# SAFETY DATA SHEET

## ECOTEMP ULTRA KLENE PLUS

### Section: 1. PRODUCT AND COMPANY IDENTIFICATION

<table>
<thead>
<tr>
<th>Product name</th>
<th>ECOTEMP ULTRA KLENE PLUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other means of identification</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Recommended use</td>
<td>Machine Warewashing Detergent</td>
</tr>
<tr>
<td>Restrictions on use</td>
<td>Reserved for industrial and professional use.</td>
</tr>
<tr>
<td>Product dilution information</td>
<td>0.0% - 0.109%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Company</th>
<th>Ecolab Co. 5105 Tomken Road Mississauga, Ontario Canada L4W 2X5 1-800-352-5326</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency health information</td>
<td>1-800-328-0026 (US/Canada), 1-651-222-5352 (outside US)</td>
</tr>
<tr>
<td>Issuing date</td>
<td>01/27/2016</td>
</tr>
</tbody>
</table>

### Section: 2. HAZARDS IDENTIFICATION

#### GHS Classification

<table>
<thead>
<tr>
<th>Product AS SOLD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin corrosion</td>
</tr>
<tr>
<td>Serious eye damage</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Product AT USE DILUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin corrosion</td>
</tr>
<tr>
<td>Serious eye damage</td>
</tr>
</tbody>
</table>

#### GHS Label element

<table>
<thead>
<tr>
<th>Product AS SOLD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard pictograms</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Signal Word</th>
<th>Danger</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard Statements</td>
<td>Causes severe skin burns and eye damage.</td>
</tr>
<tr>
<td>Precautionary Statements</td>
<td><strong>Prevention:</strong> Wash skin thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. <strong>Response:</strong> IF SWALLOWED: rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician. Wash contaminated clothing before reuse.</td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET
ECOTEMP ULTRA KLENE PLUS

Storage:
Store locked up.

Disposal:
Dispose of contents/ container to an approved waste disposal plant.

Product AT USE DILUTION
Hazard pictograms:

Signal Word:
Danger

Hazard Statements:
Causes severe skin burns and eye damage.

Precautionary Statements:
Prevention:
Wash skin thoroughly after handling. Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:
IF SWALLOWED: rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician. Wash contaminated clothing before reuse.

Storage:
Store locked up.

Disposal:
Dispose of contents/ container to an approved waste disposal plant.

Product AS SOLD
Other hazards:
None known.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Product AS SOLD
Pure substance/mixture:
Mixture

Chemical Name
sodium hydroxide

CAS-No.
1310-73-2

Concentration: (%)
10 - 30

Product AT USE DILUTION
No hazardous ingredients

Section: 4. FIRST AID MEASURES

Product AS SOLD
In case of eye contact:
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

In case of skin contact:
Wash off immediately with plenty of water for at least 15 minutes. Use a mild soap if available. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.
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If swallowed: Rinse mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.

If inhaled: Remove to fresh air. Treat symptomatically. Get medical attention if symptoms occur.

Protection of first-aiders: If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Notes to physician: Treat symptomatically.

Most important symptoms and effects, both acute and delayed: See Section 11 for more detailed information on health effects and symptoms.

Product AT USE DILUTION

In case of eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

In case of skin contact: Wash off immediately with plenty of water for at least 15 minutes. Use a mild soap if available. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

If swallowed: Rinse mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.

If inhaled: Remove to fresh air. Treat symptomatically. Get medical attention if symptoms occur.

Section: 5. FIREFIGHTING MEASURES

Product AS SOLD

Suitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media: None known.

Specific hazards during firefighting: Not flammable or combustible.

Hazardous combustion products: Decomposition products may include the following materials:
- Carbon oxides
- Nitrogen oxides (NOx)
- Sulfur oxides
- Oxides of phosphorus

Special protective equipment for firefighters: Use personal protective equipment.

Specific extinguishing methods: Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. In the event of fire and/or explosion do not breathe fumes.

Risk of explosion: Not available.
Section: 6. ACCIDENTAL RELEASE MEASURES

**Product AS SOLD**

**Personal precautions, protective equipment and emergency procedures**: Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid inhalation, ingestion and contact with skin and eyes. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Ensure clean-up is conducted by trained personnel only. Refer to protective measures listed in sections 7 and 8.

**Environmental precautions**: Do not allow contact with soil, surface or ground water.

**Methods and materials for containment and cleaning up**: Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway.

**Product AT USE DILUTION**

**Personal precautions, protective equipment and emergency procedures**: Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid inhalation, ingestion and contact with skin and eyes. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Ensure clean-up is conducted by trained personnel only. Refer to protective measures listed in sections 7 and 8.

