**SECTION 1: Identification of the substance/mixture and of the company/undertaking**

1.1. Product identifier

- **Product form**: Mixture
- **Trade name**: Spor-Klenz® RTU ETO Process Packaged Cold Sterilant
- **Product code**: 6528

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

- **Industrial/Professional use spec**: For professional use only

1.2.2. Uses advised against

No additional information available.

1.3. Details of the supplier of the safety data sheet

Manufacturer:

STERIS Corporation

P. O. Box 147, St. Louis, MO 63166, US

Telephone Number for Information: 1-800-444-9009 (Customer Service-Scientific Products)

US Emergency Telephone No. 1-314-535-1395 (STERIS); 1-800-424-9300, 703-527-3887 (CHEMTREC)

Email: asksteris_msds@steris.com

**SECTION 2: Hazards identification**

2.1. Classification of the substance or mixture

**GHS-US Classification**

- Eye Dam 1 H318

Full text of H-phrases: see Section 16.

2.2. Label elements – This label is required by the EPA under FIFRA. Refer to Section 15.

**GHS-US Labelling**

- **Hazard pictograms (GHS-US)**: GHS05

  - **Signal word (GHS-US)**: Danger
  - **Hazard statements (GHS-US)**: H318 - Causes serious eye damage
  - **Precautionary statements (GHS-US)**: P280 - Wear protective gloves/protective clothing and eye/face protection. 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/doctor

2.3. Other hazards

No additional information available.

**SECTION 3: Composition/information on ingredients**

3.1. Substances

Not applicable.

3.2. Mixture

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetic acid</td>
<td>CAS No 64-19-7</td>
<td>&lt; 10</td>
<td>Flam. Liq. 3, H226, Skin Corr. 1A, H314</td>
</tr>
<tr>
<td>Hydrogen peroxide</td>
<td>CAS No 7722-84-1</td>
<td>1</td>
<td>Ox. Liq. 1, H271, Acute Tox. 4 (Oral), H302, Acute Tox. 4 (Inhalation), H332, Skin Corr. 1A, H314, STOT SE 3, H335, Aquatic Chronic 3, H412</td>
</tr>
</tbody>
</table>
Name: Peroxyacetic acid  
Product identifier: CAS No 79-21-0  
%: 0.08  
Classification according to Regulation (EC) No. 1272/2008 [CLP]  
- Flam. Liq. 3, H226  
- Org. Perox. D, H242  
- Acute Tox. 3 (Oral), H301  
- Acute Tox. 4 (Dermal), H312  
- Acute Tox. 2 (Inhalation:dust,mist), H330  
- Skin Corr. 1A, H314  
- STOT SE 3, H335  
- Aquatic Acute 1, H400

Full text H-phrases: see Section 16.

**SECTION 4: First aid measures**

4.1. **Description of first aid measures**

First-aid measures general: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation: Remove to fresh air and keep at rest in a position comfortable for breathing. Immediately get medical attention.

First-aid measures after skin contact: In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. In all cases of doubt, or when symptoms persist, seek medical advice. Remove contact lenses, if present and easy to do. Continue rinsing.

First-aid measures after eye contact: Rinse mouth. Give water to drink if victim completely conscious/alert. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

4.2. **Most important symptoms and effects, both acute and delayed**

Symptoms/injuries after inhalation: May cause minor irritation to the respiratory tract and to other mucous membranes. The following symptoms may occur: Runny nose. Sore throat. Coughing. Sneezing.

Symptoms/injuries after skin contact: Effects of skin contact may include: irritation and burn feeling.

Symptoms/injuries after eye contact: Causes serious eye damage. Direct contact may cause severe irritation, pain and burns, possibly severe, and permanent damage including blindness.

Symptoms/injuries after ingestion: May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract. May cause gastrointestinal irritation, nausea, vomiting and diarrhoea. Bleeding of the gastrointestinal tract.

4.3. **Indication of any immediate medical attention and special treatment needed**

No additional information available.

