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

1.1. Product identifier
Product form : Mixture
Trade name : Cage-Klenz® 100
Product code : 1K10
Product group : Trade product

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

1.2.1. Relevant identified uses
Industrial/Professional use spec : Product for industrial use only
Use of the substance/mixture : Alkaline Cage Wash Detergent

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 (CHEMTREC)

Supplier:
STERIS Ireland Limited
IDA Business and Technology Park
Tullamore
County Offaly
R35 X865
Ireland.
Product/Technical Information Phone No: +44 (0) 116 276 8636
Email: asksteris_msds@steris.com

1.4. Emergency telephone number
Emergency number : +44 (0) 1895 622 639

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
Classification according to Regulation (EC) No. 1272/2008 [CLP]
Acute Tox. 4 (Oral) : H302
Skin Corr. 1A : H314
Eye Dam. 1 : H318

Full text of H-phrases: see section 16.

Adverse physicochemical, human health and environmental effects
No additional information available.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]
Hazard pictograms (CLP) : GHS05 GHS07

Signal word (CLP) : Danger
Hazardous ingredients : Potassium hydroxide
Hazard statements (CLP) : H302 - Harmful if swallowed
H314 - Causes severe skin burns and eye damage
Precautionary statements (CLP) : P260 - Do not breathe mist, spray, vapours
P261 - Avoid breathing mist, spray, vapours
P264 - Wash hands thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P271 - Use only outdoors or in a well-ventilated area
P280 - Wear protective gloves/protective clothing and eye/face protection
P301+P312 - If swallowed, call a doctor if you feel unwell
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 victim 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.
P363 - Wash contaminated clothing before reuse
P501 - Dispose of contents/container to comply with applicable local, national and international regulation.

2.3. Other hazards
No additional information 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>
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<td>Tetrasodium EDTA</td>
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<td>Acute Tox. 4 (Oral), H302</td>
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<tr>
<td></td>
<td>(EC no) 200-573-9</td>
<td></td>
<td>Eye Dam. 1, H318</td>
</tr>
<tr>
<td></td>
<td>(EC index no) 607-428-00-2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Potassium hydroxide</td>
<td>(CAS No) 1310-58-3</td>
<td>1 - 5</td>
<td>Acute Tox. 4 (Oral), H302</td>
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<td></td>
<td>(EC no) 215-181-3</td>
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<td>Skin Corr. 1A, H314</td>
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<td></td>
<td>(EC index no) 019-002-00-8</td>
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<td></td>
</tr>
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<td>Sodium hydroxide</td>
<td>(CAS No) 1310-73-2</td>
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<td>substance with national</td>
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<td>workplace exposure limit(s)</td>
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<td>LV, PL, PT, SE, SK, SL)</td>
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<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 to fresh air and keep at rest in a position comfortable for breathing. Immediately get medical attention. If not breathing, give artificial respiration.

First-aid measures after skin contact: Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. 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. 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 ingestion: 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: Causes severe skin burns and eye damage.

Symptoms/injuries after skin contact: Severe skin irritant. 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.

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

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 the 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. Stop leak if safe to do so. 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.

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

For containment:
Contain leaking substance, pump over in suitable containers.

Methods for cleaning up:
Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Neutralise spill carefully with any weak acid and flush remainder with plenty of water. Collect spillage. Store away from other materials. Local authorities should be advised if significant spillages cannot be contained.

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. Provide good ventilation in process area to prevent formation of vapour. Do not breathe gas, fumes, vapour or spray. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Never return unused material to original container.

Hygiene measures:
Wash hands thoroughly after handling. Take care for general good hygiene and housekeeping. Do not eat, drink or smoke when using this product. Wash contaminated clothing prior to re-use. Separate working clothes from town clothes. Launder separately.

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.

Incompatible materials:

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

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

8.1. Control parameters

<table>
<thead>
<tr>
<th>Potassium hydroxide (1310-58-3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Italy - USA ACGIH</td>
</tr>
<tr>
<td>USA NIOSH</td>
</tr>
</tbody>
</table>

01/16/2018 EN (English) SDS Ref: 1K10UK 3/7
Potassium hydroxide (1310-58-3)

| United Kingdom | WEL STEL (mg/m³) | 2 mg/m³ |

Sodium hydroxide (1310-73-2)

| Italy - USA ACGIH | ACGIH Ceiling (mg/m³) | 2 mg/m³ |
| USA IDLH | US IDLH (mg/m³) | 10 mg/m³ |
| USA NIOSH | NIOSH REL (ceiling) (mg/m³) | 2 mg/m³ |
| USA OSHA | OSHA PEL (TWA) (mg/m³) | 2 mg/m³ |
| United Kingdom | WEL STEL (mg/m³) | 2 mg/m³ |

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. Local exhaust ventilation is recommended to maintain vapor level below the threshold limit value (TLV). 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.

Hand protection: Wear protective gloves, rubber or plastic gloves.

Eye protection: 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 appropriate mask.

