PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER. CORROSIVE. Do not enter an enclosed area without proper respiratory protection, or when uncoupling of product transfer hoses. Causes irreversible eye damage and skin burns. May be fatal if inhaled or absorbed through skin. Harmful if swallowed. Do not breathe vapors or spray mist. Do not get in eyes, on skin, or on clothing. Wear goggles, face shield, rubber gloves and protective clothing with long sleeves when handling. Wash thoroughly with soap and water after handling and before eating, drinking or using tobacco. Remove contaminated clothing and wash before reuse.

PHYSICAL OR CHEMICAL HAZARDS: STRONG OXIDIZING AGENT. CORROSIVE: Mix only with potable water below 140° 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 released could initiate combustion.

ENVIRONMENTAL HAZARD: This pesticide is toxic to birds, fish and aquatic invertebrates. Caution must be used when applying indoors because pets may be at risk. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, occans or other waters unless in accordance with the requirements of the National Pollution Discharge 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 plant authority.

STORAGE AND DISPOSAL

<u>Storage:</u> Never return this product to the original container after it has been removed. Avoid all contaminants, especially dirt, caustic, reducing agents, and metals. Contamination and impurities will reduce shell life and can induce decomposition. In case of a decomposition, isolate container, spray 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.

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 must 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 by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or 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 must be contacted prior to disposal. This product which is to be discarded must be disposed of as hazardous waste after contacting the appropriate local State or Federal agency to determine proper procedures.

Container Disposal: Nonrefillable container. Do not reuse or refill this container. Clean container promptly after emptying. Offer for recycling, if available. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

Manufactured For: Flo-Tec Inc – 2151 34th Way N. – Largo, FL 33771 – (800) 335-6832 EPA Reg. No.: 63838-2-72160 EPA Est. No.: 72160-FL-1 CONTENT: 0.2 Forthere - 50 and the - 50 and the

NET CONTENTS:
2. 5 gallons
5 gallons
29 gallons
53 gallons
265 gallons

PEROXY PUNCH 15

A Peroxyacetic Acid-Based Sanitizer/Disinfectant

For Use in Organic Production:

Peroxy Punch 15 is a peroxyacetic acid-based microbiocide developed for Equipment Sanitizing and Disinfection, and Bacteria, Fungi, Slime and Odor

Control in: Pulp and Paper Mill Systems, Fruit and Vegetable Process Water Systems, Oil and Gasfield Water Systems, and Bacterial and Algae Control in Recirculating, Agricultural, and Wastewater Treatment Systems

Before Using This Product, Please Read This Entire Label Carefully

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.

Active Ingredients:

Peroxyacetic Acid	15.0%
Hydrogen Peroxide	
Inert Ingredients:	<u>63.0%</u>
Total	100.0%

KEEP OUT OF REACH OF CHILDREN DANGER PELIGRO

See left panel for additional precautionary statements.

	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 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 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 INHALED	Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for treatment advice.	
QUESTIONS? 1-209-581-9576	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.	

PeroxyPunch15-LABEL - Rev.4A (05/01/2019) REV 9

DIRECTIONS FOR USE

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

Note: All volumes given in ounces are fluid ounces.

SANITIZATION

This peroxyacetic acid sanitizer is recommended for use on precleaned surfaces such as equipment, pipelines, tanks, vats, filters, evaporators, pasteurizers, and aseptic equipment 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 400 ppm hardness as CaCO3. This product has demonstrated greater than 99.999% reduction of Staphylococcus aureus and Escherichia coli in the AOAC Germicidal and Detergent Sanitizing Action of Disinfectants study.

Sanitizing Food Contact Surfaces: Sanitize with a concentration of 0.7-3.8 fl. oz. of this product diluted in 10 gallons of water (93-500 ppm active peroxyacetic acid). 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 if specified by a governing code. Drain thoroughly and allow to air dry. Do not rinse.

