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

1.1. **Product identifier**
- **Product form**: Mixture
- **Product name**: H-Klenz® II Instrument Detergent
- **Product code**: 1208

1.2. **Relevant identified uses of the substance or mixture and uses advised against**
- **Use of the substance/mixture**: Instrument Detergent. For professional use only.

1.3. **Details of the supplier of the safety data sheet**
- **STERIS Corporation**
- **Official Mailing Address**: P.O. Box 147
  St. Louis, MO 63166 USA
- **Street Address**: 7501 Page Avenue
  St. Louis, MO 63133 USA
- **Telephone Number for Information**: 1-800-548-4873 (Customer Service-Healthcare Products)
- **web**: www.steris.com
- **email**: asksteris_msd@steris.com

1.4. **Emergency telephone number**
- **Emergency number**: 1-314-535-1395 or CHEMTREC: 1-800-424-9300

**SECTION 2: Hazards identification**

2.1. **Classification of the substance or mixture**
- **Classification (GHS-US)**
  - Skin Corr. 1B: H314
  - Eye Dam. 1: H318
  - STOT SE 3: H335

2.2. **Label elements**
- **GHS-US labeling**
  - **Hazard pictograms (GHS-US)**: 
    - GHS05
    - GHS07
  - **Signal word (GHS-US)**: Danger
  - **Hazard statements (GHS-US)**: 
    - H314 - Causes severe skin burns and eye damage
    - H318 - Causes serious eye damage
    - H335 - May cause respiratory irritation
  - **Precautionary statements (GHS-US)**: 
    - P260 - Do not breathe vapors, spray, mist.
    - P264 - Wash hands thoroughly after handling.
    - P280 - Wear protective gloves, protective clothing, eye protection.
    - P284 – In case of inadequate ventilation, wear respiratory protection.
    - P301+P330+P331 – IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
    - P303+P361+P333 – IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
    - P304+P340 - IF INHALED: Remove person to fresh air and keep at rest in a position 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**
- **Other hazards not contributing to the classification**: May be corrosive to respiratory tract.

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>Classification (GHS-US)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aminotri(methyleneephosphonic acid)</td>
<td>(CAS No) 6419-19-8</td>
<td>4 - 10</td>
<td>Met. Corr. 1, H290, Skin Irrit. 2, H315, Eye Irrit. 2A, H319</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 if possible).

First-aid measures after inhalation: If inhaled, remove to fresh air and keep at rest in a position comfortable for breathing. If you feel unwell, seek medical advice.

First-aid measures after skin contact: Remove contaminated clothing and shoes. Immediately flush skin with plenty of water for at least 60 minutes. Immediately call a POISON CENTER or doctor.

First-aid measures after eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for at least 60 minutes. Immediately call a POISON CENTER or doctor/physician.

First-aid measures after ingestion: Rinse mouth. 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: Corrosive to eyes, respiratory system and skin.

Symptoms/injuries after inhalation: May be corrosive to the respiratory tract.

Symptoms/injuries after skin contact: Causes skin 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

If medical advice is needed, have product container or label at hand.

SECTION 5: Firefighting measures

5.1. Extinguishing media

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

Unsuitable extinguishing media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. Special hazards arising from the substance or mixture

Fire hazard: Not flammable.

Explosion hazard: Product is not explosive.

Reactivity: Violent exothermic reaction with water (moisture): release of corrosive gases/vapours. Reacts exothermically with (some) acids.

5.3. Advice for firefighters

Precautionary measures fire: Exercise caution when fighting any chemical fire.

Firefighting instructions: Do not allow run-off from fire fighting to enter drains or water courses. Do not get water inside containers. Do not apply water stream directly at source of leak.

