SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name: HYDROGEN PEROXIDE
Other means of identification: not applicable
Recommended use: Laundry product
Restrictions on use: Reserved for industrial and professional use.
Product dilution information: Product is sold ready to use.
Company: Ecolab Inc.
370 N. Wabasha Street
St. Paul, Minnesota USA 55102
1-800-352-5326
Emergency telephone: 1-800-328-0026 (US/Canada), 1-651-222-5352 (outside US)
Issuing date: 08/14/2014

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification
Oxidizing liquids: Category 3
Acute toxicity (Oral): Category 4
Serious eye damage: Category 1

GHS Label element
Hazard pictograms:

Signal Word: Danger
Hazard Statements: May intensify fire; oxidizer. Harmful if swallowed. Causes serious eye damage.
Precautionary Statements: Prevention:
Keep away from heat. Keep/Store away from clothing/ combustible materials. Take any precaution to avoid mixing with combustibles. Wash skin thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/ eye protection/ face protection.
Response:
IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. 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. Rinse mouth. In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
Disposal:
Dispose of contents/ container to an approved waste disposal plant.

Other hazards: None known.
SAFETY DATA SHEET
HYDROGEN PEROXIDE

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS
Pure substance/mixture : Mixture
Chemical Name
Hydrogen peroxide
CAS-No. 7722-84-1
Concentration (%) 33.25

SECTION 4. FIRST AID MEASURES
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 : Rinse with plenty of water.
If swallowed : Rinse mouth. Get medical attention if symptoms occur.
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.
See toxicological information (Section 11)

SECTION 5. FIRE-FIGHTING MEASURES
Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media : None known.
Specific hazards during fire fighting : Oxidizer. Contact with other material may cause fire.
Hazardous combustion products : Decomposition products may include the following materials:
Carbon oxides
nitrogen oxides (NOx)
Sulfur oxides
Oxides of phosphorus
Special protective equipment for fire-fighters : 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.

SECTION 6. ACCIDENTAL RELEASE MEASURES
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). Flush away traces with water. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling: Do not ingest. Do not get in eyes, on skin, or on clothing. Wash hands thoroughly after handling.


Storage temperature: 0 °C to 50 °C

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters:

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS-No.</th>
<th>Form of exposure</th>
<th>Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen peroxide</td>
<td>7722-84-1</td>
<td>TWA</td>
<td>1 ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>1 ppm</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>1 ppm</td>
<td>OSHA Z1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1.4 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

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

Personal protective equipment:

Eye protection: Safety goggles
Face-shield

Hand protection: No special protective equipment required.

Skin protection: No special protective equipment required.

Respiratory protection: No personal respiratory protective equipment normally required.

Hygiene measures: Handle in accordance with good industrial hygiene and safety practice. 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.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES
**SAFETY DATA SHEET**

**HYDROGEN PEROXIDE**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>liquid</td>
</tr>
<tr>
<td>Color</td>
<td>clear, colorless</td>
</tr>
<tr>
<td>Odor</td>
<td>pungent</td>
</tr>
<tr>
<td>pH</td>
<td>1.7 - 3.2, 100 %</td>
</tr>
<tr>
<td>Flash point</td>
<td>not applicable, Sustains combustion</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>no data available</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>no data available</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>&gt; 100 °C</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>no data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>no data available</td>
</tr>
<tr>
<td>Upper explosion limit</td>
<td>no data available</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>no data available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>no data available</td>
</tr>
<tr>
<td>Relative vapor density</td>
<td>no data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>1.08 - 1.18</td>
</tr>
<tr>
<td>Water solubility</td>
<td>soluble</td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>no data available</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>no data available</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>no data available</td>
</tr>
<tr>
<td>Thermal decomposition</td>
<td>no data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</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>Molecular weight</td>
<td>no data available</td>
</tr>
<tr>
<td>VOC</td>
<td>no data available</td>
</tr>
</tbody>
</table>

**SECTION 10. STABILITY AND REACTIVITY**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical stability</td>
<td>Stable under normal conditions.</td>
</tr>
<tr>
<td>Possibility of hazardous reactions</td>
<td>No dangerous reaction known under conditions of normal use.</td>
</tr>
<tr>
<td>Conditions to avoid</td>
<td>None known.</td>
</tr>
<tr>
<td>Incompatible materials</td>
<td>Bases</td>
</tr>
<tr>
<td></td>
<td>Metals</td>
</tr>
<tr>
<td></td>
<td>Acids</td>
</tr>
<tr>
<td></td>
<td>Organic materials</td>
</tr>
<tr>
<td>Hazardous decomposition products</td>
<td>Decomposition products may include the following materials: Carbon oxides nitrogen oxides (NOx) Sulfur oxides Oxides of phosphorus</td>
</tr>
</tbody>
</table>
SECTION 11. TOXICOLOGICAL INFORMATION

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

Potential Health Effects

Eyes: Causes serious eye damage.
Skin: Health injuries are not known or expected under normal use.
Ingestion: Harmful if swallowed.
Inhalation: Health injuries are not known or expected under normal use.
Chronic Exposure: Health injuries are not known or expected under normal use.

