

**PRECAUTIONARY STATEMENTS  
HAZARDS TO HUMANS and DOMESTIC ANIMALS**

**DANGER. CORROSIVE.** Causes irreversible eye damage and skin burns. Harmful if swallowed. May be fatal if inhaled. Do not get into eyes, on skin or on clothing. Do not breathe vapors or spray mist. Wear goggles or face shield and rubber gloves and protective clothing when handling. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove contaminated clothing and wash clothing before reuse.

**ENVIRONMENTAL HAZARD:** This pesticide is toxic to birds, fish and aquatic invertebrates. 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 into sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

**PHYSICAL OR CHEMICAL HAZARDS: STRONG OXIDIZING AGENT. CORROSIVE.** Mix only with potable water at 60-80°F. Product must be diluted in accordance with label directions prior to use. This product is not combustible; however, at temperatures exceeding 156°F, decomposition occurs releasing oxygen. The oxygen release could initiate combustion. Never bring this product in contact with other sanitizers, cleaners or organic substances.

**STORAGE AND DISPOSAL**

**Do not contaminate water, food, or feed by storage and disposal**

**PESTICIDE STORAGE:** Never return this product to the original container after it has been removed. Avoid all contaminate, especially dirt, caustic, reducing agents and metals. Contamination and impurities will reduce shelf life and can induce decomposition. In case of decomposition, isolate container, douse container with cool water and dilute this product with large volumes of water. Avoid damage to containers. Keep container closed at all times when not in use. Keep container out of direct sunlight. To maintain product quality, store at temperatures below 86°F. Do not store on wooden pallets.

**PROCEDURE FOR LEAK OR SPILL:** Stop leak if this can be done without risk. Shut off ignition sources: no flames, smoking, flares, or spark producing tools. Keep combustible and organic materials away. Flush spilled material with large quantities of water. Undiluted material should not enter confined spaces.

**PESTICIDE DISPOSAL:** Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture or rinsate 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. If material has been spilled, an acceptable method of disposal is to dilute with at least 20 volumes of water followed by discharge into suitable treatment system in accordance with all local, state, and federal environmental laws, rules, regulations, standards, and other requirements. Because acceptable methods of disposal may vary by location, regulatory agencies should be contacted prior to disposal. This product which is to be discarded should be disposed of as hazardous waste after contacting the appropriate local state or federal agency to determine proper procedures.

**CONTAINER DISPOSAL:** Non-refillable container. Do not reuse or refill this container. Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities. In addition, plastic containers may be disposed of by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**Sold By:**

**Flo-Tec Inc – 2151 34<sup>th</sup> Way N. – Largo, FL 33771 – (800) 335-6832**

**EPA Reg. No.: 10324-214-72160 EPA Est. No.: 72160-FL-1**

**NET CONTENTS:** □ 2.5 gallons □ 5 gallons □ 29 gallons □ 53 gallons □ 265 gallons

**PEROXY PUNCH**

**A Peroxyacetic Acid-Based Sanitizer/Disinfectant**

**For Use in Organic Production**

**Industrial Sanitizer For Previously Cleaned Hard Non-Porous Food Contact Surfaces In:** Dairies, Wineries, Breweries, Food And Beverage Plants, Poultry And Egg Facilities and Animal Housing.

**Hard, Non-Porous Surface Disinfection In:** Hospitals, Schools, Industrial Facilities, Office Buildings, Veterinary Clinics.

**Odor-Causing Bacteria, Slime, Odor and Algae Control In:** Recirculating Cooling Water and Evaporative Coolers, Reverse Osmosis, Nano and Ultra Filtration and Agricultural Waters.

**Antimicrobial Agent for use in oilfield and gas field well operations, Oil Field Water Flood/Salt Water Disposal Systems, Fracturing Fluids**

Before Using This Product, Please Read This Entire Label Carefully

**Active Ingredients:**

Peroxyacetic Acid .....5.9%

Hydrogen Peroxide .....27.3%

**Inert Ingredients:**.....66.8%

**Total**.....100.0%

**KEEP OUT OF REACH OF CHILDREN  
DANGER PELIGRO**

See left back panel for additional precautionary statements and first aid statements.

**FIRST AID**

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

**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 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 SWALLOWED:** Call a poison control center or doctor immediately 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.

**IF INHALED:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

**NOTE TO PHYSICIAN:** Probable mucosal damage may contraindicate the use of gastric lavage.

## DIRECTIONS FOR USE

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

**FOOD CONTACT SANITIZING PERFORMANCE:** At 1 fluid ounce per 6 gallons, this product (or equivalent use dilution) eliminates 99.999% of the following bacteria in 60 seconds in 500 ppm hard water according to the AOAC Germicidal and Detergent Sanitizing Action of Disinfectants test on hard non-porous surfaces:

<i>Aeromonas hydrophila</i>	<i>Escherichia coli</i> O26:H11
<i>Clostridium perfringens-vegetative</i>	<i>Escherichia coli</i> O45:K:-H-
<i>Enterobacter sakazakii</i>	<i>Klebsiella pneumoniae</i>
<i>Escherichia coli</i>	<i>Salmonella enterica</i>
<i>Escherichia coli</i> O103:K:-H8	<i>Salmonella enterica serotype enteritidis</i>
<i>Escherichia coli</i> O111:H8	<i>Salmonella typhi</i>
<i>Escherichia coli</i> O121:K:-H10	<i>Shigella dysenteriae</i>
<i>Escherichia coli</i> O145:H28	<i>Shigella sonnei</i>
<i>Escherichia coli</i> O157:H7	<i>Yersinia enterocolitica</i>

**FOOD CONTACT SANITIZING PERFORMANCE:** At 1 fluid ounce per 3 gallons this product (or equivalent use dilution) eliminates 99.999% of the following bacteria in 60 seconds in 500 ppm hard water according to the AOAC Germicidal and Detergent Sanitizing Action of Disinfectants test:

<i>Staphylococcus aureus</i>	<i>Xanthomonas axonopodis</i> Citrus Canker
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## SANITIZATION

This product is for use on pre-cleaned surfaces such as equipment, pipelines, tanks, vats, filters, evaporators, pasteurizers, and aseptic equipments in dairies, breweries, wineries, beverage and food processing/packing plants, and egg processing/packing equipment surfaces. This product is effective as a sanitizer when solution is prepared in water of up to 500 ppm hardness as CaCO<sub>3</sub>. This product has demonstrated greater than 99.999% reduction of organisms after 60 seconds exposure period in the AOAC Germicidal and Detergent Sanitizing Action of Disinfectants test.

**For Mechanical Operations:** Prepared use solution cannot be reused for sanitizing, but may be reused for other purposes such as cleaning.

**For Manual Operations:** Fresh cleaning solutions must be prepared daily or more often, if the solution becomes visibly diluted or soiled.

**SANITIZING FOOD CONTACT SURFACES:** This product can be used in Federally Inspected Meat and Poultry Facilities as a sanitizer. Prior to sanitizing, remove gross food particles, then wash with a detergent solution, followed by a potable water rinse. Sanitize with a concentration of 1 – 3 fluid ounces of this product dissolved in 6 gallons of water (73 – 230 ppm active peroxyacetic acid) (or equivalent use dilution). Use immersion, coarse spray or circulation techniques as appropriate to the equipment. All surfaces must be exposed to sanitizing solution for a period of at least 60 seconds or more as specified by a governing code. Drain excess solution. Do not rinse.