Protection during firefighting: 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 get in eyes, on skin, or on clothing. Do not breathe vapor, mist or spray. Do not allow contact with incompatible materials (see section 10).
6.1. For non-emergency personnel

**Protective equipment**: Use appropriate personal protection equipment (PPE).

**Emergency procedures**: Evacuate unnecessary personnel. Eliminate ignition sources.

6.1. For emergency responders

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

**Emergency procedures**: Evacuate unnecessary personnel. Eliminate ignition sources.

6.2. Environmental precautions

Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

**For containment**: Cautiously neutralize spilled liquid. Absorb and/or contain spill with inert material, then place in suitable container.

**Methods for cleaning up**: Clear up spills immediately and dispose of waste safely.

6.4. Reference to other sections

See heading 8, Exposure Controls and Personal Protection. Concerning disposal elimination after cleaning, see item 13.

### SECTION 7: Handling and storage

**7.1. Precautions for safe handling**

**Additional hazards when processed**: Corrosive vapors are released. May be corrosive to metals.

**Hygiene measures**: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work.

**7.2. Conditions for safe storage, including any incompatibilities**

**Storage conditions**: Store in a dry, cool and well-ventilated place. Keep container closed when not in use. Store away from incompatible materials. Storage areas should be periodically checked for corrosion and integrity.

**Incompatible products**: Strong acids, strong bases, strong oxidizers.

**7.3. Specific end use(s)**

Use of the substance/mixture: Instrument Detergent. For professional use only.

### SECTION 8: Exposure controls/personal protection

**8.1. Control parameters**

<table>
<thead>
<tr>
<th>Sodium metasilicate (6834-92-0)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA ACGIH</td>
</tr>
<tr>
<td>USA OSHA</td>
</tr>
<tr>
<td>USA NIOSH</td>
</tr>
<tr>
<td>USA NIOSH</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. Provide sufficient ventilation to keep vapors below permissible exposure limit. Ensure all national/local regulations are observed.


**Materials for protective clothing**: Chemically resistant materials and fabrics.

**Hand protection**: Wear chemically resistant protective gloves. Rubber gloves.

**Eye protection**: Chemical goggles.

**Skin and body protection**: Wear suitable protective clothing.

**Respiratory protection**: Use a NIOSH-approved respirator or self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.

**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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Pale Orange</td>
</tr>
<tr>
<td>Odor</td>
<td>Slight Amine</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>11.3 - 11.9</td>
</tr>
<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>No data available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapor density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.287g/ml (water = 1)</td>
</tr>
<tr>
<td>Solubility</td>
<td>Complete in water.</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>Oxidizing properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

9.2. Other information

No additional information available

**SECTION 10: Stability and reactivity**

10.1. Reactivity

Stable

10.2. Chemical stability

Stable under recommended handling and storage conditions (see section 7).

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 oxidizers

10.6. Hazardous decomposition products


**SECTION 11: Toxicological information**

11.1. Information on toxicological effects

Acute toxicity

<table>
<thead>
<tr>
<th>Substance</th>
<th>LD50 oral rat</th>
<th>LD50 dermal rat</th>
</tr>
</thead>
<tbody>
<tr>
<td>H-Klenz® II Instrument Detergent</td>
<td>2000 - 5000</td>
<td>2000 - 5000</td>
</tr>
<tr>
<td>Aminotri(methylene phosphonic acid) (6419-19-8)</td>
<td>2100 mg/kg</td>
<td></td>
</tr>
</tbody>
</table>

Acute toxicity: Not classified
### SECTION 12: Ecological information

**12.1. Toxicity**

<table>
<thead>
<tr>
<th>Substance</th>
<th>LC50 fish 1</th>
<th>EC50 Daphnia 1</th>
<th>LC50 fish 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aminotri(methylene phosphonic acid) (6419-19-8)</td>
<td>8132 mg/l (Exposure time: 96 h - Species: Pimephales promelas)</td>
<td>297 mg/l (Exposure time: 48 h - Species: Daphnia magna)</td>
<td>330 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])</td>
</tr>
<tr>
<td>Sodium metasilicate (6834-92-0)</td>
<td>210 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [semi-static])</td>
<td>210 mg/l (Exposure time: 96 h - Species: Brachydanio rerio)</td>
<td></td>
</tr>
</tbody>
</table>