Sanitization of Conveyors and Equipment for Meat, Poultry, Seafood, Fruit, Nuts and Vegetables: This product is effective against the gram negative and gram positive organisms Staphylococcus aureus and Escherichia coli. For use in the static or continuous sanitizing, washing or rinsing of conveyors, slicers, saws, and equipment, apply a solution of this product using a recommended 0.7-3.8 fl oz. per 10 gallons of water (93-500 ppm active peroxyacetic acid). Apply sanitizer solution to the return portion of the conveyor or equipment using coarse spray or similar means of wetting surfaces, so as to prevent puddling. Allow sanitizer to thoroughly wet surface for a minimum 60 seconds contact time. No rinse is needed. **Final Bottle or Container Rinse:** This product may be used as a final sanitizer rinse for returnable and non-returnable bottles and containers at 93-500 ppm active peroxyacetic acid (0.7 - 3.8 fl.oz. of this product diluted in 10 gallons of water). The container must be drained as much as is practical prior to filling operations.

Combination Disinfection and Cleaning: This product is effective against Staphylococcus aureus and Salmonella enterica at 1.0 oz per 10 gallons of water (130 ppm active peroxyacetic acid) in hard water (400 ppm as CaCO₃) and 5% organic soil on hard nonporous surfaces. For heavily soiled areas a pre-cleaning step is required. Apply solution with a mop, cloth, sponge, brush, or by soaking, spraying, or immersion so as to wet all surfaces thoroughly. Allow to remain wet for 10 minutes, then remove excess solution and entrapped soil with a clean wet mop, cloth, wet vacuum pickup or by draining. Prepare a fresh solution daily or when it becomes soiled or diluted.

REVERSE OSMOSIS (RO), ULTRA FILTRATION (UF) AND OTHER MEMBRANE CLEANING: This product may be used in the sanitization of ultra filtration (UF) and reverse osmosis (RO) membranes and their associated piping systems. This product is not for use in kidney dialysis equipment. Do not use the intermittent or continuous dosing methods for nano or ultra-filtration food or drinking water applications. This product may 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 or concentration of peroxyacetic acid solutions.

Batch Sanitation 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 0.5% of this product by volume. This will equal 680 ppm peroxyacetic acid and 1000 ppm hydrogen peroxide. 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. Rinse the system with RO permeate or potable water until residual peroxygen concentration is below 1 ppm.

Continuous or Intermittent Addition: For continuous addition (dosing) for RO systems, use 2-5 ppm of active peroxyacetic acid, which equals 1.5-3.7 fl. oz. of this product per 1000 gallons of process water. For occasional intermittent feed, do not exceed 93 ppm active peroxyacetic acid, which equals 0.7 fl. oz. of this product per 10 gallons of feed water. Continuous or intermittent dosing of this product is not allowed for use in NF or UF systems for on-line food or drinking water applications.

NOTE: This product at its use dilution 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.

BIOFOULING CONTROL IN PULP, PAPER AND PAPERBOARD MILL AND WATER SYSTEMS - Not for use in California

For use in the manufacture of paper and paperboard intended for food or non food contact. This product can be used to control bacteria and fungi in paper, paperboard or non-woven process water and influent water systems. Suitable dosing points include but are not limited to: stock chests, pulpers, the white water loop, white water storage systems and influent water streams. **Influent Water Systems:** This product should be fed continuously to incoming fresh water streams (nonpotable use only) at dosages ranging from 0.11- 2.0 lbs (1.5-27 fl. oz) of this product per 1000 gallons of raw or process water (2.0-36 ppm peroxyacetic acid). Adjust dosage as necessary to maintain microbiological control.

Mill Process Waters:

Intermittent Feed - This product may be fed intermittently (for example: 2-3 hours per 8 hour shift) at dosages ranging from 0.5 lbs to 1.2 lb (7-16 fl. oz.) of this product per ton (dry basis) of pulp or paper produced. This dosage is equivalent to 37-90 ppm peroxyacetic acid. Repeat as necessary when the peroxyacetic acid concentration reaches less than 2 ppm.

Continuous Feed - This product should be fed continuously at dosages ranging from 0.11-1.2 lbs (1.5-16 fl. oz) of this product per ton (dry basis) of pulp or paper produced. This dosage is equivalent to 8.0-90 ppm peroxyacetic acid.