**SANITIZATION OF CONVEYORS AND EQUIPMENT FOR MEAT, POULTRY, SEAFOOD, FRUIT, NUTS AND VEGETABLES:** For use in the static or continuous sanitizing, washing or rinsing of conveyors, slicers, saws, and equipment, apply a solution of this product using 1 – 3 fluid ounces per 6 gallons of water (73 – 230 ppm active peroxyacetic acid) (or equivalent use dilution). Apply sanitizing solution to the return portion of the conveyor or

equipment using a coarse spray or similar means of wetting surfaces, so as to effect draining and prevent pooling. Allow sanitizer to thoroughly wet surface for a minimum 60 seconds contact time. Allow to air dry.

**SANITIZING OF CASING, SHELL OR HATCHING EGGS:** To sanitize clean shell eggs intended for food or food products, spray with a solution of this product by diluting 1 – 3 fluid ounces of product with 6 gallons of potable water (providing 73 – 230 ppm active peroxyacetic acid) (or equivalent use dilution). The solution must be equal to or warmer than the eggs, but not to exceed 130°F. Wet eggs thoroughly and allow to surface to drain. Eggs that have been sanitized with this product can be broken for use in the manufacture of egg products without a prior potable water rinse. Eggs must be reasonably dry before casing or breaking. The sanitizing solution must not be reused for sanitizing eggs. For hatching eggs, apply the sanitizing solution as eggs are gathered or prior to setting using a coarse spray or flood so as to lightly wet egg shells surfaces. Allow to drain and air dry.

**REVERSE OSMOSIS (RO), NANO, AND ULTRA FILTRATION CLEANING-SANITIZATION:** This product is used in the sanitization of nano filtration (NF) and ultra filtration (UF) and reverse osmosis (RO) membranes and their associated piping systems. This product is to be added continuously in food, beverage, and drinking water systems for RO (reverse osmosis) systems only in accordance with the instructions below. This product is not for use in kidney dialysis equipment. This product will not totally eliminate all vegetative microorganisms in RO, or NF or UF membranes and their associated piping systems due to their construction or assembly, but can be relied upon to reduce the number of microorganisms to acceptable levels when used as directed. Prior to using this product check with membrane manufacturer to confirm compatibility of membranes with various types of concentrations of peroxyacetic acid solutions.

**Batch Sanitization of NF, UF and RO Systems:** Isolate incompatible equipment, such as carbon filters and ion exchangers. Clean system with an appropriate cleaner and follow with RO permeate water or potable water. Remove mineral deposits if necessary with an acidic cleaner, and rinse as before. Fill entire system with water and add up to 1% of this product by volume (560 ppm) for heavily fouled systems. The typical sanitation use solution dosing of this product is 1 – 2 fluid ounces per 5 gallons of water (87.5 – 175 ppm active peroxyacetic acid) (or equivalent use dilution). Recirculate the sanitizing solution through the piping and membrane system at 20°C for 10 minutes minimum, or up to 4 hours, depending on the severity of cleaning to be done. Open and close process valves and solenoids to be sure all parts are in contact with the solution. For occasional intermittent feed, do not exceed 87.5 ppm active, which equals 1 fluid ounce of this product per 5 gallons of feed water. Do not use the intermittent feed method for on-line use of potable water or direct food contact systems. Rinse the system with RO permeate or potable water until residual per oxygen concentration is below 1 ppm.

**RO Continuous or Intermittent Addition:** For continuous addition methods for RO systems, use 2 – 5 ppm active (36 – 90 ppm as product), which equals 2 – 5 fluid ounces of this product per 430 gallons of process water. For occasional intermittent feed, do not exceed 87.5 ppm active peroxyacetic acid which is equal to 1 fluid ounce of this product per 5 gallons of feed water. Do not use intermittent feed method for on-line use in potable water or direct food contact systems.

**FINAL SANITIZING BOTTLE RINSE:** This product can be used as a final sanitizing rinse, followed by adequate draining, for the returnable and non-returnable bottles at a 0.13% – 0.39% dilution 1 to 3 fluid ounces of this product in 6 gallons of water, which yields 73 – 230 ppm active peroxyacetic acid.

**FOAM CLEANING OF FOOD AND NON FOOD CONTACT SURFACES:** As an adjunct to cleaning and sanitizing procedures this product may be added to Macat AO-12 (amine oxide) and foamed on environmental or equipment surfaces using conventional foam generating equipment. The resilient foam blend can be used on equipment, floors, walls, ceilings, drains, etc and should be left on the surface for a minimum of 1 minute or longer. On food contact surfaces do not exceed 3 fluid ounces of this product per 6 gallons of water. **Directions for mixing:** Manually or mechanically blend 1 to 3 fluid ounces of this product and 6 to 12 fl. oz. of Macat AO-12 (amine oxide) per 6 gallons of water. The dilution water must not exceed 150°F.

**BOOSTER FOR ALKALINE DETERGENTS TO CLEAN FOOD PROCESSING EQUIPMENT:** This product is an effective oxygen bleach cleaning booster for use with alkaline detergents. For cleaning applications as a detergent booster, use 2 – 7 fluid ounces per gallon of water detergent solution to aid in the removal of organic soils. All hard nonporous food contact surfaces treated with this boosted detergent must be rinsed thoroughly with potable water rinse followed by sanitizing with an approved food contact surface sanitizer.

**BOOSTER FOR ACID DETERGENTS TO CLEAN FOOD PROCESSING EQUIPMENT:** This product is an effective oxygen bleach cleaning booster for use with acidic detergents. For cleaning applications as a detergent booster, use 2 – 7 fluid ounces per gallon detergent solution to aid in the removal of organic soils. All hard nonporous food contact surfaces treated with this boosted detergent must be rinsed thoroughly with potable water rinse followed by sanitizing with an approved food contact surface sanitizer.

**SURFACES TREATED TO CONTROL THE SPREAD OF CITRUS CANCKER:** This product is used to control the spread of citrus cancker between inanimate and animate surfaces to plants. This product is for sanitizing surfaces such as packing house conveyors, harvesting equipment and containers. **This product is not for treatment of infected plants.**

**PACKING HOUSE SANITIZATION:** This product is an effective sanitizer against microorganisms such as *Xanthomonas campestris (axonopodis) pathovars citrumeto* (citrus canker surrogate) and *Staphylococcus aureus*, *Escherichia coli* and *Salmonella enterica*.

1. Remove gross contamination with a cleaner or other suitable detergent and rinse with potable water.
2. Use this product at a dilution of 1 fl. oz. per 3 gallons of water (150 ppm active peroxyacetic acid) (or equivalent use dilution) as a general sanitizing coarse spray to reduce bacteria and fungi contamination of walls, floors, conveyors and harvesting containers.
3. Allow sanitizer to contact surface for at least 60 seconds.
4. Allow to air dry. Do not rinse.

