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

1.1. Product identifier
Product form : Mixture
Trade name : Cage-Klenz® 250 – Acid-Based Cage Wash Detergent
Product code : 1K25

1.2. Relevant identified uses of the substance or mixture and uses advised against
Use of the substance/mixture : Acid-Based Cage Wash Detergent
Use of the substance/mixture : Product for industrial and institutional use only. Not for home use.

1.3. Details of the supplier of the safety data sheet
STERIS Corporation
P. O. Box 147, St. Louis, MO 63166, US
Telephone Number for Information: 1-800-444-9009 (Customer Service-Scientific Products)

1.4. Emergency telephone number
Emergency number : US Emergency Telephone No.1-314-535-1395 (STERIS); 1-800-424-9300 (CHEMTREC)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
GHS-US classification
Metal Corr. 1 : H290
Skin Corr. 2 : H315
Eye Irrit. 2A : H319

Full text of H-phrases: see Section 16.

2.2. Label elements
GHS-US labelling
Hazard pictograms (GHS-US) :

Signal word (GHS-US) : Warning
Hazard statements (GHS-US) :
H290 - May be corrosive to metals.
H315 – Causes skin irritation.
H319 - Causes serious eye irritation.

Precautionary statements (GHS-US) :
P234 - Keep only in original container.
P264 - Wash hands thoroughly after handling.
P280 - Wear eye protection, protective clothing, protective gloves.
P302+P352 – IF ON SKIN: Wash with plenty of soap and water.
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332+P313 - If skin irritation occurs: Get medical attention.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P362 - Take off contaminated clothing and wash before reuse.

2.3. Other hazards
No additional information available.

2.4. Unknown acute toxicity (GHS-US)
No data available.

SECTION 3: Composition/information on ingredients

3.1. Substance
Not applicable.
### 3.2. Mixture

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citric acid</td>
<td>(CAS No) 77-92-9</td>
<td>10 - 30</td>
<td>Eye Irrit. 2A, H319</td>
</tr>
<tr>
<td></td>
<td>(REACH No) 01-2119457026-42-0067</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Full text of 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 patient to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. Get medical attention.
- **First-aid measures after skin contact**: Immediately flush skin with plenty of water for at least 15 minutes. If skin irritation occurs: Get medical advice/attention.
- **First-aid measures after eye 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. Remove contact lenses, if present and easy to do. Continue rinsing. Seek immediate medical advice.
- **First-aid measures after ingestion**: If victim completely conscious/alert. Rinse mouth. Do NOT induce vomiting. Get medical advice/attention. Give water or milk if the person is fully conscious.

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

- **Symptoms/injuries after inhalation**: In fine dispersion/spraying/misting: Inhalation of airborne droplets or aerosols may cause irritation of the respiratory tract.
- **Symptoms/injuries after skin contact**: Frequent or prolonged contact with skin may cause dermal irritation.
- **Symptoms/injuries after eye contact**: Causes serious eye irritation.

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

No additional information available.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

Suitable extinguishing media: Use extinguishing media appropriate for surrounding fire.

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


#### 5.3. Advice for firefighters

- **Firefighting instructions**: Exercise caution when fighting any chemical fire.
- **Protective equipment for firefighters**: Do not enter fire area without proper protective equipment, including respiratory protection. Wear a self contained breathing apparatus.

### 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. If spilled, may cause the floor to be slippery.

##### 6.1.1. For non-emergency personnel

- **Protective equipment**: Use personal protective equipment as required. For further information refer to Section 8: "Exposure controls/personal protection".
- **Emergency procedures**: Stop leak if safe to do so. Evacuate unnecessary personnel.

##### 6.1.2. For emergency responders

- **Protective equipment**: Equip cleanup crew with proper protection.

#### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

#### 6.3. Methods and material for containment and cleaning up

- **Methods for cleaning up**: Comply with applicable local, national and international regulation. Spills may be picked up with a mop and followed by a water rinse. Residue may be washed down with water. Small spills may be flushed to a sanitary sewer with copious amounts of water, if in accordance with local, state or national legislation.
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: Product for industrial use only. Read label before use. Keep containers closed. Avoid all eye and skin contact and do not breathe vapour and mist. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

Hygiene measures: Take care for general good hygiene and housekeeping. Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities
Technical measures: Provide adequate ventilation. A washing facility/water for eye and skin cleaning purposes should be present.
Storage conditions: Keep only in the original container in a cool, well ventilated place. Keep container closed when not in use.

7.3. Specific end use(s)
No additional information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
No additional information available.

8.2. Exposure controls
Appropriate engineering controls: Provide local exhaust or general room ventilation. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.
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. Protective clothing. Gloves. Protective goggles.

