SAFETY DATA SHEET
SPECTRUM® 22

PeroxyChem

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name: SPECTRUM® 22
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: Antimicrobial agent for poultry carcasses, parts and organs
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 numbers

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)

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity - Oral</td>
<td>Category 4</td>
</tr>
<tr>
<td>Acute toxicity - Dermal</td>
<td>Category 4</td>
</tr>
<tr>
<td>Acute toxicity - Inhalation (Vapors)</td>
<td>Category 4</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Category 1 Sub-category B</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 1</td>
</tr>
<tr>
<td>Specific target organ toxicity (single exposure)</td>
<td>Category 3</td>
</tr>
<tr>
<td>Organic Peroxide</td>
<td>Type F</td>
</tr>
<tr>
<td>Corrosive to Metals</td>
<td>Category 1</td>
</tr>
</tbody>
</table>
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
H290 - May be corrosive to metals

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
P304 + 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 50 °C/ 122 °F. Keep cool
P410 - Protect from sunlight.

Precautionary Statements - Disposal
P501 - Dispose of contents/ container to an approved waste disposal plant

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

Other Information

Supplemental 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. Clean up spills promptly to prevent material damage. When stored at continuous 37.8 °C, product shelf life is 4 months. 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>28 - 35</td>
</tr>
<tr>
<td>Acetic Acid</td>
<td>64-19-7</td>
<td>33 - 39</td>
</tr>
<tr>
<td>Peracetic Acid</td>
<td>79-21-0</td>
<td>20 - 23</td>
</tr>
<tr>
<td>Hydrogen peroxide</td>
<td>7722-84-1</td>
<td>8.5-10.5</td>
</tr>
</tbody>
</table>

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**
Not sensitive.

**Sensitivity to Mechanical Impact**
Not sensitive.

**Sensitivity to Static Discharge**

**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.
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.

Storage
Store in original container. Do not store near reducing agents, fuels or other non-compatible materials. Keep in a dry, cool and well-ventilated place. 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. Storage temperatures must not exceed product SADT or 50 °C, whichever is lower. From a quality perspective, lower storage temperatures are recommended to maintain product assay. Use first in, first out storage system. Do not stack carboys more than two high, and NEVER double-stack pallets of carboys. Containers must be vented.

Packaging material
Do not store in metal containers.

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 TWA: 25 mg/m³</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 Mexico: STEL 15 ppm Mexico: STEL 37 mg/m³</td>
</tr>
<tr>
<td>Peroxide 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 TWA: 1.4 mg/m³</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 Mexico: STEL 2 ppm Mexico: STEL 3 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 TWA: 25 mg/m³ STEL: 15 ppm STEL: 37 mg/m³</td>
<td>TWA: 10 ppm TWA: 25 mg/m³ STEL: 15 ppm STEL: 37 mg/m³</td>
</tr>
<tr>
<td>Hydrogen peroxide</td>
<td>TWA: 1 ppm TWA: 1 ppm STEL: 15 ppm STEL: 37 mg/m³</td>
<td>TWA: 1 ppm TWA: 1 ppm STEL: 15 ppm STEL: 37 mg/m³</td>
<td>TWA: 1 ppm TWA: 1 ppm STEL: 15 ppm STEL: 37 mg/m³</td>
<td>TWA: 1 ppm</td>
</tr>
</tbody>
</table>

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.
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. Do not eat, drink or smoke when using this product.