**FIELD EQUIPMENT SANITIZATION:** This product is used to sanitize harvest equipment such as pickers, trailers, trucks, bins, packing crates, ladders, power tools, gloves, rubber boots, pruning shears or other hard non-porous equipment that may transfer *Xanthomonas campestris (axonopodis) pathovars citrumeto* (citrus canker surrogate). This product is also used to sanitize hard non-porous surfaces contaminated with *Staphylococcus aureus*, *Escherichia coli* and *Salmonella enterica*.

1. Before sanitization, move the field equipment in an area with an impervious surface and with controlled drainage. Ensure that no sanitizing solution will be released to the environment.
2. Remove gross contamination with a cleaner or other suitable detergent and rinse with potable water.
3. Use this product at a dilution of 1 fl. oz. per 3 gallons of water (150 ppm active peroxyacetic acid) (or equivalent use dilution) as a general sanitizing coarse spray.
4. Allow sanitizer to contact surface for at least 60 seconds.
5. Allow to air dry. Do not rinse.

**FOGGING: All surfaces must be cleaned and disinfected in accordance with label directions prior to fogging. Fogging is an adjunct or supplement to normal cleaning and disinfection procedures and practices.**

1. Prior to fogging, remove and carefully protect all food products and packaging materials.
2. Ensure room is properly ventilated. Wear a dust mist respirator when mixing the use solution and pouring it into the fogging apparatus. Vacate all personnel from the room during fogging and for a minimum of 2 hours after fogging and a minimum of 4 air exchanges (ACH) per hour in the facility. Ensure there is no strong odor which is characteristic of acetic acid, before allowing personnel return to work area.
3. Fog areas using one quart per 1000 cu. ft. of room area with 0.3% (3.5 fl. oz. per 10 gallons of water) (or equivalent use dilution) solution.
4. Allow surfaces to drain thoroughly and air dry before operations are resumed.

**NON FOOD CONTACT HARD SURFACE DISINFECTION:** This product disinfects, as it cleans, in one operation. This product is to be used to disinfect floors, walls, and other hard nonporous surfaces such as tables, chairs, countertops, bathroom fixtures, sinks, bed frames, shelves, racks, carts, refrigerators, coolers, glazed tile, linoleum, vinyl, glazed porcelain, and use sites on this label made of plastic, stainless steel, or glass. Areas of use in hospitals include surgical and obstetrical suite; housekeeping services; physical therapy departments; nursing services; autopsy facilities. Also use this product in hospitals and nursing homes, other health-care facilities schools, colleges, veterinary clinics, animal life science laboratories, industrial facilities, dietary areas, office buildings, recreational facilities, retail and wholesale establishments.

## GENERAL DISINFECTANT

**GENERAL DISINFECTION IN NON-MEDICAL Facilities (Households, Schools, Restaurants, Food Services, Beverage and Food Processing Plants and Other Non-Medical Facilities):** At 1½ fluid ounces per 5 gallons of water (or equivalent use dilution) and in the presence of 5% blood serum and 400 ppm hard water with a 10-minute contact time, this product is effective against the following organisms on hard non-porous surfaces:

*Bordetella bronchiseptica*  
*Corynebacterium ammoniagenes*  
*Vancomycin Resistant Enterococcus faecalis VRE*  
*Escherichia coli 0157:H7*  
*Listeria monocytogenes*  
*Salmonella enterica*  
*Salmonella typhi*  
*Shigella sonnei*  
*Staphylococcus aureus*  
*Vancomycin Intermediate Resistant Staphylococcus aureus VISA*

**\*VIRUCIDAL PERFORMANCE:** At 1½ fluid ounces per 5 gallons of water use level (or equivalent use dilution) and in the presence of 5% blood serum and 400 ppm hard water with a 10-minute contact time, this product was evaluated and found to be effective against the following viruses on hard non-porous surfaces:

*Avian Adenovirus*  
*Avian Infectious Bronchitis Virus*  
*Avian Influenza A H5N1 virus*  
*Hepatitis B Virus*  
*Herpes Simplex Type1 virus*  
*Herpes Simplex Type2 virus*  
*HIV-1 (AIDS virus)*  
*Human Coronavirus*  
*Infectious Bursal disease*  
*Infectious Laryngotracheitis*  
*Influenza A virus H1N1*  
*Newcastle disease virus*  
*Porcine Respiratory & Reproductive Syndrome virus*  
*Porcine Rotavirus*  
*Pseudorabies*  
*Transmissible Gastroenteritis*  
*Vesicular Stomatitis*

**FUNGICIDAL ACTIVITY:** At 1½ fluid ounces per 5 gallons use-level (or equivalent use dilution) and in the presence of 5% blood serum and 400 ppm hard water with a 10-minute contact time, this product is effective against the following organism:

*Trichophyton mentagrophytes* - Athlete's foot fungus/a cause of Ringworm

**PREPARATION OF DISINFECTION/VIRUCIDAL\*/FUNGICIDAL USE SOLUTION:** For use with water hardness up to 400 ppm. Before using this product, food products and packaging materials must be removed from the room or carefully protected. For heavily soiled areas, a preliminary cleaning is required. Apply 2 fluid ounces of this product per 5 gallons of water use solution

(or equivalent use dilution) to disinfect hard, non-porous surfaces. Apply use solution with a brush, cloth, mop, sponge or mechanical spray device, thoroughly wetting surfaces as required. For sprayer applications, spray 6-8 inches from surface. Do not breathe spray. Rub with brush, sponge, mop or cloth. Treated surfaces must remain wet for 10 minutes. Rinse or allow to air dry. Rinsing is not necessary unless floors are to be coated with finish or restorer. Rinse all surfaces that come in contact with food such as countertops, appliances, tables and stovetops with potable water before reuse. Change cloth, sponge or towels frequently to avoid redeposition of soil. Do not use this product to clean or disinfect utensils, glassware, dishes or interior surfaces of appliances. Prepare a fresh solution at least daily or when use solution becomes visibly dirty.

**GENERAL DISINFECTION DIRECTIONS:** For heavily soiled areas, a preliminary cleaning is required. Apply use solution of 1½ fluid ounces per 5 gallons of water (or equivalent use dilution) to hard, non-porous surfaces, thoroughly wetting surfaces as required, with a cloth, brush, mop, sponge or mechanical spray device. For sprayer applications, spray 6-8 inches from surface. Do not breathe spray. Rub with brush, sponge, mop or cloth. Allow surfaces to remain wet for 10 minutes. Rinse or allow air dry or wipe up excess liquid. Change cloth, sponge or towels frequently to avoid redeposition of soil. Do not use this product to clean or disinfect utensils, glassware, dishes or interior surfaces of appliances. Prepare a fresh solution at least daily or when use solution becomes visibly dirty.

**\*KILLS HIV, AND HBV ON PRECLEANED ENVIRONMENTAL SURFACES/OBJECTS PREVIOUSLY SOILED WITH BLOOD/BODY FLUIDS** in health care settings 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 and Duck Hepatitis B Virus (HBV).