**12.2. Persistence and degradability**

No additional information available

**12.3. Bioaccumulative potential**

<table>
<thead>
<tr>
<th>Substance</th>
<th>BCF fish 1</th>
<th>Log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aminotri(methylene phosphonic acid) (6419-19-8)</td>
<td>18 - 24</td>
<td>-3.53 (at 25 °C)</td>
</tr>
</tbody>
</table>

**12.4. Mobility in soil**

No additional information available

**12.5. Other adverse effects**

- Effect on ozone layer: No additional information available
- Effect on the global warming: No known ecological damage caused by this product.
- Other information: Avoid release to the environment.

### SECTION 13: Disposal considerations

**13.1. Waste treatment methods**

Disposal of waste material in accordance with all local, regional, national, and international regulations.

**Additional information**

RCRA Waste Code: D002 (Corrosive Material).

### SECTION 14: Transport information

In accordance with DOT

Transport document description: UN 3266, Corrosive Liquid, Basic, Inorganic, N.O.S. (sodium metasilicate) 8, PGIII
H-Klenz® II
Instrument Detergent
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

DOT NA no. : UN 3266
DOT Proper Shipping Name : Compounds, cleaning liquid
(Contains Aminotri(methyleneephosphonic acid) and Sodium metasilicate)
Department of Transportation (DOT) Hazard Classes : 8 - Class 8 - Corrosive material 49 CFR 173.136
Hazard labels (DOT) : 8 - Corrosive

DOT Symbols : D - Proper shipping name for domestic use only,G - Identifies PSN requiring a technical name
Packing group (DOT) : III - Danger

Additional information

Transport by sea
UN-No. (IMDG) : 3266
Proper Shipping Name (IMDG) : Corrosive Liquid, Basic, Inorganic, N.O.S. (sodium metasilicate)
Class (IMDG) : 8 - Corrosive substances
Packing group (IMDG) : III- Danger

Air transport
UN-No.(IATA) : 3266
Proper Shipping Name (IATA) : Corrosive Liquid, Basic, Inorganic, N.O.S. (sodium metasilicate)
Class (IATA) : 8 - Corrosives
Packing group (IATA) : III - Danger

SECTION 15: Regulatory information

15.1. US Federal regulations
H-Klenz® II Instrument Detergent
SARA Section 311/312 Hazard Classes : Immediate (acute) health hazard

15.2. International regulations
No additional information available

15.3. US State regulations
Not applicable

SECTION 16: Other information

Revision Date : 10/30/2015
Other information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

Full text of H-phrases: see section 16:

<table>
<thead>
<tr>
<th>Acute Tox. 4 (Oral)</th>
<th>Acute toxicity (oral) Category 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye Dam. 1</td>
<td>Serious eye damage/eye irritation Category 1</td>
</tr>
<tr>
<td>Eye Irrit. 2A</td>
<td>Serious eye damage/eye irritation Category 2A</td>
</tr>
<tr>
<td>Met. Corr. 1</td>
<td>Corrosive to metals Category 1</td>
</tr>
<tr>
<td>Skin Corr. 1B</td>
<td>Skin corrosion/irritation Category 1B</td>
</tr>
<tr>
<td>Skin Irrit. 2</td>
<td>Skin corrosion/irritation Category 2</td>
</tr>
<tr>
<td>STOT SE 3</td>
<td>Specific target organ toxicity (single exposure) Category 3</td>
</tr>
<tr>
<td>H314</td>
<td>Causes severe skin burns and eye damage</td>
</tr>
<tr>
<td>H318</td>
<td>Causes serious eye damage</td>
</tr>
<tr>
<td>H335</td>
<td>May cause respiratory 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.

10/30/2015 EN (English US) SDS Ref: 1208US
NFPA Reactivity: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.

SDS US (GHS HazCom 2012)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.