1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name: VigorOx® LS-15

Other means of identification

EPA Registration Number: 65402-3
CAS-No: 79-21-0
Synonyms: Peracetic Acid; Ethaneperoxoic Acid; Peroxyacetic Acid; Acetyl Hydroperoxide

Recommended use of the chemical and restrictions on use

Recommended Use: Circulation cleaning and sanitizing of equipment such as tanks, pipelines, evaporators, fillers, pasteurizers, and aseptic equipment in dairies, wineries, breweries and beverage plants; Sanitizing of inanimate, non-food contact surfaces (general environmental surfaces); Disinfection of hard surfaces in general commercial and medical environments. PeroxyChem acquired the EPA product registration from FMC

Restrictions on Use: Use as recommended by the label.

Manufacturer/Supplier

PeroxyChem LLC
2005 Market Street
Suite 3200
Philadelphia, PA 19103
Phone: +1 267/ 422-2400 (General Information)
E-Mail: sdsinfo@peroxychem.com

Emergency telephone number

For leak, fire, spill or accident emergencies, call:
1 800 / 424 9300 (CHEMTREC - U.S.A.)
1 703 / 527 3887 (CHEMTREC - Collect - All Other Countries)
1 303/ 389-1409 (Medical - U.S. - Call Collect)

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

| Acute toxicity - Oral | Category 4 |
| Acute toxicity - Dermal | Category 4 |
| Acute toxicity - Inhalation (Vapors) | Category 4 |
| Skin corrosion/irritation | Category 1 Sub-category B |
| Serious eye damage/eye irritation | Category 1 |
GHS Label elements, including precautionary statements

**EMERGENCY OVERVIEW**

### Danger

**Hazard Statements**
- H314 - Causes severe skin burns and eye damage
- H302 - Harmful if swallowed
- H312 - Harmful in contact with skin
- H332 - Harmful if inhaled
- H335 - May cause respiratory irritation
- H242 - Heating may cause a fire

### Precautionary Statements - Prevention
- P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection
- P260 - Do not breathe mist, vapours or spray.
- P220 - Keep/Store away from clothing/combustible materials
- P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
- P234 - Keep only in original container

### Precautionary Statements - Response
- P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- P310 - Immediately call a POISON CENTER or doctor
- P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower
- P363 - Wash contaminated clothing before reuse
- P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
- P312 - Call a POISON CENTER or doctor if you feel unwell
- P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
- P370 + P378 - In case of fire: Use water for extinction

### Precautionary Statements - Storage
- P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
- P411 + P235 - Store at temperatures not exceeding 30 °C/ 86 °F. Keep cool
- P410 - Protect from sunlight.

### Hazards not otherwise classified (HNOC)
No hazards not otherwise classified were identified.

### Other Information
Do not store on wooden pallets. Avoid damage to containers. In case of decomposition: isolate container, douse container with cool water and dilute with large volumes of water. In case of leak or spill: Stop leak if this can be done without risk. Flush area with large quantities of water. Undiluted material should not be allowed to enter confined spaces. Risk of decomposition by heat or by contact with incompatible materials.
3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>30 - 44</td>
</tr>
<tr>
<td>Acetic Acid</td>
<td>64-19-7</td>
<td>33 - 38</td>
</tr>
<tr>
<td>Peracetic Acid</td>
<td>79-21-0</td>
<td>15 - 17</td>
</tr>
<tr>
<td>Hydrogen Peroxide</td>
<td>7722-84-1</td>
<td>9-11</td>
</tr>
</tbody>
</table>

Synonyms are provided in Section 1.

4. FIRST AID MEASURES

Eye Contact  
In case of eye contact, remove contact lenses and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician immediately.

Skin Contact  
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Call a physician immediately.

Inhalation  
Move to fresh air. If breathing difficulty or discomfort occurs and persists, obtain medical attention. If breathing is irregular or stopped, administer artificial respiration. Call a physician immediately.

Ingestion  
Clean mouth with water and afterwards drink plenty of water. Do NOT induce vomiting. Call a physician or poison control center immediately.

Most important symptoms and effects, both acute and delayed  
Liquid and mist are corrosive (causing burns); direct contact could cause irreversible damage to eyes including blindness and/or irreversible destruction of skin tissue. Vapor/mist will irritate nose, throat and lungs but will usually subside when exposure ceases.