Hand protection: Wear rubber gloves.
Eye protection: Wear chemical goggles or safety glasses.
Skin and body protection: Wear suitable protective clothing.
Respiratory protection: The need for respiratory protection is not anticipated under normal use conditions and with adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties
Physical state: Liquid
Appearance: Clear
Colour: Clear to light straw
Odour: Mild chemical odor
Odour threshold: No data available
pH: No data available
pH solution: 2.4 - 2.8 (1% solution)
Relative evaporation rate (butyl acetate=1): No data available
Melting point: No data available
Freezing point: No data available
Boiling point: No data available
Flash point: No data available
Auto-ignition temperature: No data available
Decomposition temperature: No data available
Cage-Klenz® 250
Acid-Based Cage Wash Detergent
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

<table>
<thead>
<tr>
<th>Flammability (solid, gas)</th>
<th>No data available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Density</td>
<td>1.14 g/ml Specific Gravity</td>
</tr>
<tr>
<td>Solubility</td>
<td>Water: Completely soluble</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Log Kow</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>No data available</td>
</tr>
</tbody>
</table>

9.2. Other information
No additional information available.

SECTION 10: Stability and reactivity

10.1. Reactivity
No additional information available.

10.2. Chemical stability
Stable under normal conditions of use.

10.3. Possibility of hazardous reactions
Hazardous polymerization will not occur.

10.4. Conditions to avoid
Will corrode copper, zinc, aluminum, or their alloys in high concentrations.

10.5. Incompatible materials

10.6. Hazardous decomposition products
Hazardous decomposition products may be released during prolonged heating like smokes, carbon monoxide and dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity : Not classified
Based on available data, the classification criteria are not met.

<table>
<thead>
<tr>
<th>Cage-Klenz® 250 – Acid-Based Cage Wash Detergent</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation : Causes skin irritation
pH: < 2.4

Serious eye damage/irritation : Causes serious eye irritation
pH: < 2.4

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.

Symptoms/injuries after inhalation : In fine dispersion/spraying/misting: Inhalation of airborne droplets or aerosols may cause irritation of the respiratory tract.

Symptoms/injuries after skin contact : Frequent or prolonged contact with skin may cause dermal irritation.

Symptoms/injuries after eye contact : Causes serious eye irritation.

SECTION 12: Ecological information

12.1. Toxicity

**Cage-Klenz® 250 – Acid-Based Cage Wash Detergent**

<table>
<thead>
<tr>
<th>Substance</th>
<th>LC50 fishes 1</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citric acid (77-92-9)</td>
<td>10% v/v solution: LC50 (fathead minnows) &gt; 750 mg/ml</td>
<td></td>
</tr>
<tr>
<td>LC50 fishes 1</td>
<td>1516 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])</td>
<td></td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability

**Cage-Klenz® 250 – Acid-Based Cage Wash Detergent**

Persistence and degradability: The surfactant(s) contained in this preparation comply with the biodegradability criteria as laid down in Regulation (EC) No. 648/2004 on detergents. Data to support this assertion are held at the disposal of the competent authorities of the Member States and will be made available to them, at their direct request or at the request of a detergent manufacturer.

12.3. Bioaccumulative potential

**Cage-Klenz® 250 – Acid-Based Cage Wash Detergent**

Bioaccumulative potential: Not established.

12.4. Mobility in soil

No additional information available.

12.5. Other adverse effects

Other information: Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations: Dispose in a safe manner in accordance with local/national regulations. Do not re-use empty containers. Small spills may be flushed to a sanitary sewer with copious amounts of water, if in accordance with local, state or national legislation. Waste must be disposed of in accordance with federal, state, and local environmental control regulations. Ensure all national/local regulations are observed.

Ecology - waste materials: Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT

Transport document description : UN3265 Corrosive liquid, acidic, organic, n.o.s. (Citric Acid Solution), 8, III
UN-No.(DOT) : 3265
DOT NA no. : UN3265
DOT Proper Shipping Name : Corrosive liquid, acidic, organic, n.o.s.
Department of Transportation (DOT) Hazard Classes : 8 - Class 8 - Corrosive material 49 CFR 173.136
### Cage-Klenz® 250

**Acid-Based Cage Wash Detergent**

**Safety Data Sheet**

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

<table>
<thead>
<tr>
<th>Hazard labels (DOT)</th>
<th>8 - Corrosive</th>
</tr>
</thead>
</table>

**DOT Symbols**

G - Identifies PSN requiring a technical name

**Packing group (DOT)**

III - Minor Danger

### Additional information

<table>
<thead>
<tr>
<th>Other information</th>
<th>No supplementary information available.</th>
</tr>
</thead>
</table>

**ADR**

<table>
<thead>
<tr>
<th>Transport document description</th>
<th>No additional information available.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Transport by sea</th>
<th>No additional information available.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Air transport</th>
<th>4x1 gal. package, not approved for air shipment.</th>
</tr>
</thead>
</table>

### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

**Citric acid (77-92-9)**

Listed on the United States TSCA (Toxic Substances Control Act) inventory

#### 15.2. International regulations

Not applicable.

#### 15.3. US State regulations

Not applicable.

### SECTION 16: Other information

**Revision Date**

10/24/2018

**Other information**

None

**Full text of H-phrases:**

<table>
<thead>
<tr>
<th>Eye Irrit. 2A</th>
<th>Serious eye damage/eye irritation, Category 2A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Met. Corr. 1</td>
<td>Corrosive to metals, Category 1</td>
</tr>
<tr>
<td>Skin Irrit. 2</td>
<td>Skin corrosion/irritation Category 2</td>
</tr>
<tr>
<td>H290</td>
<td>May be corrosive to metals</td>
</tr>
<tr>
<td>H315</td>
<td>Causes skin irritation</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation</td>
</tr>
</tbody>
</table>

**NFPA health hazard**

2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

**NFPA fire hazard**

0 - Materials that will not burn.

**NFPA reactivity**

0 - Normally stable, even under fire exposure conditions, and are not reactive with water.

SDS US (GHS HazCom 2012)

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.