**SPECIAL INSTRUCTIONS FOR CLEANING AND DECONTAMINATION AGAINST HIV-1, AND HBV ON SURFACES/OBJECTS SOILED WITH BLOOD/BODY FLUIDS. Personal Protection:** Clean up must always be done wearing protective latex gloves, gowns, masks and eye protection. **Cleaning Procedure:** Blood and other body fluids must be thoroughly cleaned from surfaces and objects before application of this product. **Disposal of Infectious Materials:** Blood and other body fluids, cleaning materials and clothing must be autoclaved and disposed of according to federal, state and local regulations for infectious waste disposal. **Contact Time:** Leave surface wet for 10 minutes with a 1½ fluid ounces per 5 gallons of water use solution (or equivalent use dilution).

**CLEANING AND DISINFECTION:** For heavily soiled areas, a pre-cleaning step is required. For all general cleaning and disinfection, use 2 fluid ounces of this product per 5 gallons of water (or equivalent use dilution). Apply use solution with a brush, mop, cloth, sponge or mechanical spray device so as to wet all surfaces thoroughly to be cleaned and disinfected. For sprayer applications, spray 6-8 inches from surface. Rub with brush, sponge, mop or cloth. Do not breathe spray. Allow surfaces to remain wet for 10 minutes and then let air dry or wipe up excess liquid. Change cloth, sponge or towels frequently to avoid redeposition of soil. Prepare a fresh solution at least daily or when use solution becomes visibly dirty.

## FOR USE AS A ONE-STEP CLEANER/DISINFECTANT:

1. Pre-clean heavily soiled areas.
2. Apply use solution of 2 fluid ounces per 5 gallons (or equivalent use dilution) to hard, non-porous surfaces using a sponge, brush, cloth, mop or mechanical spray device. Wet all treated surfaces thoroughly.
3. To disinfect, all surfaces must remain wet for 10 minutes.
4. Wipe surfaces and let air dry.
5. Prepare a fresh solution at least daily or when use solution becomes visibly dirty.

**Note:** All food contact surfaces such as appliances and kitchen countertops must be rinsed with potable water. Do not use this product to clean or disinfect glassware, utensils, dishes or interior surfaces of appliances.

## ANIMAL PREMISES

### DISINFECTION OF ANIMAL AND POULTRY PREMISES, TRUCKS, COOPS AND CRATES:

This product is used in animal hospitals, animal laboratories, kennels, pet shops, zoos, pet animal quarters, poultry premises, poultry hatcheries, and livestock quarters. When used as directed this product is specifically designed to disinfect, deodorize and clean hard, non-porous surfaces such as walls, floors, sink tops, furniture, operating tables, kennel runs, cages, and feeding equipment. In addition this product will deodorize those areas which are generally hard to keep smelling fresh, such as garbage storage areas, empty garbage bins and cans, and any other areas which are prone to odors caused by microorganisms.

**DISINFECTION OF POULTRY PREMISES:** For heavily soiled areas, a pre-cleaning step is required. Prepare a fresh solution for each use. Remove all poultry and feeds from areas to be disinfected, trucks, coops, and crates. Remove all litter and droppings from floors, walls and surfaces of facilities occupied or traversed by poultry. Empty all troughs, racks, and other feeding and watering appliances. Thoroughly clean all surfaces with a detergent and rinse with water. Saturate surfaces with a 0.23 – 0.31% v/v (2 fluid ounces per 5 gallons of water) (or equivalent use dilution) solution of this product for a period of 10 minutes. Thoroughly scrub treated feed racks, troughs, automatic feeders, fountains and waterers with a detergent and rinse with potable water before reuse. Ventilate buildings, coops and other enclosed spaces. Do not house poultry or employ equipment until treatment has been absorbed, set or dried. All treated equipment that comes in contact with food, feed, or drinking water must be rinsed with potable water before reuse. Change cloth, sponge or towels frequently to avoid redeposition of soil. Prepare a fresh solution at least daily or when use solution becomes visibly dirty.

### DISINFECTION AND DEODORIZING OF ANIMAL HOUSING FACILITIES (BARN, KENNELS, HUTCHES, ETC.):

Remove animals and feed from areas to be disinfected, vehicles, and enclosures. Remove all litter- and droppings from floors, walls, and surfaces of barns, pens, stalls, chutes, and other facilities and fixtures occupied or traversed by animals. Empty all troughs, racks and other feeding and watering equipment. Thoroughly clean all surfaces with soap or detergent and rinse with water. Saturate surfaces by applying a 0.23-0.31% v/v (2.0 fluid ounces per 5 gallons of water) (or equivalent use dilution) solution of this product with a mop, brush, or coarse spray. Wet all surfaces and allow to remain wet for 10 minutes. Immerse all halters and other types of hard non-porous equipment used in handling and restraining animals, as well as

forks, shovels and scrapers used for removing litter and manure. Ventilate buildings and other enclosed spaces. Do not house animals or employ equipment until treatment has been absorbed, set or dried. Thoroughly scrub all treated feed racks, mangers, troughs, automatic feeders, fountains and waterers with a soap or detergent, and rinse with potable water before reuse. Change cloth, sponge or towels frequently to avoid redeposition of soil. Prepare a fresh solution at least daily or when use solution becomes visibly dirty.

### FOGGING IN FILLING, PACKAGING, AND DISPENSING ROOMS OR AREAS:

**All surfaces must be cleaned and disinfected in accordance with label directions prior to fogging. Fogging is an adjunct or supplement to normal cleaning and disinfection procedures and practices.** Prior to fogging remove food products and packaging materials from the room or area or carefully protect them. Fog desired areas using one quart of a 0.3% to 1.5% solution of this product (2 to 10 fluid ounces of this product per 5 gallons of water) (or equivalent use dilution) per 1,000 cu. Ft. of room area. Conventional corrosion resistant fogging devices are required. Wear a dust mist respirator when mixing the use solution and pouring it into the fogging apparatus. Vacate the area of all personnel prior to, during and after fogging until the hydrogen peroxide concentration is below 0.5 ppm. Allow surfaces to drain thoroughly before operations are resumed. For all hard, non-porous food contact surfaces treated with disinfectant, a must be rinsed thoroughly with a potable water rinse

### CONTROL OF SLIME FORMING BACTERIA IN RECIRCULATING AND COOLING WATER SYSTEMS/COOLING TOWERS, EVAPORATIVE CONDENSERS, PASTEURIZERS:

Severely fouled systems must be cleaned before adding and/or using this product. This product is to be added in the system directly and not mixed with any other chemicals or additives. Discontinue use of chlorine or bromine products prior to using this product. Contamination with other chemicals could result in product decomposition. Add this product at a point in the system where uniform mixing and even distribution will occur. For slug treatment add 20 fluid ounces of product per 1,000 gallons of process water (or equivalent use dilution). Repeat as necessary until microbiological control is evident. Thereafter, to maintain control, use 0.33 to 1.5 lbs. (4.5 – 20.5 fl. oz.) of this product per 1,000 gallons of process water (2 – 9 ppm active) (or equivalent use dilution) as a continuous or intermittent slug treatment. Continuous dosing methods usually require 2 – 5 ppm active (4.5 – 11.5 fl. oz. per 1,000 gallons of process water) (or equivalent use dilution) to achieve adequate control.