Shock (slug) Dose - This product may be used to shock dose systems requiring a high level of biofouling control. Use rates ranging from 1-8 lbs (13.5-108 fl. oz.) of this product per ton (dry basis) of pulp or paper produced may be necessary. This dosage is equivalent to 75-600 ppm peroxyacetic acid. Shock dose every 1-3 hrs as necessary until biofouling control is evident. Thereafter, revert to continuous or intermittent feed methods.

CONTROL OF SLIME FORMING BACTERIA AND BIOFOULING IN ONCE-THROUGH AND RECIRCULATING COOLING WATER (COOLING TOWERS, EVAPORATIVE CONDENSERS, AIR WASHERS) AND ORNAMENTAL OR RECREATIONAL WATER FEATURES Severely fouled systems must be cleaned before adding this product. This product must be added in the water system directly, and not mixed with any other chemicals or additives. Never add this product into any feeding device, such as shot feeders, filter housings, by-pass feeders, or miscellaneous piping of any kind, because dangerous acute decomposition can occur. Discontinue the use of chlorine or bromine products prior to using this product. Contamination with other chemicals could result in product decomposition. Add this product to only water at a point in the system where uniform mixing and even distribution will occur.

For shock (slug) treatment for moderately to severely fouled systems add 5-20 fl. oz. of this product per 1000 gallons of process water (7-27 ppm peroxyacetic acid). Repeat as necessary until microbiological control is evident. Thereafter, to maintain control use (1.5-7.5 fl. oz.) of this product per 1000 gallons of process water (2-10 ppm of peroxyacetic acid) as a continuous treatment method. Continuous dosing methods usually require 1.5-5 fl. oz. per 1000 gallons of water (2-7 ppm peroxyacetic acid) to achieve adequate results. Intermittent dosing treatment usually require dose cycles of a minimum once per every other day, up to 6 times per 24 hours. Recommended rates for intermittent dose cycles are 5-10 fl. oz of this product per 1000 gallons of process water (7-14 ppm peroxyacetic acid).

Air Washers: This product may be used to control bacteria and biofouling in industrial air washing/scrubbing systems. The air washer must have operational and effective mist elimination systems. Prior to use of this product, heavily fouled systems must be pre-cleaned using the appropriate cleaner. Continuous dosing methods will require 2-7 ppm and intermittent dosing methods require 7-14 ppm (as peroxyacetic acid), as described in the previous 2 paragraphs, depending on the type of system and the level of microbiological control desired.

Evaporated or Condensed Water: This product may be used to treat SWEET or COW water (e.g. condensate of whey) collected from evaporated or condensing water systems in food or dairy plants. Continuous dosing methods will require 2-7 ppm and intermittent dosing methods require 7-14 ppm (as peroxyacetic acid) as described in the previous paragraph, depending on the type of system and the level of microbiological control desired. FOR DISINFECTION AND MICROBIAL CONTROL IN EFFLUENT TREATMENT SYSTEMS Use this product to treat sewage and wastewater effluent systems associated with public and private wastewater treatment plants. This product may be applied alone at any point in the treatment train, such as debulking control, or may effectively be used in conjunction with other systems, such as Ultra Violet (UV) light. Doses for UV systems will typically be 1-4 ppm (as active PAA). Initially apply this product at the rate of 3.2-66.4 gal per million gallons of water to be treated (0.5-10 ppm as peracetic acid). The PAA dosage will depend on the quality of water, contact (holding) time, and the degree of microbial control necessary. The PAA concentration will rapidly decline after treatment, but the maximum amount of PAA that may be discharged into the receiving body of water is limited to 1 ppm as active PAA, or as required for local discharge requirements. Consult your Flo-Tec representative for recommendations regarding an accurate test kit or on-line analyzer.

OIL. GAS AND SECONDARY OIL RECOVERY SYSTEMS. DRILLING MUDS AND PACKING FLUID This product may be used to treat water used in primary or secondary oil and gas recovery systems to control anaerobic sulfide-forming bacteria, aerobic slime-forming bacteria, yeast and fungi. This product may be used in fresh or recycled water, secondary recovery systems, muds or fluids. This product controls biofilm and slime deposits on products associated with oilfield and gasfield systems which are susceptible to contamination. It also controls slime deposits downhole in water-bottoms. Add sufficient amount of this product to achieve satisfactory biological control. Initial recommended dosing levels of 5 to 100 ppm as active peroxyacetic acid are suggested. A dosage of 3.75 fl. oz. per 1000 gallons of water yields approximately 5 ppm of peroxyacetic acid.

