SECTION 1: Identification

1.1. Product Identifier

Product Form: Mixture
Product Name: Valsure® Alkaline Detergent
Product Code: 1C50

1.2. Intended Use of the Product

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

1.3. Name, Address, and Telephone of the Responsible Party

Company
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
e-mail: asksteris_msds@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. 1A H314
Eye Dam. 1 H318

2.2. Label Elements

GHS-US Labeling
Hazard Pictograms (GHS-US):

Signal Word (GHS-US) : Danger
Hazard Statements (GHS-US) : H314 - Causes severe skin burns and eye damage.
H318 - Causes serious eye damage.
Precautionary Statements (GHS-US) : P260 - Do not breathe vapors, mist, spray.
P264 - Wash exposed areas thoroughly after handling.
P280 - Wear protective clothing, protective gloves, face protection, eye protection.
P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 - 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.
P310 - Immediately call POISON CENTER/doctor.
P501 - Dispose of contents/container according to local, regional, national, territorial, provincial, and international regulations.

2.3. Other Hazards

Other Hazards: Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions.

2.4. Unknown Acute Toxicity (GHS-US)

No data available

SECTION 3: Composition/information On Ingredients

3.1. Substance

Not applicable
Valsure® Alkaline Detergent
Safety Data Sheet
According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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>Tetrasodium EDTA</td>
<td>(CAS No) 64-02-8 (REACH No) 01-2119486762-27-0018</td>
<td>1-5</td>
<td>Comb. Dust</td>
</tr>
<tr>
<td>Sodium hydroxide</td>
<td>(CAS No) 1310-73-2 (REACH No) 01-2119457892-27-0229</td>
<td>1-5</td>
<td>Acute Tox. 4 (Oral), H302</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Dam. 1, H318</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Aquatic Acute 2, H401</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Met. Corr. 1, H290</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Acute Tox. 4 (Dermal), H312</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Skin Corr. 1A, H314</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Dam. 1, H318</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Aquatic Acute 3, H402</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.
First-aid Measures After Inhalation: When symptoms occur: go into open air and ventilate suspected area. Remove to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.
First-aid Measures After Skin Contact: Immediately flush skin with plenty of water for at least 60 minutes. Get immediate medical advice/attention. Wash contaminated clothing before reuse.
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, bothacute and delayed
Symptoms/Injuries: Causes severe skin burns and eye damage.
Symptoms/Injuries After Inhalation: Contact may cause immediate severe irritation progressing quickly to chemical burns.
Symptoms/Injuries After Skin Contact: Causes severe irritation which will progress to chemical 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.
Chronic Symptoms: None known.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed
If you feel unwell, seek medical advice (show the label where possible).

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing Media
Suitable Extinguishing Media: Use extinguishing media appropriate for surrounding fire.
Unsuitable Extinguishing Media: A heavy water stream may spread burning liquid.

5.2. Special Hazards Arising From the Substance or Mixture
Fire Hazard: Not flammable.
Explosion Hazard: Product is not explosive.
Reactivity: Hazardous reactions will not occur under normal conditions.

5.3. Advice for Firefighters
Firefighting Instructions: Exercise caution when fighting any chemical fire.
Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe.

SECTION 6: Accidental Release Measures

6.1. Personal Precautions, Protective Equipment and Emergency Procedures
General Measures: Do not breathe vapor, mist or spray. Do not get in eyes, on skin, or on clothing. Do not allow product to spread into the environment.

6.1.1. For Non-emergency Personnel
Protective Equipment: Use appropriate personal protection equipment (PPE).

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. Avoid release to the environment.

6.3. Methods and Material for Containment and Cleaning Up
For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Do not allow into drains or water courses or dispose of where ground or surface waters may be affected.
Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Absorb and/or contain spill with inert material, then place in suitable container. After cleaning, flush traces away with water.

6.4. Reference to Other Sections
See Section 8: Exposure Controls and Personal Protection.
SECTION 7: Handling And Storage

7.1. Precautions for Safe Handling

Additional Hazards When Processed: May be corrosive to metals.

Precautions for Safe Handling: Avoid all eye and skin contact and do not breathe vapor and mist. Wear recommended personal protective equipment.

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. Storage areas should be periodically checked for corrosion and integrity.


7.3. Specific End Use(s)

Alkaline Detergent. For professional use only.