**Environmental precautions**: Do not allow contact with soil, surface or ground water.

**Methods and materials for containment and cleaning up**: Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway.

Section: 7. HANDLING AND STORAGE

**Product AS SOLD**

**Advice on safe handling**: Do not ingest. Do not get in eyes, on skin, or on clothing. Do not breathe dust/fume/gas/mist/vapours/spray. Use only with adequate ventilation. Wash hands thoroughly after handling. SAFETY REMINDER:

* Never pour product into unlabeled containers
* Use only for recommended uses. Read label.
* Never take product home. Use only in workplace.

**Conditions for safe storage**: Do not store near acids. Keep out of reach of children. Store in suitable labeled containers.

**Storage temperature**: 0 °C to 50 °C

**Product AT USE DILUTION**

**Advice on safe handling**: Do not ingest. Do not get in eyes, on skin, or on clothing. Do not breathe dust/fume/gas/mist/vapours/spray. Use only with adequate ventilation. Wash hands thoroughly after handling.
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Conditions for safe storage: Keep out of reach of children. Store in suitable labeled containers.

Section: 8. EXPOSURE CONTROLS/PERSOAL PROTECTION

Product AS SOLD
Components with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Form of exposure</th>
<th>Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>sodium hydroxide</td>
<td>1310-73-2</td>
<td>(c)</td>
<td>2 mg/m³</td>
<td>CAD AB OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C</td>
<td>2 mg/m³</td>
<td>CAD BC OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ceiling</td>
<td>2 mg/m³</td>
<td>OEL (QUE)</td>
</tr>
<tr>
<td>sodium hydroxide</td>
<td>1310-73-2</td>
<td>Ceiling</td>
<td>2 mg/m³</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>2 mg/m³</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>2 mg/m³</td>
<td>OSHA Z1</td>
</tr>
</tbody>
</table>

Engineering measures: Effective exhaust ventilation system. Maintain air concentrations below occupational exposure standards.

Personal protective equipment

Eye protection: Wear eye protection/face protection.

Hand protection: Wear the following personal protective equipment:
Standard glove type.
Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Skin protection: Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing

Respiratory protection: When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hygiene measures: Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling. Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard.

Product AT USE DILUTION
Engineering measures: Effective exhaust ventilation system. Maintain air concentrations below occupational exposure standards.

Personal protective equipment

Eye protection: Wear eye protection/face protection.

Hand protection: Wear the following personal protective equipment:
Standard glove type.
Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Skin protection: Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing

Respiratory protection: When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
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**ECOTEMP ULTRA KLENE PLUS**

### Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Product AS SOLD</th>
<th>Product AT USE DILUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance</strong></td>
<td>liquid</td>
</tr>
<tr>
<td><strong>Colour</strong></td>
<td>fluorescent, dark red</td>
</tr>
<tr>
<td><strong>Odour</strong></td>
<td>odourless</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>12.5 - 14.0, 100 %</td>
</tr>
<tr>
<td><strong>Flash point</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Odour Threshold</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Melting point/freezing point</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Initial boiling point and boiling range</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Evaporation rate</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Flammability (solid, gas)</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Upper explosion limit</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Lower explosion limit</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Vapour pressure</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Relative vapour density</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Relative density</strong></td>
<td>1.1 - 1.3</td>
</tr>
<tr>
<td><strong>Water solubility</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Solubility in other solvents</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Partition coefficient: n-octanol/water</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Auto-ignition temperature</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Thermal decomposition</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Viscosity, kinematic</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Explosive properties</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Oxidizing properties</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Molecular weight</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>VOC</strong></td>
<td>no data available</td>
</tr>
</tbody>
</table>

### Section: 10. STABILITY AND REACTIVITY

**Product AS SOLD**

- **Chemical stability**: Stable under normal conditions.
- **Possibility of hazardous reactions**: No dangerous reaction known under conditions of normal use.
- **Conditions to avoid**: None known.
- **Incompatible materials**: Acids
- **Hazardous decomposition products**: Decomposition products may include the following materials: Carbon oxides
nitrogen oxides (NOx)
Sulphur oxides
Oxides of phosphorus

Section: 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:
Inhalation, Eye contact, Skin contact

Potential Health Effects

Product AS SOLD
Eyes:
Causes serious eye damage.

Skin:
Causes severe skin burns.

Ingestion:
Causes digestive tract burns.

Inhalation:
May cause nose, throat, and lung irritation.

Chronic Exposure:
Health injuries are not known or expected under normal use.

Product AT USE DILUTION
Eyes:
Causes serious eye damage.

Skin:
Causes severe skin burns.

Ingestion:
Causes digestive tract burns.

Inhalation:
May cause nose, throat, and lung irritation.

Chronic Exposure:
Health injuries are not known or expected under normal use.