TREATMENT OF FRUIT AND VEGETABLE PROCESS WATER SYSTEMS

This product can be used in water or ice that contacts raw or fresh, post-harvest or further processed fruits and vegetables for the control of bacteria and fungi in commercial operations and packinghouses.

Batch, Continuous or Spray System Processes: Fill vessel containing fruits and vegetables with known amount of water. Ensure that water is circulating in vessel if using the submersion method. Add this product to no more than 533 ppm (wt/wt) total product (80 ppm residual peroxyacetic acid) to the use solution. This can be accomplished by initially adding 53.3 grams (47.3 mls) of this product per 100 liters of water, or 1.0 fl. oz. per 16.4 gallons of water. The fruits and vegetables can be continuously sprayed (using coarse spray) or submerged (dipped) in the resulting solution. Periodic or continuous additions of this product to maintain the required concentration may be added as necessary. It is also recommended to apply this product during the washing, chilling, or physical cleaning processes, including the rollerspreader, washer or brush washer manifold, dip tank, or sorting processes. Contact time of 60 seconds is recommended to insure efficacy. A potable water rinse is not required.

Fogging: For raw agricultural commodities, commerciallyapplied fogging methods may be used provided the dilution rates of the resultant solution does not exceed those prescribed in this section (1 fl oz per 16.4 gal of water). A potable water rinse, or subsequent antimicrobial wash using this product as prescribed above is necessary after such use. Conventional corrosion-resistant fogging devices are recommended. Vacate the area of all personnel prior to, during and after fogging until the total peroxide concentration is below 1.0 ppm, or there is no strong odor present, characteristic of acetic acid.

AGRICULTURAL or HORTICULTURAL USES

There is a Restricted-Entry-Interval 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 diluted product decomposes rapidly to oxygen, carbon dioxide and water. This product may be harmful to fish if exposed on a continuous basis at concentrations of 1 ppm or more of active peroxyacetic acid. Meter this product into pressurized pipes using a plastic or stainless steel injection/backflow device installed far enough upstream from the 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 Agricultural or Irrigation Water Systems (sand filters, humidification systems, storage tanks, ponds, reservoirs, canals): For the control of sulfides, odor, slime and algae in water systems, apply this product at 2-10 ppm active peroxyacetic acid. This feed rate equals 15-75 fl. oz 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 may require continuous low level dosing during warm sunny periods (2-5 ppm peroxyacetic acid).

Drip Irrigation Systems: To clean slime and algae from drip system filters, tapes and emitters, meter this product at the rate of 7.5-15 fl. oz. per 1000 gallons of water (10-20 ppm peroxyacetic acid). When required during normal irrigation cycles, use this product at the recommended dose for a minimum of 30 minutes. After an irrigation cycle do not flush the lines.

Greenhouses: This product can be used to suppress/control algae and slime formations in and around greenhouses. For normal use in various process, irrigation or sprinkler water systems, this product may be used at 1:40,000 to 1:5000 dilutions (4-33 ppm as peroxyacetic acid). Heavily fouled systems, such as evaporative coolers or irrigation/drip lines may need shock doses of up to 100 ppm as peroxyacetic acid (1:1,600 dilution).

Soil Applications: Use this product at 16.4-33 fl. oz. per 100 gal of water (220-440 ppm active peroxyacetic acid) for the control of soil-borne diseases such as Fusarium, Phytophthora, Pythium, Verticillim, Thielaviopsis, and Rhizoctonia. This product can be applied by drench, flood, drip or sprinkler irrigation systems. Best results may be obtained by application prior to and during the seeding or transplant operations. Wait one day before inoculating the soil with beneficial microbes.