### ANTIMICROBIAL RINSE OR PRECLEANED OR NEW RETURNABLE OR NON RETURNABLE CONTAINERS:

To reduce the numbers of beverage spoilage organisms, use a 2 to 3% v/v solution, which equals 1,120 – 1,700 ppm active (2.56 - 3.84 fluid ounces to 1 gallon of water) of this product at a temperature range of 46 – 60°C for 30 seconds. Higher dilutions of 1 fluid ounce per gallon of water is effective at 60°C. After adequate draining, rinse interior containers surfaces with sterile or potable water.

### FRUIT AND VEGETABLE WATER TREATMENT:

This product is used to help control spoilage or decay-causing bacteria and fungi in water or ice that contacts raw unprocessed fruits and vegetables. The commodity must be continuously sprayed using coarse spray, or submerged using a solution containing 1 fluid ounce of this product per 20 gallons of water (or equivalent use dilution). Adjust dose as necessary to maintain no more than 25 ppm active. Remove excess water or allow to drain. If using the submersion method,

replace with a fresh solution at least daily, or when solution becomes visibly soiled. A final potable water rinse is not required.

### POST HARVEST TREATMENTS

Use this product for treatment of waters used in handling, processing, packing and storage of raw fruits and vegetables. This product can also be used to control the growth of spoilage and decay causing bacterial and fungal diseases on post harvest fruits and vegetables. For post harvest applications, fruits and vegetables can be sprayed or submerged in the resulting solution for a minimum contact time of 30 seconds, followed by adequate draining.

**FOGGING:** This product can be applied by fogging to control the growth of non-public health microorganisms that can cause decay and/or spoilage on raw, post harvest fruits and vegetables during the post harvest process.

**All surfaces must be cleaned and disinfected in accordance with label directions prior to fogging. Fogging is an adjunct or supplement to normal cleaning and disinfection procedures and practices.**

1. Ensure room is properly ventilated. Wear a dust mist respirator when mixing the use solution and pouring it into the fogging apparatus. Vacate all personnel from the room during fogging and for a minimum of 2 hours after fogging and a minimum of 4 air exchanges (ACH) per hour in the facility. Ensure there is no strong odor which is characteristic of acetic acid before allowing personnel return to work area. Do not enter room until hydrogen peroxide concentrations are correctly tested and are below 1 ppm on a time weighted average.
2. Fog areas using one quart of a 0.3% solution (3.5 fluid ounces per 10 gallons of water) (or equivalent use dilution) per 1 cu. ft. of room volume. Allow surfaces to drain thoroughly and air dry before operations are resumed.

**Note:** May cause bleaching of treated surfaces, test commodity if unsure.

**TREATMENT OF FRUIT AND VEGETABLE PROCESSING WATERS:** Use the product for the treatment of waters used in the processing of raw fruits and vegetables. Mix this product with water either batch-wise or continuously at a rate of 60 to 195 fluid ounces of this product to 1,000 gallons of water (or equivalent use dilution). This will provide 25 to 85 ppm of active in the use solution. The fruits and vegetables can be sprayed or submerged in the resulting solution for a minimum contact time of 45 seconds, followed by adequate draining. At this use dilution this product will control the growth of spoilage and decay causing non-public health organisms in process waters and on the surface of fresh cut or post harvest fruits and vegetables. This product is not allowed to be used for control of any public health organism on fruit and vegetable surfaces.

**AGRICULTURAL OR HORTICULTURAL USES:** There is a Restricted-Entry-Interval (REI) of zero (0) hours after the use of this product. This product must never be mixed or combined with any other pesticide or fertilizer. Upon soil contact this product decomposes rapidly to oxygen, carbon dioxide and water. The product is harmful to fish if exposed on a continuous basis at concentrations of 0.5 ppm or more of actives. Meter this product into pressurized pipes using a plastic or stainless steel injection/backflow device installed far enough upstream from the target equipment to ensure thorough mixing. For open flowing bodies of water, apply this product as far upstream as

possible to allow adequate mixing prior to the flow entering any larger body of water. If open pouring of this product is required pour product as close to the surface of the water as possible to reduce odor exposure.

**TREATMENT OF IRRIGATION WATER SYSTEMS (SAND FILTERS, HUMIDIFICATION SYSTEMS, STORAGE TANKS, PONDS, RESERVOIRS, CANALS):** For the control of odor, sulfides, slime and algae in water systems, apply this product at 0.4 – 2 fluid ounces per 100 gallons of water (or equivalent use dilution) (2 – 10 ppm active). This feed rate equals 0.3 – 1.8 gallons per 10,000 gallons of water. Repeat dose as necessary to maintain control, which will vary with seasonal conditions. For prevention of algae some systems will require continuous low level dosing during warm sunny periods.

**DRIP IRRIGATION SYSTEM CLEANING:** To clean slime and algae from drip system tapes and emitters, meter this product upstream from pumps or filters at the rate of 1 – 2 fluid ounces per 50 gallons of water (or equivalent use dilution) (10 – 20 ppm active). This feed rate equals 2 – 3.5 gallons per 10,000 gallons of dilution water. When required during normal irrigation cycles, use this product at the required dose for a minimum of 30 minutes. Thereafter, the irrigation cycle must be discontinued and the line must not be flushed.

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

**FOLIAR SPRAY TREATMENT IN GREENHOUSES (Not for Use in California):** This product works immediately on contact with any plant surface for control/suppression of fungi. Apply this product to ornamentals, bedding plants, flowering plants, shrubs, and trees. To ensure that this fungicide is effective, thorough coverage and wetting of the foliage is necessary.

#### Initial Curative Application:

1. Use 2/3 to 1 1/3 fl. oz. (300 – 600 ppm) per gallon of clean water (or equivalent use dilution). Do not reuse already mixed solution. Make fresh solution at least daily or when use solution becomes visibly dirty, soiled or diluted.
2. Spray, mist or fog plants in the early morning or late evening.
3. Thoroughly wet all surfaces of plant including upper and lower foliage, stems, branches and stalks to ensure full contact with plant and flower tissue.
4. Apply for one to three consecutive days and then follow directions for preventative treatment after the initial application.

#### Weekly Preventative Treatment:

1. Use 0.14 to 0.23 fl oz (60 – 100 ppm) per gallon of clean water (or equivalent use dilution).
2. Spray, mist or fog plants.
3. Thoroughly wet all surfaces of plant including upper and lower foliage, stems, branches and stalks to ensure full contact with plant and flower tissue.
4. Spray every five to seven days as a preventative treatment.
5. At the first sign of disease, spray daily with a dilution of 2/3 to 1 1/3 fl. oz. per gallon of water (or equivalent use dilution) for three consecutive days and then resume weekly preventative treatment.

**FOLIAR SPRAY TREATMENT FOR FIELD GROWN CROPS, CROPS GROWN IN COMMERCIAL GREENHOUSES OR CROPS GROWN IN SIMILAR SITES** (*Not for Use in California*): This product works immediately on contact with any plant surface for control/suppression of disease. Apply this product to growing crops and nursery stock such as woody ornamentals, bedding plants, flowering plants, roses, container plants, azaleas, rhododendrons, conifers, and shade trees. Use a dilution 1/8 fl. oz./1 ¼ fl. oz. per gallon of clean water (or equivalent use dilution). Good coverage and wetting of foliage is required to ensure full contact with plant and flower tissue.

