i>
1.2-5.7	5	<i>Listeria monocytogenes</i>
1.6-5.7	5	<i>Enterobacter sakazakii</i> (ATCC 29544) <i>Escherichia coli</i> O26:H11 (ATCC BAA-1653) <i>Escherichia coli</i> 45:K:H- (ECL 1001) <i>Escherichia coli</i> O103:K:H8 (ATCC 23982) <i>Escherichia coli</i> O111:H8 (ATCC BAA-184) <i>Escherichia coli</i> O121:K- :H10 (ECL 39W) <i>Escherichia coli</i> O145:H48 (ATCC BAA-1652) <i>Escherichia coli</i> O157:H7 (ATCC 35150) <i>Pseudomonas aeruginosa</i> (ATCC 15442) <i>Vibrio cholerae</i> (ATCC 11623)
If sanitizing at temperatures 5°C (40°F) or lower, use 1.7-5.7 fluid oz. of product to 5 gallons of water.		

Sanitizing Hard, Non-Porous Food Contact Surfaces and Equipment

1. Prior to sanitization, remove gross particulate matter with a warm water flush, then wash equipment with detergent or cleaning solution and follow with a potable water rinse.
2. Prepare the sanitizing use-solution by adding 1.0 to 5.7 fl. oz. of product to 5 gal. of water per the preparation table instructions.
3. Apply sanitizing solution by immersion, coarse spray, mop, wipe, flood techniques or circulation techniques as appropriate to the equipment or surface to be treated.

Allow a contact time of at least 1 minute.

4. Allow surfaces to drain thoroughly and air dry before resuming operation. Do not rinse.

Sanitizing Eating, Drinking and Food Prep Utensils

1. Prior to sanitization, remove gross filth particles by a prescrape, preflush and, when necessary a presoak treatment.
2. Wash all items with a detergent.
3. Rinse thoroughly with potable water.
4. Prepare the sanitizing use-solution by adding 1.0 to 5.7 fl. oz. of product to 5 gallons of water per the preparation table instructions.
5. Immerse all items for at least 1 minute or for a contact time as specified by the local governing sanitizing code.
6. Place all sanitized items on a rack or drainboard to drain adequately. Air dry if items will not be reused immediately. Do not rinse.

Sanitizing Tableware

For sanitizing tableware in low to ambient temperature warewashing machines, inject a use-solution of product (1.0 to 5.7 fl. oz. per 5 gallons of water) into the final rinse water. Allow treated surfaces to air dry.

Elevated Temperature Sanitizing

At a temperature of 120 deg F, DIVOSAN® PLUS is an effective sanitizer for food contact surfaces at a concentration of 1 oz. of product per 8 gallons of water against *Staphylococcus aureus* and *Escherichia coli* and against *Listeria monocytogenes* at a concentration of 1 oz. of product per 5 gal of water. Prior to sanitization, clean and rinse thoroughly all equipment. All surfaces should be exposed to the sanitizing solution for at least 1 minute. Allow equipment to drain thoroughly and air dry. Do not rinse.

Final Sanitizing Bottle Rinse

DIVOSAN® PLUS may be used as a final sanitizing rinse for plastic, glass or metal returnable and non-returnable bottles / cans.

1. Prior to sanitization, wash bottles with detergent or cleaning solution and rinse with potable water.
2. Then rinse bottles/cans with a use-solution prepared by mixing 1.0 to 5.7 fl. oz. of product with 5 gallons of water.
3. Allow bottles/cans to drain thoroughly and air dry. Do not rinse.

Sanitization of Conveyors for Meat, Poultry, Seafood, Fruits, and Vegetables

For use in the static or continuous washing, rinsing, and sanitizing of conveyor equipment, peelers, collators, slicers, saws, etc.

1. During processing or interruptions in operations, apply DIVOSAN® PLUS, by preparing a use-solution by adding 1.0 to 5.7 fl. oz. of product to 5 gallons of water per the preparation table instructions.
2. Apply the sanitizer solution to the return portion of the conveyor or to the equipment using a coarse spray, foam or other means of wetting the surfaces. Control the volume of

solution so as to permit maximum drainage and to prevent puddles. The conveyor may still be damp when food contact occurs. Treat for at least 1 minute.

Disinfection and Deodorizing of Animal Housing Facilities, Poultry Premises, Coops, Trucks and Crates

1. Remove all animals and feeds from areas being treated.
2. Remove all litter and manure from floors, walls and surfaces of barns, pens, stalls, chutes, and other facilities occupied or traversed by animals.
3. Empty or cover all troughs, racks and other feeding and watering appliances.
4. Thoroughly clean all surfaces with soap and detergent and rinse with water.
5. Prepare a disinfecting use-solution by adding 3.2 fl. oz. of product to 5 gallons of water. Apply use-solution to floors, walls, cages and other washable hard, non-porous environmental surfaces. For smaller surfaces, use a trigger spray bottle to spray all surfaces with solution until wet. To disinfect, all surfaces must remain wet for 10 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 litter and manure.
7. Before starting the treatment ensure that the work area is well ventilated. Do not house animals or re-employ equipment until product has dried.
8. For disinfection of feed racks, troughs, automatic feeders, fountains and watering appliances scrub with use-solution, let stand 10 minutes. Then thoroughly scrub all treated surfaces with soap or detergent and rinse with potable water before reuse.