SECTION 8: Exposure Controls/personal Protection

8.1. Control Parameters

<table>
<thead>
<tr>
<th>Sodium hydroxide (1310-73-2)</th>
<th>ACGIH Ceiling (mg/m³)</th>
<th>2 mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA ACGIH</td>
<td>ACGIH Ceiling (mg/m³)</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>USA OSHA</td>
<td>OSHA PEL (TWA) (mg/m³)</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>USA NIOSH</td>
<td>NIOSH REL (ceiling) (mg/m³)</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>USA IDLH</td>
<td>US IDLH (mg/m³)</td>
<td>10 mg/m³</td>
</tr>
<tr>
<td>Alberta</td>
<td>OEL Ceiling (mg/m³)</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>British Columbia</td>
<td>OEL Ceiling (mg/m³)</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>Manitoba</td>
<td>OEL Ceiling (mg/m³)</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>New Brunswick</td>
<td>OEL Ceiling (mg/m³)</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>Newfoundland &amp; Labrador</td>
<td>OEL Ceiling (mg/m³)</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>Nova Scotia</td>
<td>OEL Ceiling (mg/m³)</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>Nunavut</td>
<td>OEL Ceiling (mg/m³)</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>Northwest Territories</td>
<td>OEL Ceiling (mg/m³)</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>Ontario</td>
<td>OEL Ceiling (mg/m³)</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>Prince Edward Island</td>
<td>OEL Ceiling (mg/m³)</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>Quebec</td>
<td>PLAFOND (mg/m³)</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>Saskatchewan</td>
<td>OEL Ceiling (mg/m³)</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>Yukon</td>
<td>OEL Ceiling (mg/m³)</td>
<td>2 mg/m³</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 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. Wear protective clothing.

Hand Protection: Wear rubber or neoprene gloves.

Eye Protection: Wear chemical splash goggles or safety glasses.

Skin and Body Protection: Wear suitable protective clothing, rubber apron, boots, and face shield if necessary.

Respiratory Protection: In case of insufficient ventilation, wear suitable respiratory equipment.

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

<table>
<thead>
<tr>
<th>Physical State</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Clear, water white to light straw homogeneous liquid</td>
</tr>
<tr>
<td>Odor</td>
<td>None</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>13.1 (Neat), 11.2 - 12.2 (1% Solution)</td>
</tr>
<tr>
<td>Evaporation rate</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>1.0765 - 1.0865</td>
</tr>
</tbody>
</table>
Solubility: Complete in water
Partition coefficient: n-octanol/water: No data available
Viscosity: No data available

10.1 Reactivity:
Hazardous reactions will not occur under normal conditions.

10.2 Chemical Stability:
The product is stable at normal handling and storage conditions.

10.3 Possibility of Hazardous Reactions:
Hazardous polymerization will not occur.

10.4 Conditions to Avoid:
Direct sunlight, extremely high or low temperatures, open flames, sources of ignition and incompatible materials.

10.5 Incompatible Materials:
Strong acids. Strong oxidizers.

10.6 Hazardous Decomposition Products:
Thermal decomposition generates: Corrosive vapors.

11.1 Information on Toxicological Effects
Acute Toxicity: Not classified

<table>
<thead>
<tr>
<th>Compound</th>
<th>LD50 Dermal Rabbit</th>
<th>LD50 Oral Rat</th>
<th>ATE (Dust/Mist)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hydroxide</td>
<td>1350 mg/kg</td>
<td>1780 mg/kg</td>
<td>1.50 mg/L/4h</td>
</tr>
<tr>
<td>Tetrasodium EDTA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skin Corrosion/Irritation</td>
<td>Causes severe skin burns and eye damage. [pH: 13.1 (Neat), 11.2 - 12.2 (1% Solution)]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serious Eye Damage/Irritation</td>
<td>Causes serious eye damage. [pH: 13.1 (Neat), 11.2 - 12.2 (1% Solution)]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Respiratory or Skin Sensitization</td>
<td>Not classified</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Germ Cell Mutagenicity</td>
<td>Not classified</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teratogenicity</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reproductive Toxicity</td>
<td>Not classified</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific Target Organ Toxicity</td>
<td>Not classified</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific Target Organ Toxicity (Repeated Exposure)</td>
<td>Not classified</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aspiration Hazard</td>
<td>Not classified</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Symptoms/Injuries After Inhalation</td>
<td>Contact may cause immediate severe irritation progressing quickly to chemical burns.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Symptoms/Injuries After Skin Contact</td>
<td>Causes severe irritation which will progress to chemical burns.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Symptoms/Injuries After Eye Contact</td>
<td>Causes serious eye damage.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Symptoms/Injuries After Ingestion</td>
<td>May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chronic Symptoms</td>
<td>None known</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12.1. Toxicity
Ecology - General: Harmful to aquatic life.