Experience with human exposure

Eye contact: Redness, Pain, Corrosion
Skin contact: No symptoms known or expected.
Ingestion: No information available.
Inhalation: No symptoms known or expected.

Toxicity

Acute oral toxicity: Acute toxicity estimate: 1,462 mg/kg
Acute inhalation toxicity: 4 h Acute toxicity estimate: 33.08 mg/l
Acute dermal toxicity: No data available
Skin corrosion/irritation: No skin irritation
Serious eye damage/eye irritation: Irreversible effects on the eye
Respiratory or skin sensitization: No data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA: No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP: No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive effects: No data available
Germ cell mutagenicity: No data available
Teratogenicity: No data available
STOT-single exposure: No data available
SAFETY DATA SHEET

HYDROGEN PEROXIDE

STOT-repeated exposure : no data available
Aspiration toxicity : no data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity
Environmental Effects : Toxic to aquatic life.

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

Ingredients
Toxicity to algae : Hydrogen peroxide
72 h EC50: 1.38 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

Disposal methods : The product should not be allowed to enter drains, water courses or the soil. 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 re-use empty containers.

D002 (Corrosive)

SECTION 14. TRANSPORT INFORMATION

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

Land transport (DOT)
SAFETY DATA SHEET
HYDROGEN PEROXIDE

UN number : 2014
Description of the goods : Hydrogen peroxide, aqueous solutions
Class : 5.1 (8)
Packing group : II
Environmentally hazardous : no

Sea transport (IMDG/IMO)
UN number : 2014
Description of the goods : HYDROGEN PEROXIDE, AQUEOUS SOLUTION
Class : 5.1 (8)
Packing group : II
Marine pollutant : no

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know
CERCLA Reportable Quantity
This material does not contain any components with a CERCLA RQ.
SARA 304 Extremely Hazardous Substances Reportable Quantity

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS-No.</th>
<th>Component RQ (lbs)</th>
<th>Calculated product RQ (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen peroxide</td>
<td>7722-84-1</td>
<td>1000</td>
<td>3008</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazards : Fire Hazard
Acute Health Hazard

SARA 302 : The following components are subject to reporting levels established by SARA Title III, Section 302:
Hydrogen peroxide 7722-84-1 33.25%

SARA 313 : SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop 65
This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

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

1907/2006 (EU) : not determined

Switzerland. New notified substances and declared preparations :
The mixture contains substances listed on the Swiss Inventory On the inventory, or in compliance with the inventory

United States TSCA Inventory : On TSCA Inventory

Canadian Domestic Substances List (DSL) : All components of this product are on the Canadian DSL.

Australia Inventory of Chemical Substances (AICS) :
SAFETY DATA SHEET

HYDROGEN PEROXIDE

On the inventory, or in compliance with the inventory

New Zealand. Inventory of Chemical Substances:
On the inventory, or in compliance with the inventory

Japan. ENCS - Existing and New Chemical Substances Inventory:
On the inventory, or in compliance with the inventory

Japan. ISHL - Inventory of Chemical Substances (METI):
On the inventory, or in compliance with the inventory

Korea. Korean Existing Chemicals Inventory (KECI):
On the inventory, or in compliance with the inventory

Philippines Inventory of Chemicals and Chemical Substances (PICCS):
On the inventory, or in compliance with the inventory

China. Inventory of Existing Chemical Substances in China (IECSC):
On the inventory, or in compliance with the inventory

SECTION 16. OTHER INFORMATION

NFPA:

<table>
<thead>
<tr>
<th>Flammability</th>
<th>Health</th>
<th>Instability</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

HMIS III:

<table>
<thead>
<tr>
<th>HEALTH</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>FLAMMABILITY</td>
<td>3</td>
</tr>
<tr>
<td>PHYSICAL HAZARD</td>
<td>2</td>
</tr>
</tbody>
</table>

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

Issuing date: 08/14/2014
Version: 1.1
Prepared by: Regulatory Affairs

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 Material 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.