Poultry Hatchery Disinfection

1. Remove remaining eggs and chicks, poultry and feeds from premises, trucks, coops and crates.
2. Remove all litter and droppings from floors, walls and surfaces and other hatching-related debris occupied or traversed by poultry/chicks.
3. Empty all troughs, racks and other feeding and watering appliances.
4. Thoroughly wash all surfaces, with a recommended detergent or cleaning solution and then rinse with potable water.
5. Prepare the disinfecting use-solution by adding 3.2 fl. oz. of product to 5 gallons of water. Apply the disinfecting solution with a mop, cloth, brush or coarse spray, keeping surfaces wet for 10 minutes.
6. Before starting the treatment ensure that the work area is well ventilated. Do not house poultry/eggs or employ equipment until product has dried.
7. Thoroughly scrub feed racks, troughs, automatic feeders, fountains, and waterers with soap or detergent, and rinse with potable water before reuse.



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Antimicrobial Rinse of Pre-Cleaned or New Returnable or Non-Returnable Containers

Use DIVOSAN® PLUS to reduce the following non-pathogenic beverage spoilage organisms: *Aspergillus versicolor*, *Byssoschlamys fulva*, *Pediococcus damnosus*, *Lactobacillus buchneri*, and *Saccharomyces cerevisiae*.

1. Prepare the antimicrobial rinse solution by adding 7.0 to 30 fl.oz. of product to 5 gallons of water (617 – 2645 ppm Peroxyacetic acid).
2. Apply antimicrobial rinse at a temperature of 40°C to 60°C, with a contact time of at least 7 seconds.
3. Allow containers to drain thoroughly, and then rinse with sterile or potable waters.

Surface Disinfection

Prepare the disinfecting use-solution by adding 3.2 fl. oz. of product to 5 gallons of potable water. Apply the disinfecting use-solution by wiping, mopping, or as coarse spray. For heavily soiled areas, a pre-cleaning is required. Allow to soak for at least 10 minutes, then drain treated surfaces. Applications involving treatment of food contact surfaces require a sterile or potable water rinse following disinfection.

To Sanitize Non-Food Contact Surfaces:

1. Prepare Use-Solution as follows:
 - Dilute 3.2 fl. oz. of Divosan Plus per 5 gallons of water.
 - Dilute 8 fl. oz. of foaming agent, Shureclean Plus, per 1 gallon of water.
 - Mix the use solution of Divosan Plus with use solution of Shureclean Plus at a 1:1 ratio.
 - This provides 140 ppm PAA.
2. Pre-clean heavily soiled hard non-porous surfaces.
3. Apply Use Solution until thoroughly wet.
4. Let stand for 5 minutes.
5. Wipe surfaces and let air dry.
6. Not for use on food contact surfaces or on food preparation areas.

Treatment of Heat Transfer Systems (Evaporative Condensers, Dairy Sweetwater Systems, Hydrostatic Sterilizers, Cooling Canals, Pasteurizers, Tunnel Coolers and Warmers, and Closed Once Through Cooling Systems)

This product is not intended for once-through or recirculating cooling tower systems. Severely fouled systems should be cleaned before adding the product. Refer to the system operational manual for directions to clean severely fouled systems. The product should be added directly to the system and not mixed with other chemicals or additives. Other chemicals should be added separately. Contamination with other chemicals could result in product decomposition. Add product at a point in the system where uniform mixing and even distribution will occur.

Intermittent Feed Method: When the system is noticeably fouled apply 12-60 ounces (5-26 ppm peroxyacetic acid) of product per 1000 gallons of water in the system. Repeat until control is achieved. When microbial control is evident, add 42 fl. ounces (17 ppm peroxyacetic acid) of product per 1000 gallons of water in the system every day, or as needed, to

maintain control. The daily dose rate could vary depending upon the severity of the biofouling.

Continuous Feed Method: Initial Dose - When the system is just noticeably fouled, apply 12-60 fl. ounces (5-26 ppm peroxyacetic acid) of product per 1000 gallons of water in the system. When microbial control is achieved; start adding product continuously at a rate of 42 fl. ounces per 1000 gallons of water (provide 17 ppm of peroxyacetic acid and 44 ppm of hydrogen peroxide). Then reduce the rate of addition to a level sufficient to maintain control. The dose rate may have to be adjusted to account for the losses due to blow down and evaporation. Add the 4.2 fl. ounces of product for every 100 gallons of make-up water.