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

Appearance
Clear, colorless liquid

Physical State
Liquid

Color
Colorless

Odor
Stinging, Pungent, vinegar-like

Odor threshold
No information available

pH
0.25 @ 20 °C (product)
2.78 @ 20 °C (1% solution)

Melting point/freezing point
-27.4 °C

Boiling Point/Range
86.6 °C / 118 °F (with decomposition)

Flash point
No flashpoint up to 100 °C: ASTM D 56, Tag Closed Cup

Evaporation Rate
0.49 (n-butyl acetate=1)

Flammability (solid, gas)
Substance does not burn but will support combustion

Flammability Limit in Air
Upper flammability limit: No information available
Lower flammability limit: No information available

Vapor pressure
45 mm Hg @ 20°C (68°F)

Vapor density
No information available

Density
9.35 lb/gal @ 25 °C

Specific gravity
1.12 @ 25 °C

Water solubility
Completely soluble

Solubility in other solvents
No information available
Partition coefficient \( \log Pow = -0.52 \) @ 25 °C

Autoignition temperature 251 - 254 °C
Decomposition temperature > 55 °C (SADT)
Viscosity, kinematic No information available
Viscosity, dynamic No information available
Explosive properties No information available
Oxidizing properties Strong oxidizer
Molecular weight No information available
Bulk density Not applicable

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 50°C or SADT, whichever is lower.

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

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 = 4080 mg/m^3 (5% Peracetic acid) (aerosol)

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.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
<th>NOAEL Oral Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen peroxide (7722-84-1)</td>
<td>LD50 Rat = 1518 mg/kg (Rat)</td>
<td>LD50 rat = 2000 mg/kg (Rabbit)</td>
<td>LC50 (4-hr) Rat = 2 g/m^3 (Rat) 4 h</td>
<td>NOAEL Oral Value</td>
</tr>
</tbody>
</table>

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).

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen peroxide</td>
<td>A3</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7722-84-1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**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

**Peracetic Acid (79-21-0)**

<table>
<thead>
<tr>
<th>Active Ingredient(s)</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 (rainbow trout)</td>
<td>0.53</td>
<td>mg/L</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 (rainbow trout)</td>
<td>1.6</td>
<td>mg/L</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>

**Hydrogen peroxide (7722-84-1)**

<table>
<thead>
<tr>
<th>Active Ingredient(s)</th>
<th>Duration</th>
<th>Species</th>
<th>Value</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen peroxide</td>
<td>96 h LC50</td>
<td>Fish Pimephales promelas</td>
<td>16.4</td>
<td>mg/L</td>
</tr>
<tr>
<td>Hydrogen peroxide</td>
<td>72 h LC50</td>
<td>Fish Leuciscus idus</td>
<td>35</td>
<td>mg/L</td>
</tr>
<tr>
<td>Hydrogen peroxide</td>
<td>48 h EC50</td>
<td>Daphnia pulex</td>
<td>2.4</td>
<td>mg/L</td>
</tr>
</tbody>
</table>
Hydrogen peroxide  24 h EC50  Daphnia magna  7.7  mg/L
Hydrogen peroxide  72 h EC50  Algae Skeletonema costatum  1.38  mg/L
Hydrogen peroxide  21 d NOEC  Daphnia magna  0.63  mg/L
Hydrogen peroxide  72 h LC50  Fish Leuciscus idus  35  mg/L

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 bioaccumuable.

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 recepticles 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.

14. TRANSPORT INFORMATION

DOT
UN/ID no  3109
Proper Shipping Name  ORGANIC PEROXIDE TYPE F, LIQUID (Peroxyacetic Acid, Type F, Stabilized, <43%)
Hazard class  5.2
Subsidiary class  8
Reportable Quantity (RQ)  Hazardous Substance/RQ: Not applicable

TDG
UN/ID no  3109
Proper Shipping Name  ORGANIC PEROXIDE TYPE F, LIQUID (Peroxyacetic Acid, Type F, Stabilized, <43%)
Hazard class  5.2
Subsidiary class  8
Packing Group  II

ICAO/IATA
Air regulation permit shipment of peracetic acid in non-vented containers for Air Cargo Only aircraft, as well as for Passenger and Cargo aircraft. HOWEVER, all peracetic acid containers are vented and therefore, air shipments of peracetic acid are not permitted. IATA air regulations state that venting of packages containing oxidizing substances is not permitted for air transport.