**SECTION 5: Firefighting measures**

5.1. **Extinguishing media**


Unsuitable extinguishing media: Do not use a heavy water stream.

5.2. **Special hazards arising from the substance or mixture**


5.3. **Advice for firefighters**

Firefighting instructions: Exercise caution when fighting any chemical fire. Avoid (reject) fire-fighting water to enter environment.

Protective equipment for firefighters: Do not enter fire area without proper protective equipment, including respiratory protection. Use self-contained breathing apparatus.

Other information: Do not mix with: Chlorinated products as this could liberate toxic corrosive chlorine gas.

**SECTION 6: Accidental release measures**

6.1. **Personal precautions, protective equipment and emergency procedures**

General measures: Do not breathe fumes, vapors. Avoid contact with skin, eyes and clothes.

6.1.1. **For non-emergency personnel**

Protective equipment: Wear suitable protective clothing. Wear protective gloves and eye/face protection. Boots.

Emergency procedures: Evacuate unnecessary personnel. Stop leak if safe to do so.
6.1.2. For emergency responders

Protective equipment: Equip cleanup crew with proper protection.
Emergency procedures: Ventilate area.

6.2. Environmental precautions

Relevant water authorities should be notified of any large spillage to water course or drain.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up: Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials. Leftovers: Neutralize with sodium bicarbonate. Neutralize with dry sodium carbonate.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling: Wash hands and other exposed areas with mild soap and water before eat, drink or smoke and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Do not breathe gas, fumes, vapor or spray. Keep container tightly closed to avoid moisture absorption and contamination.

Pesticide Storage: Store in shipping carton. Do not expose to direct sunlight. Maintain temperature below 75°F (24°C). Avoid contact with combustible materials. Store in original closed container. For chemical emergency, spill, leak, fire, exposure and accident call Chemtrec, day or night 800-424-9300, 703-527-3887.

Hygiene measures: Wash hands thoroughly after handling. Take care for general good hygiene and housekeeping.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures: Comply with applicable regulations. A washing facility/water for eye and skin cleaning purposes should be present. Provide adequate ventilation.

Storage conditions: Keep only in the original container in a cool, well ventilated place. Keep container closed when not in use. Keep out of reach of children.


Storage temperature: < 24 °C (< 75°F).

Heat and ignition sources: Store away from excessive heat. Remove all sources of ignition.

Storage area: Store in dry, cool, well-ventilated area. Do not expose to direct sunlight.

Special rules on packaging: Correctly labelled.

7.3. Specific end use(s)

No additional information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Hydrogen peroxide (7722-84-1)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>USA IDLH</td>
<td>US IDLH (ppm)</td>
</tr>
<tr>
<td>USA NIOSH</td>
<td>NIOSH REL (TWA) (mg/m³)</td>
</tr>
<tr>
<td>USA NIOSH</td>
<td>NIOSH REL (TWA) (ppm)</td>
</tr>
<tr>
<td>USA OSHA</td>
<td>OSHA PEL (TWA) (mg/m³)</td>
</tr>
<tr>
<td>USA OSHA</td>
<td>OSHA PEL (TWA) (ppm)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Acetic acid (64-19-7)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>USA IDLH</td>
<td>US IDLH (ppm)</td>
</tr>
<tr>
<td>USA NIOSH</td>
<td>NIOSH REL (TWA) (mg/m³)</td>
</tr>
<tr>
<td>USA NIOSH</td>
<td>NIOSH REL (TWA) (ppm)</td>
</tr>
<tr>
<td>USA NIOSH</td>
<td>NIOSH REL (STEL) (mg/m³)</td>
</tr>
<tr>
<td>USA NIOSH</td>
<td>NIOSH REL (STEL) (ppm)</td>
</tr>
<tr>
<td>USA OSHA</td>
<td>OSHA PEL (TWA) (mg/m³)</td>
</tr>
<tr>
<td>USA OSHA</td>
<td>OSHA PEL (TWA) (ppm)</td>
</tr>
</tbody>
</table>

8.2. Exposure controls

Appropriate engineering controls: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation.
Personal protective equipment: Avoid all unnecessary exposure. Personal protective equipment should be selected based upon the conditions under which this product is handled or used. The following pictograms represent the minimum requirements for personal protective equipment. Protective clothing. Gloves. Protective goggles. Protective goggles.

