

# ACID SANITIZER SAFETY SHEET

**Enviro Tech's REFLEX™** is an EPA-registered acid sanitizer which contains a unique combination of peracetic acid (PAA), hydrogen peroxide, and nitric acid. It is an ideal sanitizer solution for food, beverage, and dairy industries. As a primary sanitizer, REFLEX can be used at a rate of 1-3 fl. oz. per 6-gallon water (95-286 ppm PAA). A potable water rinse is not necessary.

## REFLEX's new generation acid sanitization solution:



Prevents build-up of milkstone, beerstone, and limescale



Reduces CIP process times, water consumption, and cycle times



Is a no-rinse sanitizer



Passes the AOAC Sanitizer Test (*reduces 99.999% of target microorganisms within 30 seconds*)



Uses Peroxygen chemistry that leaves no residues behind



The nitric acid component becomes nitrate in wastewater



Contains no phosphates

## TECHNICAL INFORMATION

REFLEX™ - a phosphate-free peracetic acid/nitric acid-based microbiocide was developed for use on food, dairy, and beverage processing and filtration equipment to ensure adequate sanitation of your processing systems. See below technical components for additional product information.

### CHEMICAL COMPOSITION

- REFLEX™ is an equilibrium mixture of peracetic acid, hydrogen peroxide, acetic acid, nitric acid and water
- Peracetic acid (% wt.) 6.0-6.4
- H<sub>2</sub>O<sub>2</sub> (% wt.) 22.5-23.7
- Phosphate free

### PHYSICAL PROPERTIES

- Density 20°C (68°F), (g/mL) 1.20
- pH (10% solution), 20°C (68 °F) <1
- Freezing Point < -12° C (10° F)
- Appearance Clear, colorless liquid  
(pungent vinegar-like odor)

### SHELF LIFE

- At least 6-months without notable losses of active oxygen, if stored properly.

### PACKAGING AND TRANSPORT INFORMATION

- 5 gal (45 lb), 13 gal (130 lb), 28 gal (280 lb), 52 gal (520 lb), 300 gal (3,000 lb).  
All containers HDPE
- Oxidizing liquid, corrosive, n.o.s. (contains hydrogen peroxide and peroxyacetic acid mixture, stabilized), 5.1 (8), UN 3098, PG II

### REGULATORY INFORMATION

#### FIFRA CLASS/ HAZARD LABELING

- **Signal Word:** DANGER
- **Acute Toxicity, oral Category II:**  
May be fatal if swallowed
- **Acute Toxicity, dermal Category III:**  
Harmful if absorbed through skin, skin irritation/corrosion
- **Category I:** Corrosive. Causes skin burns, Serious eye damage
- **Category I:** Corrosive, Causes irreversible eye damage
- Sensitization Not Classified (NC)
- Environmental (aquatic) toxicity. This pesticide

### US FEDERAL INFORMATION

#### TSCA information:

All components are listed on the TSCA inventory.

#### US CERCLA Reportable quantity

(Hazardous substance RQ):

- Acetic acid has a RQ of approximately 98,000 lbs. of as is chemical.
- Nitric acid has a RQ of approximately 10,000 lbs. of as is chemical.

#### US EPCRA Reportable quantity

(Extremely hazardous substance RQ):

- Peracetic acid has a RQ of approximately 7,600 lbs. of as is chemical.
- Nitric acid has a RQ of approximately 10,000 lbs. of as is chemical.

#### Clean Air Act Section 112(r) Threshold Quantity (TQ):

- Peracetic acid has a TQ of approximately 150,000 lbs. of as is chemical.

#### CalARP State Threshold Quantity (TQ):

- Nitric acid has a TQ of approximately 10,000 lbs. of as is chemical.

#### SARA Title III:

- Reactivity Hazard, Acute Health Hazard

### INTERNATIONAL 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.

## SAFETY OVERVIEW



REFLEX™ acid sanitizer has a high oxidation potential and is very reactive. Considerable care should be taken in the planning for handling and application of REFLEX™ to prevent employee exposure and unwanted spills or property damage.