Foliar Applications: This product may be used to cure or prevent bacterial and fungal diseases on growing agricultural crops. Typical use rates are 5.8-49.5 fl. oz. of this product per 100 gal of water (77-663 ppm active peroxyacetic acid) applied at 30-100 gal of mixed solution per acre of foliage. Curative (or rescue) treatment requires the lower dilution rates, while preventative treatments use the higher dilution rates. Apply curative treatments for 2-3 days and then resume weekly preventative treatments thereafter. Good coverage and wetting of the foliage is required. Not all plant diseases have been tested, but some of the common diseases controlled are: Algae, Alternaria spp., Anthracnose, Aphanomyces, Bacterial Blight, Black Spot, Botrytis (grav mold), Brown Spot, Copper Spot, Dollar Spot, Early and Late Blights, Erwinia spp., Fairy Ring, Fusarium Root Rot and Blight, Fruit, Black, Brown, Stem and Sour Rots, Leaf and Bacterial Spots, Plasmopara, Powderv and Downy mildews, Phytophthora Blight/Rots, Pink Snow Mold, Pseudomonas and Xanthomonas spp., Pythium spp., Rhizoctonia spp., Rusts, Scabs, Scum, Slime Molds, Smut, Summer Patch, Stripe Smut, Take-all Patch, and Thielaviopsis.

Rev. 9



PEROXY PUNCH 15

MSDS- Material Safety Data Sheet



Section 1: Product & Company Identification

Trade Name:	Peroxy Punch 15
Version #:	1A
Revision Date:	05/01/2019
EPA Est. No:	63838-CA-01: 63838-AR-002
Product Class:	Peroxyacetic Acid, PAA
Distributor	Flo-Tec, Inc. 2151 34 th 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	14-17
Hydrogen Peroxide	7722-84-1	231-765-0	21-23
Acetic Acid	64-19-7	200-580-7	14-20
Water	7732-18-5	231-791-2	Balance

Section 3: Hazards Identification

PHYSICAL PROPERTY: Liquid with a sharp, pungent, vinegarlike odor.

EMERGENCY OVERVIEW: DANGER! OXIDIZER! CONTACT WITH ORGANIC MATERIALS MAY CAUSE VIOLENT REATION. CAUSES EYE AND SKIN BURNS.

ROUTES OF ENTRY: Skin contact, eye contact, inhalation, ingestion.

Section 4: First Aid Measures

Eye Contact: Immediately rinse eyes with water for at least 15 minutes, lifting upper and lower eyelids intermittently. See a medical doctor immediately.
 Skin Contact: Remove contaminated clothing and thoroughly wash with soap and water. If irritation occurs and persists, contact a physician.
 Inhalation: Remove from area to fresh air. If breathing discomfort occurs and persists, seek medical attention. If breathing has stopped, give artificial respiration. See medical doctor immediately.
 Ingestion: Rinse mouth with water. DO NOT induce vomiting. See a medical doctor immediately.

Section 5: Fire Fighting Measures

FLASH POINT: 200° F (closed cup) AUTO IGNITION TEMP: 270° F EXTINGUISHING MEDIA: Water spray, carbon dioxide, foam. POLYMERIZATION: Will not occur. FIREFIGHTING PROCEDURES: Use flooding quantities of water only. Use water spray to keep all containers cool. Fight fire

from protected or removed distance. Chemical type extinguishers are not very effective. Use proper personal protective equipment and positive pressure self-contained breathing apparatus.

HAZARDOUS DECOMPOSITION: Oxygen that supports combustion.

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, dike spills with non-reactive material such as sand. Neutralize with soda ash (sodium carbonate) broadcasted on surface. Use 1 to 1.5 lb. of soda ash for each gallon of spilled material. The resultant neutralized product will become carbon dioxide and water. Flush material with water and collect for disposal into plastic container. A flush to sewer may be allowed if approved by local authority. Dispose of in accordance with federal, state or local laws.

Methods for cleaning up: Combustible materials should be removed and/or rinsed with water to ensure all residual hydrogen peroxide is removed to the extent possible. 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: Store drums in upright position only. Empty drums as thoroughly as possible. Triple rinse before disposal. Never return product to original container.

STORAGE: Do not store near reducing agents, fuels or other noncompatible 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 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

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: Wear chemical splash goggles or face shield.