NOT FOR USE IN CALIFORNIA

Batch Sanitization of Piping Systems Associated with RO Membranes

1. Isolate incompatible equipment from piping systems. This includes activated carbon filters and ion exchange equipment. Turn power off to ultraviolet light units.
2. Estimate total volume of water contained in the system (tanks, rinse stations and piping). Prepare use-solution by adding 1.7-9.1 fl. oz. of product per 5 gallons of water. This will provide 150-800 ppm peroxyacetic acid.
3. Recirculate the Divosan Plus solution for a minimum of 4 hours. Process usage valves should be opened and closed to expose internals to the Divosan Plus solution.
4. Drain the Divosan Plus solution from the system and rinse with RO permeate, or similar quality water, until the residual peroxyacetic acid is below 3 ppm.

FOGGING FOR CONTROL OF SPOILAGE ORGANISMS IN THE AIR AT FOOD AND BEVERAGE PROCESSING FACILITIES:

Use this product in a fogging device for control of spoilage organisms and/or bacteriophage that could be found in the air in food and beverage processing facilities.

1. Prior to fogging, remove or carefully protect all food products and packaging materials.
2. Ensure room is properly ventilated to prevent migration of vapors to adjacent areas. Vacate all personnel from the room during fogging. Post entry signs notifying employees that fogging is in process to prevent accidental entry. Plan the fogging operation so that sufficient product is available to properly treat the room without refilling the fogger. Use a remotely controlled or time delayed fogging device and leave area before activating the fogger.
3. For control of spoilage organisms and/or bacteriophage that could be found in the air in food and beverage processing facilities, thoroughly fog areas using one quart per 1000 cu. ft. of room area with a 0.30% (4.0 fluid oz. per 10 gallons of water) solution. NEVER enter the room during fogging unless wearing appropriate eye, skin and respiratory protection.

4. Treated areas should not be entered without suitable protective equipment for a minimum period of 2 hours after fogging. Ensure there is no strong odor characteristic of acetic acid (vinegar), before having personnel return to work area. Do not reenter the fogged area until proper venting decreases the hydrogen peroxide concentration in the air to less than 0.5 ppm.

5. Prior to re-using equipment and resuming operations, rinse all surfaces with potable water and follow with standard surface sanitization procedures. Always empty and rinse spray/fog equipment with potable water after use as well.

Note: The fog generated is irritating to the eyes, skin and mucous membranes. Under no circumstances must a room be entered by anyone during fogging or within two hours of the completion of fogging (assuming a minimum of 4 air exchanges (ACH) per hour in the area being fogged, a minimum of 4 air exchanges (ACH) per hour in the facility after fogging). If the building must be entered, then the individuals entering the area must wear a self-contained respirator approved by NIOSH/MSHA, goggles, long sleeves and long pants.

Batch Sanitization for Ultra Filtration and Reverse Osmosis (RO) Membranes

This product might not totally eliminate all vegetative microorganisms in reverse osmosis membranes and their associated piping systems due to their construction and/or assembly, but it can be relied upon to reduce the number of microorganisms to acceptable levels when used as directed. Check with equipment manufacturer for membrane compatibility with Divosan Plus.

NOTE: Not for use on kidney dialysis membranes, associated systems and any other medical devices of this type.

1. Clean the membrane or other parts of the system with an appropriate cleaner to remove biological or organic fouling.
2. Flush the system with RO permeate or similar quality water.
3. If necessary, circulate an appropriate acid cleaner to remove mineral deposits.
4. Flush the system with RO permeate or similar quality water.
5. Prepare use-solution by adding 1.7-9.1 fl. oz. of product per 5 gallons of water. This will provide 150-800 ppm peroxyacetic acid.
6. Fill the system to be sanitized with the Divosan Plus solution and allow to reach a minimum temperature of 20°C.
7. Recirculate the Divosan Plus solution for 10-15 minutes.
8. Allow membrane elements to soak in the Divosan Plus solution for 20 minutes.
9. Drain the Divosan Plus solution from the system and rinse with RO permeate, or similar quality water, until the residual peroxyacetic acid is below 3 ppm.



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Technical data

EPA Reg. No.	70627-53
Form/Color	Clear colorless liquid
Scent	Acetic acid
Specific Gravity	1.085
pH (1%)	2.7
% P	0.41
% Total Acidity (as H ₃ PO ₄)	18.7

The above data is typical of normal production and should not be taken as a specification.

fl. oz. of Concentrate	Gals. of Water	PPM Peroxyacetic Acid
1.0	5	88
1.2	5	105
1.6	5	140
3.2	5	280
5.7	5	500
7.0	5	617
30	5	2645

Safe handling and storage information

Store in original closed containers, away from extreme temperatures. Full guidance on the handling and disposal of this product is provided in a separate Safety Data Sheet.

Product compatibility

Use solutions of Divosan[®] Plus are non-corrosive towards stainless steel and aluminum if used as directed. Mild steel, brass, copper and galvanized surfaces can be sanitized if contact time is kept to the minimum. Divosan[®] Plus concentrate should not be allowed to contact any metal surfaces before dilution to recommended use levels. All concentrate feed lines and equipment should be plastic or of some other material known to be compatible with the product.

Test Kit

Test Kit # BP480024

Precautionary Statement

Refer to current Safety Data Sheet.