Indication of immediate medical attention and special treatment needed, if necessary  
This product can be corrosive to skin, eyes and mucous membranes. Consideration should be given to careful endoscopy as stomach or esophageal burns, perforations or strictures may occur. Careful gastric lavage with an endotracheal tube in place should be considered. Observation may be warranted. Treatment is controlled removal of exposure followed by symptomatic and supportive care.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media  
Water. Cool containers with flooding quantities of water until well after fire is out.

Unsuitable extinguishing media  
Chemical type extinguishers are not effective with peracetic acid or hydrogen peroxide.

Specific Hazards Arising from the Chemical  
Decomposes under fire conditions to release oxygen that intensifies the fire.

Explosion data  
Sensitivity to Mechanical Impact: Not Available.

Sensitivity to Static Discharge: Not Available.

Protective equipment and precautions for firefighters  
Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Wear self-contained breathing apparatus and protective suit.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions  
Isolate and post spill area. Remove all sources of ignition. Wear suitable protective clothing, gloves and eye/face protection. For personal protection see Section 8.

Other  
For further clean-up instructions, call PeroxyChem Emergency Hotline number listed in Section 1 “Product and Company Identification” above.
Environmental Precautions  
Prevent material from entering into soil, ditches, sewers, waterways, and/or groundwater. See Section 12, Ecological Information for more detailed information.

Methods for Containment  
Control runoff and isolate discharged material for proper disposal. Do not allow material to enter storm or sanitary sewer system.

Methods for cleaning up  
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 combustible materials such as paper, fabrics, leather or wood can cause the material to ignite and result in a fire. Dispose of waste as indicated in Section 13.

### 7. HANDLING AND STORAGE

**Handling**  
Handle product only in closed system or provide appropriate exhaust ventilation. Drums - Empty as thoroughly as possible. Triple rinse drums before disposal. Avoid contamination; impurities accelerate decomposition. Never return product to original container.  
IBC (Tote) - IBC should be emptied as thoroughly as possible and recycled without rinsing.

**Storage**  
Do not stored near reducing agents, fuels or other non-compatible materials. Keep in a dry, cool and well-ventilated place. Keep at temperatures below 30°C. Higher temperatures will accelerate decomposition resulting in loss of assay. Keep away from direct sunlight. Keep away from heat and sources of ignition i.e., steam pipes, radiant heaters, hot air vents or welding sparks. Use first in, first out storage system. Do not double-stack. Containers must be vented.

**Incompatible products**  
Oxidizing agents; Strong reducing agents; Combustible materials; Heavy metals

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters**

**Exposure Guidelines**

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetic Acid 64-19-7</td>
<td>STEL 15 ppm TWA: 10 ppm</td>
<td>TWA: 10 ppm TWA: 25 mg/m³</td>
<td>IDLH: 50 ppm TWA: 10 ppm TWA: 25 mg/m³ STEL: 15 ppm STEL: 37 mg/m³</td>
<td>Mexico: TWA 10 ppm Mexico: TWA 25 mg/m³</td>
</tr>
<tr>
<td>Peracetic Acid 79-21-0</td>
<td>STEL 0.4 ppm</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Hydrogen Peroxide 7722-84-1</td>
<td>TWA: 1 ppm</td>
<td>TWA: 1 ppm TWA: 1.4 mg/m³</td>
<td>IDLH: 75 ppm TWA: 1 ppm TWA: 1.4 mg/m³</td>
<td>Mexico: TWA 1 ppm Mexico: TWA 1.5 mg/m³</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>British Columbia</th>
<th>Quebec</th>
<th>Ontario TWAEV</th>
<th>Alberta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetic Acid 64-19-7</td>
<td>TWA: 10 ppm STEL: 15 ppm</td>
<td>TWA: 10 ppm TWA: 25 mg/m³ STEL: 15 ppm STEL: 37 mg/m³</td>
<td>TWA: 10 ppm</td>
<td>TWA: 10 ppm</td>
</tr>
<tr>
<td>Hydrogen Peroxide 7722-84-1</td>
<td>TWA: 1 ppm</td>
<td>TWA: 1 ppm TWA: 1.4 mg/m³</td>
<td>TWA: 1 ppm</td>
<td>TWA: 1 ppm</td>
</tr>
</tbody>
</table>

**Appropriate engineering controls**

**Engineering measures**  
Apply technical measures to comply with the occupational exposure limits. When working in confined spaces (tanks, containers, etc.), ensure that there is a supply of air suitable for breathing and wear the recommended equipment.
**Individual protection measures, such as personal protective equipment**

**Eye/Face Protection**
Tightly fitting safety goggles. Face-shield.

**Skin and Body Protection**
Rubber or neoprene footwear. Impervious clothing materials such as rubber, neoprene, nitrile or polyvinyl chloride. Wear liquid proof rubber or neoprene gloves. 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 combustible materials such as paper, fabrics, leather or wood can cause the material to ignite and result in a fire.