SKIN: Use synthetic 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.

RESPIRATORY: For normal use as directed, respiratory protection is not required. If handling concentrate product use approved acid/gas cartridge or canister if discomfort occurs. If breakthrough occurs, then use self contained breathing apparatus.

PROTECTIVE CLOTHING: Heavy rubber or vinyl gloves. Rubber boots, vinyl or rubber protective suit.

OTHER: Eye wash; safety shower.

Section 9: Physical & Chemical Properties

APPEARANCE	Colorless liquid
ODOR	Sharp, pungent vinegar-like
SOLUBILITY	100% in water
PH 10 % SOLUTION	<1.0
PERCENT VOLATILES	99% +
VAPOR PRESSURE	22 mm Hg @ 25°C
SPECIFIC GRAVITY	1.134 = 9.47 LBS./GAL

Section 10: Reactivity or Stability Information

CONDITIONS TO AVOID: Open flames, elevated temperatures, any source of heat, combustibles such as paper, wood or leather.Temperatures above 86 F will degrade product, accelerate decomposition, and reduce shelf life.

- STABILITY: Product is shelf-stable for up to 1 year when stored at room temperatures and not in direct sunlight.
- HAZARDOUS DECOMPOSITION: Degrades giving of acetic acid and oxygen.
- INCOMPATIBLE MATERIALS: Dirt, alkali (lye), organics, leather, paper, wood, and all metals except stainless steel.

Section 11: Toxological Information

ACUTE HEALTH EFFECTS:

EYES: Corrosive to eyes.

SKIN: Corrosive to skin.

INHALATION: Irritating to respiratory system.

INGESTION: May be harmful if swallowed. Causes burns to mouth, throat and stomach.

MUTAGENIC EFFECTS: No known significant effects.

TERATOGENIC EFFECTS: No known significant effects.

REPRODUCTIVE EFFECTS: No known significant effects.

SENSITIZATION EFFECTS: No known significant effects.

TOXICITY DATA:

Hydrogen peroxide:	LD50 Oral, 500 mg/kg (rat)
Acetic Acid:	LD50 Oral, 3310 mg/kg (rat)
	LD50 Dermal, 1060 ul/kg (rabbit)
Peracetic acid:	LD50 Oral, 210 mg/kg (mouse)
	LD50 Dermal, >12,000 mg/kg (rat)

Section 12: Ecological Information

FRESH WATER:

Flathead Minnow:	Chronic LC50, 1.16 ppm
Ceriodaphnia:	Chronic, Reproductivity, LC50, 1.03 ppm
Bluegill Sunfish:	Acute, LC50, 1.21 ppm
Daphnia Magna:	Acute, LC50, 0.76 ppm
Rainbow Trout:	Acute, LC50, 0.68 ppm

MARINE:

Pacific Silverside:	Acute, LC50, 2.2 ppm
Sheepshead Minnow:	Acute, LC50, 3.8 ppm
	Chronic, 5.9 ppm
Topsmelt:	Acute, LC50, 2.8 ppm
Mysid:	Acute, LC50, 0.7 ppm
Bay Mussel:	Acute, LC50, 2.91 ppm
M.Bahia	Chronic, 0.35 ppm

Section 13 Transport Information

<u>Proper Shipping name</u>: UN3109, Organic Peroxide, Type F, Liquid, 5.2(8), PGII

Primary Hazard Class/Division: 5.2 (Oxidizer-3109)

Hazard Class, Subsidiary: 8 (Corrosive)

UN/NA Number: UN 3109

Packing Group: II

Label(s): 5.2 Oxidizer and Subsidiary Risk - 8 (Corrosive)

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

Section 14: Ratings

HMIS (Hazardous Materials Identification System) Health 3, Flammability 1, Reativity 1, Protection D

NFPA (National Fire Protection Association)

Health 3, Flammability 1, Reativity 1, Special OX

Section 15: Other Regulatory Information

WHMIS: Class C: Oxidizing material. Class E: Corrosive material

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations.

Section 16: Other Information

This MSDS is in accordance with OSHA Hazard Communication Standards.

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 condition.