Hand protection: Wear protective gloves, rubber or plastic gloves.
Eye protection: Wear chemical goggles or face shield
Skin and body protection: Wear suitable protective clothing. Rubber apron, boots
Respiratory protection: Work in well-ventilated zones or use proper respiratory protection. Wear approved mask
Other information: When using, do not eat, drink or smoke

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties
Physical state: Liquid
Color: Colorless
Odor: Acidic characteristic
Odor threshold: No data available
pH: 1.5 - 2
Relative evaporation rate (butylacetate=1): No data available
Melting point: No data available
Freezing point: No data available
Boiling point: No data available
Flash point: No data available
Self ignition temperature: No data available
 Decomposition temperature: No data available
 Flammability (solid, gas): Non flammable
 Vapor pressure: No data available
 Relative vapor density at 20 °C: No data available
 Relative density: No data available
 Density: ca. 1.01 g/ml Specific Gravity
 Solubility: Water: Completely soluble
 Log Pow: No data available
 Log Kow: No data available
 Viscosity, kinematic: No data available
 Viscosity, dynamic: No data available
 Explosive properties: No data available
 Oxidizing properties: No data available
 Explosive limits: No data available.

9.2. Other information
No additional information available.

SECTION 10: Stability and reactivity

10.1. Reactivity
Thermal decomposition generates: Corrosive vapors.

10.2. Chemical stability
Stable under normal conditions of use. Recommended storage temperature.

10.3. Possibility of hazardous reactions
Not established.

10.4. Conditions to avoid
Store in a cool dry place. Keep storage temperature below 75 °F (24 °C). Take any precaution to avoid mixing with combustibles.

10.5. Incompatible materials
10.6. Hazardous decomposition products

SECTION 11: Toxicological information

11.1. Information on toxicological effects

**Spor-Klenz® RTU ETO Process Packaged Cold Sterilant**

**Acute toxicity**
- Not classified.

**Hydrogen peroxide (7722-84-1)**
- LD50 oral: > 5000 mg/kg
- LD50 dermal: > 20000 mg/kg
- LD50 oral rat: 801 mg/kg
- LD50 dermal rat: 4060 mg/kg
- LD50 dermal rabbit: 2000 mg/kg
- LC50 inhalation rat (mg/l): 2 g/m³ (Exposure time: 4 h)
- ATE (oral): 801,000 mg/kg bodyweight
- ATE (dermal): 2000,000 mg/kg bodyweight

**Acetic acid (64-19-7)**
- LD50 oral rat: 3310 mg/kg
- LD50 dermal rabbit: 1060 µl/kg
- LC50 inhalation rat (mg/l): 11.4 mg/l/4h

**Peroxyacetic acid (79-21-0)**
- LD50 oral rat: 263 mg/kg
- LD50 dermal rabbit: 1410 µl/kg
- LC50 inhalation rat (mg/l): 0.3 mg/l (Exposure time: 1 h)
- ATE (oral): 263,000 mg/kg bodyweight
- ATE (dermal): 1100,000 mg/kg bodyweight
- ATE (dust,mist): 0.300 mg/l/4h

**Skin corrosion/irritation**
- Causes serious eye damage
  - pH: 1.5 - 2

**Serious eye damage/irritation**
- Causes serious eye damage
  - pH: 1.5 - 2

**Respiratory or skin sensitisation**
- Not classified
  - Based on available data, the classification criteria are not met.

