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

1.1. Product identifier

Product form: Mixture
Trade name: CIP 220® Acid-Based Process and Research Cleaner
Product code: 1D22

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

Use of the substance/mixture: Acid-Based Process and Research Cleaner

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 classification
Acute Tox. 4 (Oral) H302
Skin Corr. 1B H314
Eye Dam. 1 H318

2.2. Label elements

GHS labelling
Hazard pictograms (GHS): [GHS05 GHS07]
Signal word (GHS): Danger
Hazard statements (GHS): H302 - Harmful if swallowed
H314 - Causes severe skin burns and eye damage
Precautionary statements (GHS): P260 - Do not breathe mist, spray, vapours
P280 - Wear protective gloves/protective clothing and eye/face protection
P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable
Full text of H-phrases: see section 16

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>Hydroxyacetic acid</td>
<td>(CAS No) 79-14-1</td>
<td>10</td>
<td>Acute Tox. 4 (Oral), H302</td>
</tr>
<tr>
<td></td>
<td>(REACH No) 01-2119485579-17-0012</td>
<td></td>
<td>Acute Tox. 4 (Inhalation:dust,mist), H332</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Skin Corr. 1B, H314</td>
</tr>
</tbody>
</table>
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
Immediately flush skin with plenty of water for at least 15 minutes. Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Get medical advice/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. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately get medical 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. Immediately get medical attention

First-aid measures after ingestion
Do NOT induce vomiting. If victim completely conscious/alert. Rinse mouth. Give water or milk if the person is fully conscious. Immediately call a POISON CENTER or doctor/physician

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

Symptoms/injuries
Symptoms may be delayed. Corrosive to eyes and skin. Causes severe skin burns and eye damage

Symptoms/injuries after inhalation
May be irritating to the mucous membranes and to the respiratory system

Symptoms/injuries after skin contact
Corrosive to eyes and skin. May cause severe burns

Symptoms/injuries after eye contact
Causes serious eye damage

Symptoms/injuries after ingestion
May cause burns or irritation of the linings of the mouth, throat, and 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

Suitable extinguishing media
Use extinguishing media appropriate for surrounding fire. Foam. Dry powder. Carbon dioxide. Sand

Unsuitable extinguishing media
Do not use a heavy water stream

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire

5.3. Advice for firefighters

Firefighting instructions
Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment

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

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 protective gloves and eye/face protection. 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

Emergency procedures
Ventilate area

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
Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Leftovers: neutralize with sodium bicarbonate. Neutralise with dry sodium carbonate. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Absorb spillage to prevent material damage. Collect spillage. Store away from other materials. Comply with applicable local, national and international regulation

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. Provide good ventilation in process area to prevent formation of vapour. 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. Wash hands thoroughly after handling. 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.


Storage area: Store in dry, cool, well-ventilated area.

Special rules on packaging: Correctly labelled.

7.3. Specific end use(s)

No additional information available.

SECTION 8: Exposure controls/personal protection

8.2. Exposure controls

Appropriate engineering controls: Ensure adequate 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 splash goggle.

Skin and body protection: Wear suitable protective clothing. Wear long sleeves. Boots.

Respiratory protection: Work in well-ventilated zones or use proper respiratory protection. Wear appropriate mask.

Other information: Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Liquid.

Appearance: Clear.

Colour: Colourless to slightly yellow.

Odour: Slight acidic odour.

Odour threshold: No data available.

pH: 2.6 – 3.1 (1% solution).

pH solution: 2.6 – 3.1 (1% solution).

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): No data available.

Vapour pressure: No data available.

Relative vapour density at 20 °C: No data available.

Relative density: No data available.
CIP 220® Acid-Based Process and Research Cleaner

Safety Data Sheet

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

Density: ca. 1.1 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
Oxidising 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 vapours

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
Extremely high or low temperatures

10.5. Incompatible materials
Strong alkalis. Strong oxidizers. Chlorine

10.6. Hazardous decomposition products
Carbon monoxide. Carbon dioxide

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity: Harmful if swallowed

<table>
<thead>
<tr>
<th>CIP 220® Acid-Based Process and Research Cleaner</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>&gt; 1000 mg/kg</td>
</tr>
</tbody>
</table>

**Hydroxyacetic acid (79-14-1)**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>1950 mg/kg</td>
</tr>
<tr>
<td>LC50 inhalation rat (mg/l)</td>
<td>7100 µg/m³ (Exposure time: 4 h)</td>
</tr>
<tr>
<td>ATE (oral)</td>
<td>1950,000 mg/kg bodyweight</td>
</tr>
<tr>
<td>ATE (dust,mist)</td>
<td>3,600 mg/l/4h</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation: Causes severe skin burns and eye damage
pH: 2.6 – 3.1 (1% Solution)

Serious eye damage/irritation: Causes serious eye damage.

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

**Hydroxyacetic acid (79-14-1)**

<table>
<thead>
<tr>
<th>National Toxicity Program (NTP) Status</th>
<th>1</th>
</tr>
</thead>
</table>

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

10/30/2018 EN (English) SDS Ref: ID22US 4/6
CIP 220® Acid-Based Process and Research Cleaner

Safety Data Sheet

according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

<table>
<thead>
<tr>
<th>Aspiration hazard</th>
<th>Not classified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Based on available data, the classification criteria are not met</td>
<td></td>
</tr>
<tr>
<td>Potential Adverse human health effects and symptoms</td>
<td>Harmful if swallowed</td>
</tr>
</tbody>
</table>

**SECTION 12: Ecological information**

**12.1. Toxicity**

**Hydroxyacetic acid (79-14-1)**

| LC50 fishes 1 | > 5000 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [Static]) |

**12.2. Persistence and degradability**

**CIP 220® Acid-Based Process and Research Cleaner**

| Persistence and degradability | The surfactant(s) contained in this preparation complies (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**

**CIP 220® Acid-Based Process and Research Cleaner**

| Bioaccumulative potential | Not established |

**Hydroxyacetic acid (79-14-1)**

| Log Pow | -1.11 (at 19 °C) |

**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 |
| Additional information | Unused product: Hazardous waste (corrosive) based on pH |
| Ecology - waste materials | Avoid release to the environment |

**SECTION 14: Transport information**

In accordance with DOT

**14.1. UN number**

No dangerous good in sense of transport regulations

**14.2. UN proper shipping name**

Not applicable

**14.3. Additional information**

| Other information | No supplementary information available |

**Overland transport**

No additional information available

**Transport by sea**

No additional information available

**Air transport**

No additional information available

**SECTION 15: Regulatory information**

**15.1. US Federal regulations**

| Hydroxyacetic acid (79-14-1) | Listed on the United States TSCA (Toxic Substances Control Act) inventory |

**15.2. US State regulations**

Not applicable

**SECTION 16: Other information**

| Revision Date | 10/30/2018 |
| Other information | None |
Full text of H-phrases:

| Acute Tox. 4 (Inhalation:dust,mist) | Acute toxicity (inhalation:dust,mist), Category 4 |
| Acute Tox. 4 (Oral) | Acute toxicity (oral), Category 4 |
| Eye Dam. 1 | Serious eye damage/eye irritation, Category 1 |
| Skin Corr. 1B | Skin corrosion/irritation, Category 1B |
| H302 | Harmful if swallowed |
| H314 | Causes severe skin burns and eye damage |
| H318 | Causes serious eye damage |
| H332 | Harmful if inhaled |

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: 1 - Must be preheated before ignition can occur.

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

SDS (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.