Experience with human exposure

Product AS SOLD
Eye contact:
Redness, Pain, Corrosion

Skin contact:
Redness, Pain, Corrosion

Ingestion:
Corrosion, Abdominal pain

Inhalation:
Respiratory irritation, Cough

Product AT USE DILUTION
Eye contact:
Redness, Pain, Corrosion

Skin contact:
Redness, Pain, Corrosion

Ingestion:
Corrosion, Abdominal pain

Inhalation:
Respiratory irritation, Cough

Toxicity

Product AS SOLD
Acute oral toxicity:
no data available

Acute inhalation toxicity:
no data available
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Acute dermal toxicity : Acute toxicity estimate : > 5,000 mg/kg
Skin corrosion/irritation : no data available
Serious eye damage/eye irritation : no data available
Respiratory or skin sensitization : no data available
Carcinogenicity : no data available
Reproductive effects : no data available
Germ cell mutagenicity : no data available
Teratogenicity : no data available
STOT - single exposure : no data available
STOT - repeated exposure : no data available
Aspiration toxicity : no data available

Section: 12. ECOLOGICAL INFORMATION

Product AS SOLD
Ecotoxicity
Environmental Effects : This product has no known ecotoxicological effects.

Product
Toxicity to fish : no data available
Toxicity to daphnia and other aquatic invertebrates : no data available
Toxicity to algae : no data available

Components
Toxicity to daphnia and other aquatic invertebrates : sodium hydroxide
48 h EC50: 40 mg/l

Persistence and degradability
no data available

Bioaccumulative potential
no data available

Mobility in soil
no data available

Other adverse effects
no data available

Section: 13. DISPOSAL CONSIDERATIONS

Product AS SOLD
Disposal methods : Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility.
## Disposal considerations

**Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not reuse empty containers. Dispose of in accordance with local, state, and federal regulations.**

<table>
<thead>
<tr>
<th><strong>Product AT USE DILUTION</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Disposal methods</strong></td>
<td>Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility.</td>
</tr>
<tr>
<td><strong>Disposal considerations</strong></td>
<td>Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not reuse empty containers. Dispose of in accordance with local, state, and federal regulations.</td>
</tr>
</tbody>
</table>

### Section: 14. TRANSPORT INFORMATION

**Product AS SOLD**

The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport.

<table>
<thead>
<tr>
<th><strong>Land transport (TDG)</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UN number</strong></td>
<td>1824</td>
</tr>
<tr>
<td><strong>Description of the goods</strong></td>
<td>SODIUM HYDROXIDE SOLUTION</td>
</tr>
<tr>
<td><strong>Class</strong></td>
<td>8</td>
</tr>
<tr>
<td><strong>Packing group</strong></td>
<td>II</td>
</tr>
<tr>
<td><strong>Environmentally hazardous</strong></td>
<td>No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Sea transport (IMDG/IMO)</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UN number</strong></td>
<td>1824</td>
</tr>
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<td><strong>Description of the goods</strong></td>
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<tr>
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<td>8</td>
</tr>
<tr>
<td><strong>Packing group</strong></td>
<td>II</td>
</tr>
<tr>
<td><strong>Marine pollutant</strong></td>
<td>No</td>
</tr>
</tbody>
</table>

**Product AT USE DILUTION**

Not intended for transport.

### Section: 15. REGULATORY INFORMATION

This product has been classified according to the hazard criteria of the HPR and the SDS contains all of the information required by the HPR.

The components of this product are reported in the following inventories:

**United States TSCA Inventory**

On TSCA Inventory

**Canadian Domestic Substances List (DSL)**

All components of this product are on the Canadian DSL.

**Australia. Industrial Chemical (Notification and Assessment) Act**

not determined

**New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand**

not determined
Japan. ENCS - Existing and New Chemical Substances Inventory: not determined

Japan. ISHL - Inventory of Chemical Substances (METI): not determined

Korea. Korean Existing Chemicals Inventory (KECI): not determined

Philippines Inventory of Chemicals and Chemical Substances (PICCS): not determined

China Inventory of Existing Chemical Substances: not determined

Section: 16. OTHER INFORMATION

Product AS SOLD

NFPA:

<table>
<thead>
<tr>
<th>Flammability</th>
<th>Health</th>
<th>Instability</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>3</td>
<td>0</td>
</tr>
</tbody>
</table>

HMIS III:

- HEALTH: 3
- FLAMMABILITY: 0
- PHYSICAL HAZARD: 0

0 = not significant, 1 = Slight, 2 = Moderate, 3 = High, 4 = Extreme, * = Chronic

Product AT USE DILUTION

NFPA:

<table>
<thead>
<tr>
<th>Flammability</th>
<th>Health</th>
<th>Instability</th>
</tr>
</thead>
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<td>0</td>
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<td>0</td>
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HMIS III:

- HEALTH: 3
- FLAMMABILITY: 0
- PHYSICAL HAZARD: 0

0 = not significant, 1 = Slight, 2 = Moderate, 3 = High, 4 = Extreme, * = Chronic

Issuing date: 01/27/2016
version: 1.0
Prepared by: Regulatory Affairs 1-800-352-5326

REVISED INFORMATION: Significant changes to regulatory or health information for this revision is indicated by a bar in the left-hand margin of the SDS.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe
handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.