**Initial (Curative) Application:**

1. Use 2/3 to 1 1/3 fl. oz. (300 – 600 ppm) per gallon of clean water (or equivalent use dilution). Do not reuse already mixed solution. Make fresh solution at least daily or when use solution becomes visibly dirty, soiled or diluted.
2. Spray, mist or fog plants and trees, including applications through irrigation (or chemigation) systems.
3. Thoroughly wet all surfaces of plant, upper and lower foliage, including stems, branches and stalks to ensure full contact with plant and flower tissue.
4. Apply for one to three consecutive days and then follow directions for preventative treatment after the initial application.

**Weekly Preventative Treatment:**

1. Use 2/3 to 1 1/3 fl. oz. (300 – 600 ppm) per gallon of clean water (or equivalent use dilution).
2. Spray, mist or fog plants and trees, including applications through irrigation or chemigation systems.
3. Thoroughly wet all surfaces of plant, upper and lower foliage, including stems, branches and stalks to ensure full contact with plant and flower tissue.
4. Spray every five to seven days as a preventative treatment.
5. At the first sign of disease spray daily with a dilution of 1 1/3 fl. oz. per gallon of water for three consecutive days and then resume weekly preventative treatment.

**FOR CUT FLOWERS** (*Not for Use in California*): Use this product to prevent fungal diseases such as *Botrytis*, Downy Mildew and Powdery Mildew on flowers in cold storage or in transit. Apply as a post harvest treatment. Use a dilution of 0.14 to 0.23 fl oz.(60-100) per gallon of clean water (or equivalent use dilution). Spray flowers after grading and prior to storage or shipment. Repeat weekly for flowers in storage.

**FOR BARE ROOT NURSERY STOCK** (*Not for Use in California*): Use this product to prevent *Botrytis* on budwood and nursery stock in storage. Use a dilution of 1 1/3 fl. oz. per gallon of water (or equivalent use dilution). Dip plants or spray until dripping wet. Repeat weekly if necessary.

**FOR TURF APPLICATIONS** (*Not for Use in California*): Broad spectrum treatment for control of algae, fungi and bacteria on turf. For use on all turf types such as commercial turf, lawns, athletic fields and golf course fairways, greens and tees.

Use this product to control fungi such as: *Anthrachnose*, Brown Spot, Dollar Spot, Copper Spot, Fairy Ring, Pink Snow Mold, *Pythium*, *Phytophthora*,

Summer Patch, *Rhizoctonia*, Scum, Take All Patch, *Fusarium* Blight, Stripe Smut, Leaf Spot, Algae, Slime Molds and their spores. This product controls on contact.

**FOR TREATMENT OF TURF** (*Not for Use in California*): Use on golf course fairways, greens and tees consisting of Bentgrass, Bluegrass, Bermudagrass, Fescue, Ryegrass, St Augustine grass and their mixtures to control/suppress algae, bacterial and fungal diseases and the odors and conditions that these organisms may cause. Typical preventative treatment rates involve using 2-6 fl. oz. of this product diluted into 3-5 gallons of water per approximately 1000 square feet of turf area. For curative control, 2 to 3 consecutive treatments applied at a rate of 6–12 fl. oz. of this product diluted into 3-10 gallons of water per 1000 square feet may be required to eradicate disease. Drench soil to saturate the root systems in affected areas. Add a spreader surfactant for best results.

Optimum treatment time is early morning or late afternoon.

For best results, apply immediately after grass has been cut.

Applications can be made during wet or rainy weather.

Use spray solution the same day it is prepared. Do not store and reuse mixed spray solution.

This product can be injected through automatic irrigation systems in turf areas.

Refer to manufacturer's direction for specific instructions on using this product through irrigation systems.

**FOR SEED BED TREATMENT** (*Not for Use in California*): Prior to sowing seed, use dilution of 1:50 or 2 ½ fl. oz. per gallon of clean water. Thoroughly wet or drench the seedbed, to the point of saturation, with 60 to 100 gallons of dilute solution per 1000 square feet. Let sit for one hour then immediately seed soil.

After seeds have germinated, use dilution of 1:100 or 1¼ fl. oz. per gallon of clean water. Lightly spray or irrigate the soil and seedlings until thoroughly wetted. Repeat once a week until seed is well established.

**FOR SOIL TREATMENT PRE-INOCULATION WITH BENEFICIAL ORGANISMS** (*Not for Use in California*): Use this product to reduce the number of potential plant pathogenic organisms in the soil that will prevent beneficials from becoming established. Use a dilution of 1:50 or 2½ fl. oz per gallon of clean water. Thoroughly wet or drench the area to be inoculated. Wait one day before inoculating soil.

**FOR GRASSES GROWN FOR SEED OR SOD** (*Not for Use in California*): Treat with 40-128 fl. oz. of this product per 100 gallons of water; apply 50-100 gallons of spray solution per acre. Use sufficient water to achieve good coverage. Begin applications during stem elongations. Repeat weekly or as needed. Livestock can graze treated areas.

**FOR DISEASE CONTROL ON FRUITS AND VEGETABLES** (*Not for Use in California*): For curative treatment, spray diseased plants with a 1:100 or 1 ¼ fl. oz. dilution of this product per gallon of clean water. Apply for three consecutive days and then continue to apply a 1:100 dilution treatment at intervals of 5 to 7 days.

For preventive treatment, begin when plants are small. Apply treatments at a dilution of 1:100 or 1 ¼ fl. oz. of this product per gallon of clean water at 5-day intervals. On the fourth treatment, reduce the dilution rate to 1:300 or 0.5 fl. oz. per gallon of clean water and continue to apply at 5-day intervals until harvest.

**BIOFOULING CONTROL IN PULP AND PAPER MILL SYSTEMS:** For use in the manufacture of paper and paperboard intended for food contact and non food contact. This product can be used to control bacteria, fungi, and fresh water organisms in paper, paperboard, or nonwoven process water and influent water systems. Suitable dosing points include but are not limited to: stock chests, pulpers, the white water loop and white water storage systems and influent water streams. Add the product at a point in the system where uniform mixing and even distribution will occur.

**INFLUENT WATER SYSTEMS:** This product should be continuously fed to incoming fresh water streams, non-potable use only, at dosage rates from 10 – 978 ppm active (200 to 20,000 ppm of this product).

#### **MILL PROCESS WATERS**

**Continuous Feed:** This product should be fed continuously at dosages ranging from 10-978 ppm active (200 to 20,000 ppm of this product) This range is equivalent to 0.4 – 40 lbs of this product per ton, dry basis, of pulp or paper produced.

**Intermittent Feed:** This product should be feed intermittently 6 – 8 times per day at dosages ranging from 10 – 978 ppm active (200 – 20,000 ppm of this product). This dosage is equivalent to 0.4 – 40 lbs of this product per ton, dry basis, of pulp or paper produced during the feed period.

**Shock Dose:** This product should be shocked dosed at dosages ranging from 98 – 1,956 ppm active (2,000–40,000 ppm of this product). This dosage is equivalent to 4 – 80 lbs of this product per ton, dry basis, of pulp or paper produced during the feed period.