<table>
<thead>
<tr>
<th>Compound</th>
<th>LC50/Fish 1</th>
<th>EC50/Daphnia 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hydroxide</td>
<td>45.4 mg/L (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])</td>
<td></td>
</tr>
<tr>
<td>EC50 Daphnia 1</td>
<td>40 mg/L</td>
<td></td>
</tr>
<tr>
<td>Tetrasodium EDTA</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LC50 Fish 1</td>
<td>41 mg/L (Exposure time: 96 h - Species: Lepomis macrochirus [static])</td>
<td></td>
</tr>
<tr>
<td>LC 50 Fish 2</td>
<td>59.8 mg/L (Exposure time: 96 h - Species: Pimephales promelas [static])</td>
<td></td>
</tr>
<tr>
<td>ErC50 (algae)</td>
<td>2.77 mg/L (72hr species: Desmodesmus subspicatus)</td>
<td></td>
</tr>
</tbody>
</table>

12.2. Persistence and Degradability
Valsure® Alkaline Detergent
Persistence and Degradability: The surfactant(s) contained in this preparation complies(comply) with the biodegradability criteria as laid down in Regulation (EC) No. 549/2004 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
Valsure® Alkaline Detergent
Bioaccumulative Potential: Not established.

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Log Pow | 5.01 (calculated)

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: Product may be flushed to a sanitary sewer with copious amounts of water, if in accordance with local, state, or national legislation. Dispose in a safe manner in accordance with local/national regulations. Do not allow to enter into surface water or drains. Ensure all national/local regulations are observed.

SECTION 14: Transport Information

14.1 In Accordance with DOT
Not regulated for transport

14.2 In Accordance with IMDG
Not regulated for transport

14.3 In Accordance with IATA
Not regulated for transport

14.4 In Accordance with TDG
Not regulated for transport

SECTION 15: Regulatory Information

15.1 US Federal Regulations
Valsure® Alkaline Detergent
SARA Section 311/312 Hazard Classes | Immediate (acute) health hazard

Sodium hydroxide (1310-73-2)
Listed on the United States TSCA (Toxic Substances Control Act) inventory
Tetrasodium EDTA (64-02-8)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2 US State Regulations
Sodium hydroxide (1310-73-2)
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List

15.3 Canadian Regulations
Sodium hydroxide (1310-73-2)
Listed on the Canadian DSL (Domestic Substances List)
Listed on the Canadian IDL (Ingredient Disclosure List)
Tetrasodium EDTA (64-02-8)
Listed on the Canadian DSL (Domestic Substances List)
This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all of the information required by HPR.

SECTION 16: Other Information, Including Date Of Preparation Or Last Revision

Revision Date: 10/11/2018
Other Information: This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:
- Acute Tox. 4 (Dermal)
- Acute Tox. 4 (inhalation:dust,mist)
- Acute Tox. 4 (Oral)
- Acute toxicity (dermal) Category 4
- Acute toxicity (inhalation:dust,mist) Category 4
- Acute toxicity (oral) Category 4
- Aquatic Acute 2
- Hazardous to the aquatic environment - Acute Hazard Category 2
- Aquatic Acute 3
- Hazardous to the aquatic environment - Acute Hazard Category 3
- Eye Dam. 1
- Serious eye damage/eye irritation Category 1
- Met. Corr. 1
- Corrosive to metals Category 1
- Skin Corr. 1A
- Skin corrosion/irritation Category 1A
- H290
- May be corrosive to metals
- H302
- Harmful if swallowed
- H312
- Harmful in contact with skin
- H314
- Causes severe skin burns and eye damage
- H318
- Causes serious eye damage
- H332
- Harmful if inhaled
- H401
- Toxic to aquatic life
Valsure® Alkaline Detergent
Safety Data Sheet
According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

<table>
<thead>
<tr>
<th>H402</th>
<th>Harmful to aquatic life</th>
</tr>
</thead>
</table>

NFPA health hazard: 1 - Exposure could cause irritation but only minor residual injury even if no treatment 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.

Party Responsible for the Preparation of This Document
STERIS Corporation

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.

SDS NA, Mex GHS