**Germ cell mutagenicity**
- Not classified
  - Based on available data, the classification criteria are not met.

**Carcinogenicity**
- Not classified
  - Based on available data, the classification criteria are not met.

**Reproductive toxicity**
- Not classified
  - Based on available data, the classification criteria are not met.

**Specific target organ toxicity (single exposure)**
- Not classified
  - Based on available data, the classification criteria are not met.

**Specific target organ toxicity (repeated exposure)**
- Not classified
  - Based on available data, the classification criteria are not met.

**Aspiration hazard**
- Not classified
  - Based on available data, the classification criteria are not met.

**Potential Adverse human health effects and symptoms**
- Not classified
  - Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1. Toxicity

**Ecology - general**
- Toxic to aquatic organisms. Bird toxicity (reproduction). Toxic to fish. Toxic to invertebrates (Daphnia).

**Hydrogen peroxide (7722-84-1)**
- LC50 fishes 1: 16.4 mg/l (Exposure time: 96 h - Species: Pimephales promelas)
- EC50 Daphnia 1: 7.7 mg/l (Exposure time: 24 h - Species: Daphnia magna)
- EC50 other aquatic organisms 1: 2.5 mg/l (Exposure time: 72 h - Species: Chlorella vulgaris)
- LC50 fish 2: 18 - 56 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [Static])
### 12.2. Persistence and degradability

<table>
<thead>
<tr>
<th>Substance</th>
<th>EC50/ECx (mg/l)</th>
<th>Exposure Time</th>
<th>Species/Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen peroxide (7722-84-1)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Daphnia 2</td>
<td>18 - 32</td>
<td>48 h</td>
<td>Static</td>
</tr>
<tr>
<td>Acetic acid (64-19-7)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LC50 fishes 1</td>
<td>79</td>
<td>96 h</td>
<td>Pimephales promelas [Static]</td>
</tr>
<tr>
<td>Daphnia 1</td>
<td>47</td>
<td>24 h</td>
<td>Daphnia magna</td>
</tr>
<tr>
<td>LC50 fish 2</td>
<td>75</td>
<td>96 h</td>
<td>Lepomis macrochirus [Static]</td>
</tr>
<tr>
<td>Daphnia 2</td>
<td>65</td>
<td>48 h</td>
<td>Daphnia magna</td>
</tr>
</tbody>
</table>

### 12.3. Bioaccumulative potential

<table>
<thead>
<tr>
<th>Substance</th>
<th>BCF</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen peroxide (7722-84-1)</td>
<td></td>
<td>(no bioaccumulation)</td>
</tr>
<tr>
<td>Acetic acid (64-19-7)</td>
<td></td>
<td>(not bioaccumulative, rapid degradation)</td>
</tr>
</tbody>
</table>

### 12.4. Mobility in soil

No additional information available.

### 12.5. Results of PBT and vPvB assessment

No additional information available.

### 12.6. Other adverse effects

Avoid release to the environment.

### 13. Disposal considerations

#### 13.1. Waste treatment methods

Waste disposal recommendations:

- **PESTICIDE DISPOSAL:** Wastes resulting from the use of this product may be disposed of on-site in a sanitary sewer or at an approved waste disposal facility.
- Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for Guidance.
- Do not contaminate water, food, or feed by storage or disposal.

- **CONTAINER DISPOSAL:** Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this process two more times.

Ecology - waste materials: Avoid release to the environment.

### 14. Transport information

In accordance with ADR / RID / ADNR / IMDG / ICAO / IATA

#### 14.1. UN number

Not applicable.

#### 14.2. UN proper shipping name

Not applicable.

#### 14.3. Transport hazard class(es)

Not applicable.

#### 14.4. Packing group

Not applicable.