**Hand Protection**
Rubber/latex/neoprene or other suitable chemical resistant gloves. Wash the outside of gloves with soap and water prior to removal. Inspect regularly for leaks.

**Respiratory Protection**
If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

**Hygiene measures**
Clean water should be available for washing in case of eye or skin contamination. Remove and wash contaminated clothing before re-use. Wash skin prior to eating, drinking, chewing gum or using tobacco. Shower or bathe at the end of working. Launder work clothing separately from regular household laundry.

**General information**
Protective engineering solutions should be implemented and in use before personal protective equipment is considered.

---

### 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Clear, colorless liquid</td>
</tr>
<tr>
<td>Physical State</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Colorless</td>
</tr>
<tr>
<td>Odor</td>
<td>stinging, Pungent, vinegar-like</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No information available</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>&lt; 1 (1% solution = 2-3 @ 25°C)</td>
</tr>
<tr>
<td></td>
<td>@ 25 °C (1% solution)</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>-49 °C</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>~109 °C / 228 °F</td>
</tr>
<tr>
<td>Flash point</td>
<td>80 °C Closed cup</td>
</tr>
<tr>
<td></td>
<td>Open Cup - No measurable flash point up to 110°C</td>
</tr>
<tr>
<td></td>
<td>Fire Point - No fire point. This material will not sustain a flame</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>&gt; 1 (n-butyl acetate=1)</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Substance does not burn but will support combustion</td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
<td></td>
</tr>
<tr>
<td>Upper flammability limit:</td>
<td></td>
</tr>
<tr>
<td>Lower flammability limit:</td>
<td></td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>22 mm Hg at 25°C</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No information available</td>
</tr>
<tr>
<td>Density</td>
<td>9.42 g/mL @ 25 °C lb/gal</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>1.13 @ 20 °C</td>
</tr>
<tr>
<td>Water solubility</td>
<td>completely soluble</td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No information available</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>No information available</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>305 °C</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>&gt; 55 °C (SADT)</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No information available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No information available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No information available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>Strong oxidizer</td>
</tr>
<tr>
<td>Molecular weight</td>
<td>No information available</td>
</tr>
<tr>
<td>Bulk density</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

---
10. STABILITY AND REACTIVITY

Reactivity
Reactive and oxidizing agent. Organic peroxide.

Chemical Stability
Stable under recommended storage conditions. Contamination or heat could initiate decomposition.

Possibility of Hazardous Reactions
May produce explosive reactions with Acetic Anhydride.

Hazardous polymerization
Hazardous polymerization does not occur.

Conditions to avoid
Heat, flames and sparks. Temperatures above 30°C. Higher temperatures will accelerate decomposition resulting in loss of assay.

Incompatible materials
Oxidizing agents; Strong reducing agents; Combustible materials; Heavy metals.

Hazardous Decomposition Products
Acetic acid and oxygen that supports combustion.

11. TOXICOLOGICAL INFORMATION

Product Information

LD50 Oral
LD50 Rat = 50 -500 mg/kg/bw (35% Peracetic acid)
LD50 rat = 1026-1780 mg/kg/bw (15% Peracetic acid)
LD50 rat = 185-3622 mg/kg/bw (2.6-6.11% Peracetic acid)

LD50 Dermal
LD50 Rat = 1957 mg/kg/bw (15% Peracetic acid)
LD50 rat = 1147 mg/kg/bw (5% Peracetic acid)
LD50 rat = >2000 mg/kg/bw (Peracetic acid 0.15%-0.89%)

LC50 Inhalation
LC50 (4-hr) Rat = 76-189 mg/m³ (15% Peracetic acid)
LC50 (4-h) rat = 204 mg/m³ (5% Peracetic acid)

Serious eye damage/eye irritation
Corrosive. Risk of serious damage to eyes.