**CONTROL OF BACTERIA AND FUNGI IN NONFOOD CONTACT DISPERSED PIGMENT:** This product can be used in the control of bacteria and fungi in the manufacture and storage of dispersed pigment such as kaolin clay, titanium dioxide, calcium carbonate, calcium sulfate, barium sulfate, magnesium silicate and diatomaceous earth used in paint and paper product. Add 0.26 – 1.31 lbs. (3.5 to 17.8 fl. oz.) of this product to each 1,000 lbs of pigment slurry. This will provide 14.6 – 73.5 ppm active (260.7 – 1,312.5 of this product).

#### **CONTROL OF BACTERIA AND FUNGI IN COATING PRESERVATION**

Not for the manufacture of material intended for food contact.

This product can be used as an in-container preservative for the control of bacteria and fungi in water based coating such as paper coatings. Add 0.26-1.31 lbs (3.5 – 17.8 fl. oz) of this product to each 1,000 lbs. of preservative. This will provide 14.6 – 73.5 ppm active (260.7 – 1,312.5 ppm of this product).

**FOR ANTIMICROBIAL USE WITH AQUEOUS TREATMENT FLUIDS IN SUBTERRANEAN OILFIELD AND GAS-FIELD WELL OPERATIONS SUCH AS WELL DRILLING, FORMATION FRACTURING, PRODUCTIVITY ENHANCEMENT AND SECONDARY RECOVERY (Not for Use in California):** This product can be used in the control of bacteria including slime forming, spoilage and anaerobic sulfate reducing bacteria and fungi/yeast and molds that lead to reservoir souring and metal corrosion.

This product must be introduced through a closed mixed/loading and delivery transfer system equipped with a metering device that is appropriate for its intended uses.

**DRILLING MUDS, FRACTURING FLUIDS, WELL SQUEEZED FLUIDS (Not for Use in California):** For the preservation of drilling muds, workover and completion fluids and other products susceptible to contamination, pre-mix with the fluid or add directly at the point of use at 11.4 fl. ounces per 1000 gallons of water (5 ppm active) to 1.8 gallons per 1000 gallons of water (100 ppm active) as required. Depending on the severity of the contamination, initial application may be added up to 17.9 gallons per 1000 gallons of water (1000 ppm active).

**FLOODING, INJECTION AND PRODUCED WATER (Not for Use in California):** For Water Flooding operations, add initially at 11.4 fl. ounces per 1000 gallons of water (5 ppm active) to 1.8 gallons per 1000 gallons of water (100 ppm active) and repeat until control is achieved. Subsequent treatment may be continued on a weekly basis or as required.

Injection wells associated with gas storage systems may be treated up to 100 ppm active when diluted in the formation water. Any additional top-up water should be treated as required.

For hydrostatic systems, apply 11.4 fl. ounces per 1000 gallons of water (5 ppm active) to 1.8 gallons per 1000 gallons of water (100 ppm active) depending on the water quality and the duration of the shut-in.

**PIPELINE AND TANK MAINTENANCE (Not for Use in California):** For microbial control in water-bottoms in crude and refined hydrocarbon storage tanks, piping and transportation systems. Apply 11.4 fl. ounces per 1000 gallons of water (5 ppm active) to 1.8 gallons per 1000 gallons of water (100 ppm active) in the aqueous phase, directly injected into the water-bottom, pipeline or may be added to the hydrocarbon phase. Treatment may be applied daily or monthly for both storage and transportation systems as needed.





## MSDS- Material Safety Data Sheet

### Section 1: Product & Company Identification

Trade Name: Peroxy Punch™  
Version #: 1A  
Revision Date: 5/23/2013  
EPA Est. No: 72160-FL-1  
Product Class: Peroxyacetic Acid, PAA  
Supplier: Flo-Tec, Inc.  
2151 34<sup>th</sup> Way North  
Largo, FL 33771  
Emergency: Chemtrec 800-424-9300  
Chemtrec Int'l 703-527-3887

General Information: 727-531-8796

### Section 2: Composition/Information on Ingredients

Components	CAS #	EINECS #	Wt. %
Peroxyacetic Acid	79-21-0	201-186-8	5-6
Hydrogen Peroxide	722-84-1	231-765-0	24-29
Acetic Acid	64-19-7	200-580-7	5-7
Sulfuric Acid	7664-93-9	231-639-5	<1.0
Water	7732-18-5	231-791-2	Balance

### Section 3: Hazards Identification

**Emergency Overview:** Clear liquid with a sharp, pungent, vinegar-like odor. Oxidizer. Stabilized peracetic acid, an ingredient in this product, decomposes under fire conditions to release oxygen that intensifies the fire. Use extinguishing media suitable for the materials that are burning. Severely irritating to skin and eyes.

#### Potential Health Effects:

**Eyes:** Causes burns and may result in permanent injury to eyes including blindness.

**Skin:** Causes corrosive burns. Brief exposures may cause irritation.

**Inhalation:** Mists and vapors can irritate nose, throat and lungs but will usually subside when exposure ceases.

**Ingestion:** Ingestion can cause gastrointestinal irritation, nausea, vomiting and diarrhea.

### Section 4: First Aid Measures

**Eye Contact:** Immediately rinse eyes with water. Remove any contact lenses, and continue flushing eyes with running water for at least 15 minutes. Hold eyelids apart to ensure rinsing of the entire surface of the eyes and lids with water. Seek medical attention immediately.

**Skin Contact:** Wash affected areas with plenty of water, and soap if available, for several minutes. Remove and clean contaminated clothing and shoes. Seek medical attention if irritation develops or persists.

**Inhalation:** Remove from area to fresh air. Seek medical attention if respiratory irritation develops or if breathing becomes difficult.

**Ingestion:** Give 3-4 glasses of water, but DO NOT induce vomiting. If vomiting occurs, give fluids again. Get medical attention to determine whether vomiting or evacuation of stomach is necessary. Do not give anything by mouth to an unconscious or convulsing person.

### Section 5: Fire Fighting Measures

**Flammable Properties:** 83 °C (PMCC)

**Extinguishing Media:** Use media suitable for the material that is burning.

**Protection of Firefighters:** Protective equipment and precautions for firefighters - Move containers from area if it can be done without risk. Cool fire-exposed containers with water from side. As in any fire, wear NIOSH/MSHA-approved , pressure-demand self-contained breathing apparatus and full protective gear.

### Section 6: Accidental Release Measures

**Personal Precautions:** Approach release from upwind. Wear special protective clothing and using positive pressure self-contained breathing apparatus.

**Environmental Precautions:** Do not allow undiluted material to enter storm or sanitary sewer systems.

**Methods of Containment:** Stop or control leak. Control run off and isolate discharged material for proper disposal. Do not allow undiluted material to enter storm or sanitary sewer systems.

**Methods for cleaning up:** Combustible materials exposed to hydrogen peroxide, an ingredient in this product, should be immediately submerged in, or rinsed with, large amounts of water to ensure that all hydrogen peroxide is removed. Residual hydrogen peroxide that is allowed to dry (upon evaporation hydrogen peroxide can concentrate) on organic materials such as paper, fabrics, cotton, leather, wood or other combustibles can cause the material to ignite and result in a fire.