#### 14.5. Environmental hazards

No supplementary information available.
14.6. Special precautions for user

14.6.1. Overland transport
No additional information available.

14.6.2. Transport by sea
No additional information available.

14.6.3. Air transport
No additional information available.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

<table>
<thead>
<tr>
<th>EPA FIFRA Pesticide Product Notice</th>
<th>This chemical is a pesticide product registered by the United States 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 (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPA FIFRA Signal Word</td>
<td>Danger</td>
</tr>
<tr>
<td>EPA FIFRA Hazard Statements</td>
<td>Keep Out of Reach of Children</td>
</tr>
<tr>
<td>EPA FIFRA Precautionary Statements</td>
<td>Hazard to Humans and Domestic Animals</td>
</tr>
<tr>
<td></td>
<td>Corrosive.</td>
</tr>
<tr>
<td></td>
<td>Causes irreversible eye damage.</td>
</tr>
<tr>
<td></td>
<td>Harmful if absorbed through skin.</td>
</tr>
<tr>
<td></td>
<td>Do not get in eyes, on skin, or on clothing.</td>
</tr>
<tr>
<td></td>
<td>Avoid contact with skin.</td>
</tr>
<tr>
<td></td>
<td>Wash hand before eating, drinking, chewing gum, using tobacco or using the toilet.</td>
</tr>
<tr>
<td></td>
<td>Remove contaminated clothing and wash hands before reuse.</td>
</tr>
<tr>
<td></td>
<td>Caution should be used when applying indoors because pets may be at risk.</td>
</tr>
</tbody>
</table>

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Revision Date: 09/11/2019
Other information: None

Full text of H-phrases:

| Eye Dam 1 | Acute Tox. 2 (Inhalation:dust,mist) | Acute Tox. 3 (Oral) | Acute Tox. 4 (Dermal) | Acute Tox. 4 (Inhalation) | Acute Tox. 4 (Oral) | Aquatic Acute 1 | Aquatic Chronic 3 | Flam. Liq. 3 | Org. Perox. D | Ox. Liq. 1 | Skin Corr. 1A | STOT SE 3 | H226 | H242 | H271 | H301 | H302 | H312 | H314 | H318 | H330 | H332 | H335 |
|-----------|------------------------------------|---------------------|-----------------------|---------------------------|---------------------|-----------------|-----------------|----------------|---------------|---------------|-------------|-------------|-----------|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|           | Eye Damage, Category 1             | Acute toxicity (inhalation:dust,mist), Category 2 | Acute toxicity (oral), Category 3 | Acute toxicity (dermal), Category 4 | Acute toxicity (inhalation), Category 4 | Hazardous to the aquatic environment — AcuteHazard, Category 1 | Hazardous to the aquatic environment — Chronic Hazard, Category 3 | Flammable liquids, Category 3 | Organic Peroxides, Type D | Oxidizing Liquids, Category 1 | Skin corrosion/irritation, Category 1A | Specific target organ toxicity (single exposure), Category 3 | Flammable liquid and vapor | Heating may cause a fire | May cause fire or explosion; strong oxidizer | Toxic if swallowed | Harmful if swallowed | Harmful in contact with skin | Causes severe skin burns and eye damage | Causes serious eye damage. | Fatal if inhaled | Harmful if inhaled | May cause respiratory irritation |
**Spor-Klenz® RTU**
**ETO Process Packaged Cold Sterilant**
Safety Data Sheet
according Federal Register/Vol. 77, No. 58 /Monday, March 28, 2012/Rules and Regulation

<table>
<thead>
<tr>
<th>H400</th>
<th>Very toxic to aquatic life</th>
</tr>
</thead>
<tbody>
<tr>
<td>H412</td>
<td>Harmful to aquatic life with long lasting effects</td>
</tr>
</tbody>
</table>

- **NFPA health hazard**: 2 - Intense or continued but not chronic exposure could cause temporary incapacitation or possible residual injury.
- **NFPA fire hazard**: 0 - Materials that will not burn.
- **NFPA reactivity**: 0 - Normally stable, even under fire exposure conditions, and is not reactive with water.

The information on this sheet is not a specification and does not guarantee specific properties. The information is intended to provide general knowledge as to health and safety based upon our knowledge of the handling, storage and use of the product. It is not applicable to unusual or non-standard uses of the product or where instruction or recommendations are not followed.