Skin corrosion/irritation
Corrosive to skin. Severely irritating (rabbit).

Sensitization
Did not cause sensitization on laboratory animals.

Information on toxicological effects

Symptoms
Liquid and mist are corrosive and can cause burns, direct contact could cause irreversible damage to eyes including blindness and/or irreversible destruction of skin tissue. Vapor/mist will irritate the nose, throat and lungs, but will usually subside when exposure ceases. The severity of the effects depends in the concentration and dose.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic toxicity
Repeated inhalation of the mist may cause inflammation of the upper respiratory tract, chronic bronchitis and etching of the dental enamel.

Carcinogenicity
Did not show carcinogenic effects in animal experiments. Topical applications do not produce skin tumors. Not recognized as carcinogenic by Research Agencies (IARC, NTP, OSHA, ACGIH).

Mutagenicity
This product is not recognized as mutagenic by Research Agencies. Did not show mutagenic effects in animal experiments.

Reproductive toxicity
This product is not recognized as reprotox by Research Agencies. No toxicity to reproduction in animal studies.

STOT - single exposure
May cause respiratory irritation.

STOT - repeated exposure
Not classified.
Aspiration hazard
No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects
Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

<table>
<thead>
<tr>
<th>Peracetic Acid (79-21-0)</th>
<th>Duration</th>
<th>Species</th>
<th>Value</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peracetic Acid 15%</td>
<td>96 h LC50</td>
<td>Oncorhynchus mykiss</td>
<td>0.53</td>
<td>mg/L</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(rainbow trout)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peracetic Acid 5%</td>
<td>96 h LC50</td>
<td>Bluegill sunfish</td>
<td>1.1</td>
<td>mg/L</td>
</tr>
<tr>
<td>Peracetic Acid</td>
<td>33 d NOEC</td>
<td>Brachydanio rerio</td>
<td>0.00225</td>
<td>mg/L</td>
</tr>
<tr>
<td>Peracetic Acid 5%</td>
<td>96 h LC50</td>
<td>Oncorhynchus mykiss</td>
<td>1.6</td>
<td>mg/L</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(rainbow trout)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peracetic Acid 5%</td>
<td>48 h EC50</td>
<td>Daphnia magna</td>
<td>0.73</td>
<td>mg/L</td>
</tr>
<tr>
<td>Peracetic Acid 12.5%</td>
<td>48 h EC50</td>
<td>Mytilus edulis</td>
<td>0.27</td>
<td>mg/L</td>
</tr>
<tr>
<td>Peracetic Acid 15%</td>
<td>21 d NOEC</td>
<td>Daphnia magna</td>
<td>0.05</td>
<td>mg/L</td>
</tr>
<tr>
<td>Peracetic Acid 5%</td>
<td>72 h EC50</td>
<td>Selenastrum capricornutum</td>
<td>0.16</td>
<td>mg/L</td>
</tr>
<tr>
<td>Peracetic Acid 5%</td>
<td>120 h EC50</td>
<td>Selenastrum capricornutum</td>
<td>0.18</td>
<td>mg/L</td>
</tr>
<tr>
<td>Peracetic Acid 5%</td>
<td>72 h NOEC</td>
<td>Selenastrum capricornutum</td>
<td>0.061</td>
<td>mg/L</td>
</tr>
<tr>
<td>Peracetic Acid</td>
<td>3 h EC50</td>
<td>Respiration inhibition test (OECD 209)</td>
<td>5.1</td>
<td>mg/L</td>
</tr>
</tbody>
</table>

Persistence and degradability
Peracetic acid is completely miscible with water. Aqueous solutions of peracetic acid hydrolyze to acetic acid and hydrogen peroxide. Product is biodegradable.

Bioaccumulation
Based on its low octanol-water partition coefficient and its rapid degradation in the environment, this product is not bioaccumulable.

Mobility
Peracetic acid released in the environment will partition almost exclusively (>99%) to the water compartment. Only a minor part (<1%) will remain in the atmosphere, where it is expected to undergo rapid decomposition with a half life of 22 minutes. The fate of peracetic acid in the environment is mainly determined by its degradation.

Other Adverse Effects
None known.

