

**KEYSTONE LIME-A-WAY LIME SCALE REMOVER**

**SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : KEYSTONE LIME-A-WAY LIME SCALE REMOVER

Other means of identification : Not applicable

Recommended use : Delimer

Restrictions on use : Reserved for industrial and professional use.

Product dilution information : 0.8 % - 4.0 %

Company : Ecolab Inc.  
370 N. Wabasha Street  
St. Paul, Minnesota USA 55102  
1-800-352-5326

Emergency health information : 1-800-328-0026 (US/Canada), 1-651-222-5352 (outside US)

Issuing date : 06/02/2016

**SECTION 2. HAZARDS IDENTIFICATION**

**GHS Classification**

**Product AS SOLD**

Skin corrosion : Category 1A

Serious eye damage : Category 1

**Product AT USE DILUTION**

Skin corrosion : Category 1A

Serious eye damage : Category 1

**GHS label elements**

**Product AS SOLD**

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/shower. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor. 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/doctor. Wash contaminated clothing before reuse.

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**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.

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**Storage:**

Store locked up.

**Disposal:**

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

**Product AS SOLD**

Other hazards :

Do not mix with bleach or other chlorinated products – will cause chlorine gas.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Product AS SOLD**

Pure substance/mixture :

Mixture

**Chemical name**

nitric acid

citric acid

**CAS-No.**

7697-37-2

77-92-9

**Concentration (%)**

10 - 30

1 - 5

**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

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	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.
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. FIRE-FIGHTING 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 fire fighting	: 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 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.

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### 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.

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### 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/ vapors/ spray. Use only with adequate ventilation. Wash hands thoroughly after handling. Do not mix with bleach or other chlorinated products – will cause chlorine gas.

Conditions for safe storage : Keep away from strong bases. 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/ vapors/ spray. Use only with adequate ventilation. Wash hands thoroughly after handling.

Conditions for safe storage : Keep out of reach of children. Store in suitable labeled containers.

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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## KEYSTONE LIME-A-WAY LIME SCALE REMOVER

### Product AS SOLD

#### Ingredients with workplace control parameters

Ingredients	CAS-No.	Form of exposure	Permissible concentration	Basis
nitric acid	7697-37-2	TWA	2 ppm	ACGIH
		STEL	4 ppm	ACGIH
		STEL	4 ppm 10 mg/m <sup>3</sup>	NIOSH REL
		TWA	2 ppm 5 mg/m <sup>3</sup>	NIOSH REL
		TWA	2 ppm 5 mg/m <sup>3</sup>	OSHA Z1

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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### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

	<b>Product AS SOLD</b>	<b>Product AT USE DILUTION</b>
Appearance	: Aqueous solution	liquid
Color	: clear, green	green
Odor	: odorless	odorless
pH	: 0.5, 100 %	1.21 - 2.06
Flash point	: Not applicable	
Odor Threshold	: No data available	
Melting point/freezing point	: No data available	
Initial boiling point and boiling range	: 100 °C	
Evaporation rate	: No data available	
Flammability (solid, gas)	: No data available	
Upper explosion limit	: No data available	
Lower explosion limit	: No data available	
Vapor pressure	: No data available	
Relative vapor density	: No data available	
Relative density	: 1.04 - 1.12	
Water solubility	: No data available	
Solubility in other solvents	: No data available	
Partition coefficient: n-octanol/water	: No data available	
Autoignition temperature	: No data available	
Thermal decomposition	: No data available	
Viscosity, kinematic	: No data available	
Explosive properties	: No data available	
Oxidizing properties	: The substance or mixture is not classified as oxidizing.	
Molecular weight	: No data available	
VOC	: No data available	

### SECTION 10. STABILITY AND REACTIVITY

#### Product AS SOLD

Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: Do not mix with bleach or other chlorinated products – will cause chlorine gas.
Conditions to avoid	: None known.
Incompatible materials	: Bases
Hazardous decomposition products	: Decomposition products may include the following materials: Carbon oxides Nitrogen oxides (NOx)

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Sulfur 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

##### Product

Acute oral toxicity : Acute toxicity estimate : > 5,000 mg/kg  
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

#### Ingredients

Toxicity to fish : nitric acid  
96 h LC50: 72 mg/l  
  
citric acid  
96 h LC50 Fish: > 100 mg/l

#### Persistence and degradability

##### Product AS SOLD

Readily biodegradable.

##### Product AT USE DILUTION

Readily biodegradable.

#### Bioaccumulative potential

No data available

#### Mobility in soil

No data available

#### Other adverse effects

No data available

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## KEYSTONE LIME-A-WAY LIME SCALE REMOVER

### 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 re-use empty containers. Dispose of in accordance with local, state, and federal regulations.

RCRA - Resource Conservation and Recovery Authorization Act Hazardous waste : D002 (Corrosive)

#### Product AT USE DILUTION

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

#### 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.

#### Land transport (DOT)

UN number : 2031  
Description of the goods : Nitric acid  
Class : 8  
Packing group : II  
Environmentally hazardous : no

#### Sea transport (IMDG/IMO)

UN number : 2031  
Description of the goods : NITRIC ACID  
Class : 8  
Packing group : II  
Marine pollutant : no

### SECTION 15. REGULATORY INFORMATION

#### Product AS SOLD

#### EPCRA - Emergency Planning and Community Right-to-Know

#### CERCLA Reportable Quantity

Ingredients	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
nitric acid	7697-37-2	1000	9950

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## KEYSTONE LIME-A-WAY LIME SCALE REMOVER

### SARA 304 Extremely Hazardous Substances Reportable Quantity

Ingredients	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
nitric acid	7697-37-2	1000	9950

**SARA 311/312 Hazards** : Acute Health Hazard

**SARA 302** : The following components are subject to reporting levels established by SARA Title III, Section 302:

nitric acid	7697-37-2	10.05 %
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**SARA 313** : The following components are subject to reporting levels established by SARA Title III, Section 313:

nitric acid	7697-37-2	10.05 %
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### 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:**

#### United States TSCA Inventory :

On TSCA Inventory

#### Canadian Domestic Substances List (DSL) :

This product contains one or several components listed in the Canadian NDSL.

#### Australia Inventory of Chemical Substances (AICS) :

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

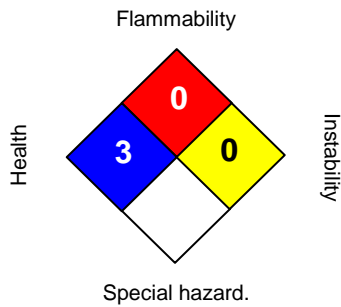
## SECTION 16. OTHER INFORMATION

**Product AS SOLD**

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## KEYSTONE LIME-A-WAY LIME SCALE REMOVER

### NFPA:



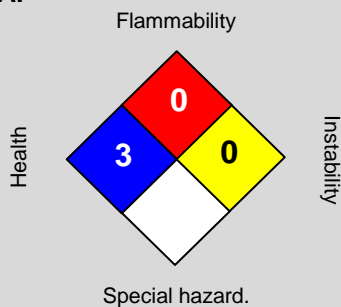
### HMIS III:

<b>HEALTH</b>	<b>3</b>
<b>FLAMMABILITY</b>	<b>0</b>
<b>PHYSICAL HAZARD</b>	<b>0</b>

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

### Product AT USE DILUTION

### NFPA:



### HMIS III:

<b>HEALTH</b>	<b>3</b>
<b>FLAMMABILITY</b>	<b>0</b>
<b>PHYSICAL HAZARD</b>	<b>0</b>

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

Issuing date : 06/02/2016  
Version : 1.3  
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.