Environmental exposure controls: Avoid discharge to the environment.

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 light yellow
Odour: Mild odor
Odour threshold: No data available
pH: 11 - 12
pH solution: 1 %
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
Density: 1,15 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
No additional information available.

10.2. Chemical stability
Stable under normal conditions of use.

10.3. Possibility of hazardous reactions
Hazardous polymerisation does not occur.

10.4. Conditions to avoid
Incompatible materials. Keep away from heat. Direct sunlight.

10.5. Incompatible materials

10.6. Hazardous decomposition products
Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity: Harmful if swallowed.

Cage-Klenz® 100
ATE (oral) 100,000 mg/kg bodyweight

Potassium hydroxide (1310-58-3)
LD50 oral rat 214 mg/kg
ATE (oral) 500,000 mg/kg bodyweight

Sodium hydroxide (1310-73-2)
LD50 dermal rabbit 1350 mg/kg
ATE (dermal) 1350,000 mg/kg bodyweight

Tetrasodium EDTA (64-02-8)
ATE (oral) 500,000 mg/kg bodyweight

Skin corrosion/irritation: Causes severe skin burns and eye damage
pH: 11 - 12

Serious eye damage/irritation: Causes serious eye damage.
Causes severe skin burns and eye damage
pH: 11 - 12

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: Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1. Toxicity
Potassium hydroxide (1310-58-3)
LC50 fishes 1 80 mg/l (Exposure time: 96 h - Species: Gambusia affinis [Static])

Sodium hydroxide (1310-73-2)
LC50 fishes 1 45.4 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [Static])

Tetrasodium EDTA (64-02-8)
LC50 fishes 1 41 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [Static])
EC50 Daphnia 1 610 mg/l (Exposure time: 24 h - Species: Daphnia magna)
EC50 other aquatic organisms 1 1.01 mg/l (Exposure time: 72 h - Species: Desmodesmus subspicatus)
LC50 fish 2 59.8 mg/l (Exposure time: 96 h - Species: Pimephales promelas [Static])

12.2. Persistence and degradability
Cage-Klenz® 100
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
Cage-Klenz® 100
Bioaccumulative potential Not established

Potassium hydroxide (1310-58-3)
Log Pow 0.65

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.

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 Dispose of empty containers and wastes safely. Hazardous waste (corrosive) based on pH.
Ecology - waste materials Avoid release to the environment.

SECTION 14: Transport information
In accordance with ADR / RID / IMDG / IATA / ADN
14.1. UN number
UN-No : 1814
UN-No.(IATA) : 1814
UN-No. (IMDG) : 1814

14.2. UN proper shipping name
Proper Shipping Name POTASSIUM HYDROXIDE SOLUTION
Transport document description UN 1814 POTASSIUM HYDROXIDE SOLUTION, 8, II

14.3. Transport hazard class(es)
Class (UN) : 8
Class (IATA) : 8
Class (IMDG) : 8
Hazard labels (UN) : 8

14.4. Packing group
Packing group (UN) : II
14.5. Environmental hazards
Other information : No supplementary information available.

14.6. Special precautions for user
Special transport precautions : 4 x 1 gal package not approved for air shipment. Road/Rail: ADR/RID Class: UN1814, Potassium Hydroxide Solution, 8, 42(b) ADR

14.6.1. Overland transport
Hazard identification number (Keveler No.) : 80
Classification code (UN) : C5
Orange plates : 80

Transport category (ADR) : 2
Tunnel restriction code : E
Limited quantities (ADR) : 1L
Excepted quantities (ADR) : E2
EAC code : 2R

14.6.2. Transport by sea
No additional information available.

14.6.3. Air transport
No additional information available.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable.

SECTION 15: Regulatory information
15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
15.1.1. EU-Regulations
No REACH Annex XVII restrictions
Contains no REACH candidate substance

15.1.2. National regulations
No additional information available.

15.2. Chemical safety assessment
No chemical safety assessment has been carried out.

SECTION 16: Other information
Revision date : 01/16/2018
Sources of Key data

Other information : None

Full text of H- and EUH-phrases:

<table>
<thead>
<tr>
<th>Phrase</th>
<th>Description</th>
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<tbody>
<tr>
<td>Acute Tox. 4 (Dermal)</td>
<td>Acute toxicity (dermal), Category 4</td>
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<tr>
<td>Acute Tox. 4 (Oral)</td>
<td>Acute toxicity (oral), Category 4</td>
</tr>
<tr>
<td>Eye Dam. 1</td>
<td>Serious eye damage/eye irritation, Category 1</td>
</tr>
<tr>
<td>Skin Corr. 1A</td>
<td>Skin corrosion/irritation, Category 1A</td>
</tr>
<tr>
<td>H302</td>
<td>Harmful if swallowed</td>
</tr>
<tr>
<td>H312</td>
<td>Harmful in contact with skin</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>
</tbody>
</table>

SDS EU (REACH Annex II)
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.