## Section 7: Handling & Storage

**Handling:** Transfer product from drums to process in a closed system (hermetically) and if not possible use effective local exhaust ventilation. Empty drum as thoroughly as possible. Triple rinse before disposal. Avoid contamination: impurities accelerate decomposition. Never return product to original container. Use airless spray to minimize mist generation.

**Storage:** Do not store near reducing agents, fuels or other non-compatible materials. Store in a cool, dry, well-ventilated area. For quality purposes, avoid temperatures above 86°F. Higher temperatures will accelerate decomposition resulting in a loss of assay. Do not store in direct sunlight, or near sources of ignition or heat. Do not double stack. Use first in, first out storage system. Containers must be vented. Expected shelf-life: one year. Storage temperature range: 5-30°C; protect from freezing.

## Section 8: Exposure Controls/Personal Protection

### Occupation Exposure Limits

Ingredient	Exposure Guideline	Guideline Value
Hydrogen Peroxide	ACGIH	1 ppm (TWA)
	OSHA	1 ppm (PEL)
Acetic Acid	ACGIH	15 ppm (STEL)
	OSHA	10 ppm (PEL)
Sulfuric Acid	ACGIH	2 mg/m <sup>3</sup> (STEL)
	OSHA	1 mg/m <sup>3</sup> (TWA)

All TWAs are for an 8-hour period and all STELs are for 15 minutes unless specifically noted as being for another time period.

**Engineering Controls:** Provide mechanical local exhaust ventilation to prevent release of mist into the work area. If ventilation is inadequate or not available, use acid gas cartridge or canister with full face-piece.

## Personal Protective Equipment

**Eye/Face Protection:** Wear chemical splash goggles where there is a potential for eye contact.

**Skin Protection:** Rubber or neoprene gloves, footwear and aprons, or full protective clothing. Thoroughly wash the outside of gloves with soap and water prior to removal. Inspect regularly for leaks. Hydrogen peroxide is

an ingredient in this product: completely submerge hydrogen peroxide contaminated clothing or other materials in water prior to drying. Residual hydrogen peroxide, if allowed to dry on materials such as paper, fabrics, cotton, leather, wood or other combustibles can cause the material to ignite and result in a fire.

**Respirator Protection:** In operations where mists are generated, wear a NIOSH/MSHA approved respirator that has been selected by a technically qualified person for the specific work conditions.

**Other:** Eye wash; safety shower.

## Section 9: Physical & Chemical Properties

Color	Colorless
Physical State	Liquid
Odor	Sharp, pungent vinegar-like
Water Solubility	Soluble
PH	<1.0
pH (1% solution @ 25°)	2-3
Boiling Point	100°C

## Section 10: Ecological Information

### Ecotoxicity

EC <sub>50</sub> (Daphnia magna):	0.73mg/L (48h)
EC <sub>50</sub> (Selenastrum, green algae)	.018mg/L (120h)
LC <sub>50</sub> (Rainbow trout):	1.6mg/L (96h)
LC <sub>50</sub> (Bluegill sunfish):	1.1mg/L (96h)

**Environmental Fate:**...No data available for this product. Peracetic acid is completely miscible with water. Aqueous solutions of peracetic acid hydrolyze to acetic acid and hydrogen peroxide.

## Section 11: Disposal Considerations

**Disposal Instructions:** Discharge as a hazardous waste into a suitable treatment system in accordance with local, state and federal governmental agencies.

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**Section 12 Transport Information**

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**Proper Shipping name:** Hydrogen Peroxide and Peroxyacetic Acid Mixtures, Stabilized with Acids, Water and not more than 6% Peroxyacetic Acid

**Primary Hazard Class/Division:** 5.1 (Oxidizer)

**Hazard Class, Subsidiary:** 8 (Corrosive)

**UN/NA Number:** UN 3149

**Packing Group:** II

**Label(s):** 5.1 Oxidizer and Subsidiary Risk - 8 (Corrosive)

**Additional Information:** Use vented caps on containers. Do not ship on wooden pallets. 5%

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**Section 13: Regulatory Information**

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US Federal regulation: This product is considered a pesticide, and is therefore excluded from United States TSCA Regulations.

Flash Point 83 °C (PMCC)

EvaporationRate Not Determined

Vapor Pressure 22 mmHg @ 25°C

Vapor Density Not Determined

Specific Gravity @25°C 1.1 g/ml

Weight per Gallon 9.2 lb./gal

Self-Accelerating Decompositon Temperature (SADT) >55°C (55 gallon drum)

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**Section 14 Stability & Reactivity**

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**Chemical Stability:** Stable (expected shelf-life one year, when stored at temperatures <86°F).

**Conditions to Avoid:** Open flames, elevated temperatures, any source of heat, combustibles such as paper and wood and contamination.

**Incompatible Materials:** Dirt, alkali (caustic), reducing agents, organics and heavy metals such as iron, copper, chromium, aluminum and cobalt.

**Hazardous Decomposition Products** Oxygen that supports combustion and acetic acid.

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**Section 15 Toxicological Information**

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**Carcinogenicity:** Hydrogen peroxide IARC Listed,ACGIH Listed as A3, Animal Carcinogen.

**Acute Oral LD<sub>50</sub>:** 1,922mg/kg

**Acute Dermal LD<sub>50</sub>:**17% Peracetic acid: >200mg/kg

**Skin Irritation:** Severe Irritant

**Eye Irritation:** Severe Irritant

**Inhalation LC50:** No data available for the product.

**5% Peracetic acid:** >4,000mg/m (4157) (4h) (rat)

**Reportable Quantity:** (D001), Corrosivity

**5% Peracetic Acid (Unlisted), RQ = 300 lbs, Ignitability**

**Acetic Acid (Listed), RQ = 5,000 lbs, Category D**

**Sulfuric Acid (Listed), RQ = 1,000 lbs, Category C**

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**Section 16: Other Information**

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Hazard Ratings	HMIS (III)	NFPA
Health	3	3
Flammability	1	1
Reactivity	2	2
PPE/NFPA Special	H	OX

**HAZARD RATINGS:**

4 = Extreme, 3 =High, 2 = Moderate, 1 = Slight, 0 = Insignificant

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

H – Safety goggles, gloves, apron and a vapor respirator

Special = OX (Oxidizer)

**Disclaimer Terms and Conditions:** This MSDS is designed only as guidance for the product to which it applies. To the greatest extent permitted by applicable law, nothing contained herein creates any legal obligation including contractual obligations, expressed or implied warranties, including any warranties of merchantability or fitness for particular purpose; or confers any intellectual property rights, including rights to use trademarks or a license to use patents, issued or pending. The information contained herein is based on a manufacturer's own study and the work of others, and is subject to change at any time without further notice. There is no warranty, expressed or implied, as to the accuracy, completeness or adequacy of the information contained herein, and neither the provider nor the manufacturer (nor agents, directors, officers, contractors or employees of either) are liable to any party for the damages of any nature, including direct, special or consequential damages arising out of or in connection with accuracy, completeness, adequacy or furnishing of any information in the MSDS, or in any other way related (directly or indirectly) to this MSDS. The receipt and use of this information constitutes consent to these terms and conditions