### ADMINISTRATIVE CONTROLS AND PROCEDURAL RULES FOR CONSIDERATION THAT MAY PREVENT PROBLEMS BEFORE THEY START INCLUDE:

- REFLEX™ acid sanitizer containers are vented to atmosphere to allow Oxygen to escape. Therefore, NEVER tip containers, ALWAYS store containers in an upright position.
- Storage areas MUST be well ventilated to allow vented gasses to dissipate.
- Sunlight and elevated temperature degrade, peracetic acid over time and reduces concentration, ALWAYS prevent direct sun exposure to stored containers. Keep containers under 89°F if possible, storage over 95°F is NOT recommended for more than a few hours.
- NEVER return product to its shipping container once it has been dispensed.
- NEVER use concentrated REFLEX™ acid sanitizer equipment for other chemicals. If washing or rinsing REFLEX™ dosing equipment is necessary, ALWAYS rinse with deionized water before reintroducing concentrated REFLEX™.

### WHEN DESIGNING EQUIPMENT FOR REFLEX™ HANDLING AND STORAGE, CONSIDER THE FOLLOWING;

- REFLEX™ acid sanitizer is highly reactive with organic materials. Take precautions to avoid in-use product exposure to dust or debris from warehouse environments as contaminants may accumulate and degrade product. Use oil control products to prevent accidental contamination such as oil slingers on mixers and containment shrouds for hydraulic components.
- 316 Stainless steel and a few additional nickel alloys are the ONLY metals suitable for REFLEX™ acid sanitizer exposure. Soft metals including Iron, Zinc, Copper, and Brass should NEVER be allowed to contact REFLEX™ acid sanitizer at any point.
- Materials of construction incompatibility is the most common cause of accidents and spills. Consult your Enviro Tech representative if your construction materials are not listed in our compatibility library.
- NEVER trap REFLEX™ acid sanitizer between two points in a pipe without a pressure relief valve. Best practice is to leave piping open ended.

### WHEN EMPLOYEES MUST HANDLE REFLEX™ ACID SANITIZER, CONSIDER THE FOLLOWING;

- Avoid possible exposure to concentrated product whenever it is feasible by using Safe-T-Feed system.
- Don PPE outlined in Section 8 of the Safety Data Sheet (SDS).
- Ensure all safety showers, eyewash stations, and washdown hoses are operational prior to start of shift.
- Ensure that maintenance and support personnel are trained on the hazards and handling procedures.
- Operators should have chemical specific training and understand all hazards involved before using REFLEX™ acid sanitizer

REFLEX™ acid sanitizer's innovative chemistry combines the power of an acid wash with the proven sanitizing efficacy of peracetic acid, - a cost-effective, reliable solution facilitating high uptime and consistent performance in one cleaning step (e.g. less water, less downtime).

To ensure Enviro Tech's REFLEX™ acid sanitizers optimal use, along with operator safety, a suggested operational checklist is provided below:

### SUGGESTED OPERATIONAL CHECKLIST FOR REFLEX™ ACID SANITIZER ADDITIONS FROM CONTAINERS



#### People:

- Train personnel in safe procedures when working with REFLEX™ Acid Sanitizer
- Wear appropriate PPE
- Know emergency procedures in case of an accident



#### Working Area

- Ensure adequate ventilation
- Eye-wash stations & safety showers are in place and functioning
- Clean & Tidy work area



#### Disposal

- Follow standard operating procedures to clean up chemical spills
- Adequate hazardous waste signage in place and visible
- Keep good records of chemicals disposal
- Store waste containers only in a waste storage area



#### Storage

- Follow label instructions for storage



#### Handling

- Follow REFLEX™ Acid Sanitizer label guidelines
- Inspect container to ensure free from leakage