IMDG/IMO
UN/ID no  3109
Proper Shipping Name  ORGANIC PEROXIDE TYPE F, LIQUID (Peroxyacetic Acid, Type F, Stabilized, <43%)
Hazard class 5.2
Subsidiary Hazard Class 8
Marine Pollutant When shipped by vessel, this material meets the definition of an environmentally hazardous substance.

OTHER INFORMATION
Protect from physical damage. Material is shipped in 5 gal. (45 lb.), 30 gal. (250 lb.) and 55 gal. (495 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.

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>20 - 23</td>
<td>1.0</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazard Categories
This product has the following hazards that are reportable under The Emergency Planning and Community Right-to-Know rule (EPCRA Tier II):

- Flammable/combustible material
- Organic Peroxide
- Corrosive to Metals
- Acute toxicity
- Serious eye damage/eye irritation
- Skin corrosion/irritation
- Specific Target Organ Toxicity (STOT) - Single Exposure

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>64-19-7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acetic Acid</td>
<td>5000 lb</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acetic Acid</td>
<td>64-19-7</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

CERCLA/EPCRA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Response Compensation and Liability Act (CERCLA) or as an extremely hazardous substance (EHS) under the Emergency Planning and Community Right to Know Act (EPCRA) / Superfund Amendments and Reauthorization Act (SARA).

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CERCLA Hazardous Substances RQs (40 CFR 302.4)</th>
<th>SARA Sec 304 Extremely Hazardous Substance RQ (40 CFR 355 Appendix A)</th>
<th>SARA Section 302 EHS Threshold Planning Quantity (40 CFR 355)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetic Acid</td>
<td>5000 lb</td>
<td></td>
<td>500 lb</td>
</tr>
<tr>
<td>Acetic Acid</td>
<td>64-19-7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peracetic Acid</td>
<td>79-21-0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Hydrogen Peroxide RQ is for concentrations of > 52% only

**US State Regulations**

**U.S. State Right-to-Know Regulations**
This product contains the following substances regulated under state Right-to-Know laws:

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Massachusetts</th>
<th>New Jersey</th>
<th>Pennsylvania</th>
<th>Illinois</th>
<th>Rhode Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetic Acid</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peracetic Acid</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydrogen peroxide</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

**California Proposition 65**
This product does not contain any Proposition 65 chemicals

**CANADA**

**Environmental Emergencies**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetic Acid</td>
<td>6.80 tonnes Minimum quantity</td>
<td>4.50 tonnes Minimum quantity</td>
<td>95</td>
<td></td>
</tr>
<tr>
<td>Peracetic Acid</td>
<td></td>
<td></td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Hydrogen peroxide</td>
<td>3.40 tonnes Minimum quantity</td>
<td>52</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Peracetic acid is exempt from Environmental Emergency Regulations SOR/2003-307 requirements per List of Substances Section 2(b) as it is a component of a mixture and its partial pressure in the mixture is less than 10 mm Hg. In addition the concentrations of the Hydrogen Peroxide and Acetic Acid in the mixture are below their minimum concentrations.

**Canadian National Pollutant Release Inventory**

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Canada - 2017 NPRI (National Pollutant Release Inventory)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetic Acid</td>
<td>Part 4 Substance</td>
</tr>
<tr>
<td>Peracetic Acid</td>
<td>Part 1, Group A Substance</td>
</tr>
</tbody>
</table>

**International Inventories**

<table>
<thead>
<tr>
<th>Chemical name</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</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

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All ingredients are directly listed on the active TSCA Inventory

Mexico

Mexico - Grade  Moderate risk, Grade 2

16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Stability</th>
<th>Special Hazards</th>
<th>HMIS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>OX</td>
<td></td>
</tr>
</tbody>
</table>

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:  2019-08-02
Revision note  SDS sections updated: 2, 9.

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End of Safety Data Sheet