Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name: OXALIC ACID
Other means of identification: Not applicable.
Recommended use: Cleaning product
Restrictions on use: Reserved for industrial and professional use.
Product dilution information: Product is sold ready to use.
Company: Ecolab New Zealand
2 Daniel Place
Te Rapa, Hamilton New Zealand
+64 7 958 2319
Emergency telephone number: 0800 243 622 (0800 CHEMCALL)
Issuing date: 20.08.2015

Section: 2. HAZARDS IDENTIFICATION

HSNO Hazard classification
Acute toxicity (Oral) : 6.1 D
Acute toxicity (Inhalation) : 6.1 E
Acute toxicity (Dermal) : 6.1 D
Skin corrosion : 8.2 C
Serious eye damage : 8.3 A
Ecotoxic to terrestrial vertebrates : 9.3 B

GHS Label element
Hazard pictograms:

Signal Word: Danger
Hazard Statements:
Harmful if swallowed.
Harmful in contact with skin.
Causes severe skin burns and eye damage.
May be harmful if inhaled.
Toxic to terrestrial vertebrates.

Precautionary Statements:
Prevention:
Do not breathe dusts or mists. Wash skin thoroughly after handling.
Do not eat, drink or smoke when using this product. Avoid release to the environment. Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower. IF INHALED: Remove victim
SAFETY DATA SHEET

OXALIC ACID

to fresh air and keep at rest in a position comfortable for breathing. 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. Specific measures (see supplemental first aid instructions on this label). Wash contaminated clothing before reuse. Collect spillage.

Storage:
Store locked up.

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

Other hazards
None known.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Pure substance/mixture</th>
<th>Mixture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Name</td>
<td>CAS-No.</td>
</tr>
<tr>
<td>ethanedioic acid, dihydrate</td>
<td>6153-56-6</td>
</tr>
</tbody>
</table>

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: 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. Apply calcium gluconate gel, if available, or milk of magnesia to affected area.

If swallowed: Rinse mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately. If available, take several calcium antacid tablets (eg Tums) or several tablespoons of milk of magnesia.

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.

Section: 5. FIREFIGHTING 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 firefighting: Exposure to decomposition products may be a hazard to health.
SAFETY DATA SHEET

OXALIC ACID

Hazardous combustion products: Decomposition products may include the following materials: Carbon oxides.

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.

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: Sweep up and shovel into suitable containers for disposal.

Emergency Management Trigger Levels

The following trigger level applies:

Emergency Plan : 1,000 kg
Signage : 1,000 kg

Section: 7. HANDLING AND STORAGE

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


Storage temperature : 0 °C to 50 °C

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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>ethanedioic acid, dihydrate</td>
<td>6153-56-6</td>
<td>WES-TWA</td>
<td>1 mg/m³</td>
<td>NZ OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>WES- STEL</td>
<td>2 mg/m³</td>
<td>NZ OEL</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
- 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 goggles, 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.

### Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>powder</td>
</tr>
<tr>
<td>Colour</td>
<td>opaque, white</td>
</tr>
<tr>
<td>Odour</td>
<td>slight</td>
</tr>
<tr>
<td>pH</td>
<td>1.1 - 2.1, 1 %</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable, Does not sustain combustion.</td>
</tr>
<tr>
<td>Odour 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>Vapour pressure</td>
<td>no data available</td>
</tr>
<tr>
<td>Relative vapour density</td>
<td>no data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>0.88 - 0.92</td>
</tr>
<tr>
<td>Water solubility</td>
<td>slightly 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>Auto-ignition 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>
</tbody>
</table>
SAFETY DATA SHEET

OXALIC ACID

Molecular weight : no data available
VOC : no data available

Section: 10. STABILITY AND REACTIVITY

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 : Bases
Metals
Hazardous decomposition products : Decomposition products may include the following materials:
Carbon oxides

Section: 11. TOXICOLOGICAL INFORMATION

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

Potential Health Effects

Eyes : Causes serious eye damage.
Skin : Harmful in contact with skin. Causes severe skin burns.
Ingestion : Harmful if swallowed. Causes digestive tract burns.
Inhalation : May be harmful if inhaled. May cause nose, throat, and lung irritation.
Chronic Exposure : Health injuries are not known or expected under normal use.

Experience with human exposure

Eye contact : Redness, Pain, Corrosion
Skin contact : Redness, Pain, Corrosion
Ingestion : Corrosion, Abdominal pain
Inhalation : Respiratory irritation, Cough

Toxicity

Acute oral toxicity : Acute toxicity estimate : 378.79 mg/kg
Acute inhalation toxicity : 4 h Acute toxicity estimate : 5.3 mg/l
Acute dermal toxicity : Acute toxicity estimate : 1,515 mg/kg
Skin corrosion/irritation : no data available
Serious eye damage/eye irritation : no data available
Respiratory or skin sensitization : no data available
SAFETY DATA SHEET

OXALIC ACID

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

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 : ethanedioic acid, dihydrate 48 h EC50 Daphnia: 137 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 : 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. Dispose of in accordance with local, state, and federal regulations.

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.
SAFETY DATA SHEET

OXALIC ACID

Land transport (NZ_DG)
Not dangerous goods

Sea transport (IMDG/IMO)
Not dangerous goods

Special precautions for user : None

Section: 15. REGULATORY INFORMATION

HSNO Approval Number : HSR002526

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

Switzerland. New notified substances and declared preparations :
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. Industrial Chemical (Notification and Assessment) Act :
On the inventory, or in compliance with the inventory

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

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 :
On the inventory, or in compliance with the inventory

Section: 16. OTHER INFORMATION

Issuing date : 20.08.2015
version : 1.0
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 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.