13. DISPOSAL CONSIDERATIONS

Waste disposal methods
This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261). If these wastes cannot be disposed of by use according to label instructions, contact appropriate disposal authorities for guidance.

US EPA Waste Number
D001 D002

Contaminated Packaging
Do not rinse returnable containers or receptacles not intended for other uses. Non-returnable containers that held this material should be cleaned by triple-rinsing prior to recycle or disposal. Dispose of in accordance with local regulations. Empty remaining contents. Clean container with water.
15. REGULATORY INFORMATION

U.S. Federal Regulations

Clean Air Act (CAA) - Accidental Release Prevention
Peracetic acid is listed as a Regulated Toxic Substance at 40 CFR 68.130. Pursuant to the threshold determination provisions for mixtures at 40 CFR 68.155(b)(1), the partial pressure of peracetic acid in VigorOx products (up to 35% solutions) are less than 10 mm Hg at 25°C, and thus the product, as sold, is not subject to the threshold determination under the Risk Management Planning regulations.

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peracetic Acid - 79-21-0</td>
<td>79-21-0</td>
<td>15 - 17</td>
<td>1.0</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazard Categories

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute health hazard</td>
<td>Yes</td>
</tr>
<tr>
<td>Chronic health hazard</td>
<td>Yes</td>
</tr>
<tr>
<td>Fire hazard</td>
<td>Yes</td>
</tr>
<tr>
<td>Sudden release of pressure hazard</td>
<td>No</td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Clean Water Act
This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
<th>CWA - Hazardous Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetic Acid</td>
<td>5000 lb</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

OTHER INFORMATION
Protect from physical damage. Material is shipped in 5 gal. (45 lb.) and 55 gal. (450 lb.) vented linear (not cross-linked) polyethylene containers, as well as linear (not cross-linked) polyethylene IBC’s (330 gal.). Do not ship on wooden pallets.
CERCLA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Hazardous Substances RQs</th>
<th>Extremely Hazardous Substances RQs</th>
<th>SARA RQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetic Acid 64-19-7</td>
<td>5000 lb</td>
<td></td>
<td>RQ 5000 lb final RQ</td>
</tr>
<tr>
<td>Peracetic Acid 79-21-0</td>
<td>500 lb</td>
<td></td>
<td>RQ 2270 kg final RQ</td>
</tr>
<tr>
<td>Hydrogen Peroxide 7722-84-1</td>
<td>1000 lb</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Hydrogen Peroxide RQ is for concentrations of > 52% only

FIFRA INFORMATION

EPA Pesticide registration number 65402-3

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

DANGER
MAY BE FATAL IF ABSORBED THROUGH SKIN
Corrosive, causes eye and skin damage.
Harmful if swallowed.
Strong oxidizing agent.
This pesticide is toxic to birds, mammals, fish and aquatic invertebrates.

International Inventories

<table>
<thead>
<tr>
<th>Component</th>
<th>TSCA (United States)</th>
<th>DSL (Canada)</th>
<th>EINECS/EL INCS (Europe)</th>
<th>ENCS (Japan)</th>
<th>China (IECSC)</th>
<th>KECL (Korea)</th>
<th>PICCS (Philippines)</th>
<th>AICS (Australia)</th>
<th>NZIoC (New Zealand)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetic Acid 64-19-7</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<td>Peracetic Acid 79-21-0</td>
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<td>Hydrogen Peroxide 7722-84-1</td>
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Mexico - Grade Moderate risk, Grade 2

CANADA

WHMIS Statement
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class
C - Oxidizing materials
E - Corrosive material
D2B - Toxic materials
B3 - Combustible liquid
16. OTHER INFORMATION

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<tr>
<th>NFPA</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Stability</th>
<th>Special Hazards</th>
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<th>Health Hazards</th>
<th>Flammability</th>
<th>Physical hazard</th>
<th>Special precautions</th>
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NFPA/HMIS Ratings Legend
Severe = 4; Serious = 3; Moderate = 2; Slight = 1; Minimal = 0
Special Hazards: OX = Oxidizer. Protection = H (Safety goggles, gloves, apron, the use of supplied air or SCBA respirator is required in lieu of a vapor cartridge respirator)

Uniform Fire Code
Organic Peroxide: Class 4-Liquid

Revision date: 2015-05-07
Revision note: Initial Release

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Prepared By:
PeroxyChem
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End of Safety Data Sheet