

**Lime-A-Way Special****Section: 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING****1.1 Product identifier**

Product name : Lime-A-Way Special  
Product code : 103918E  
Use of the Substance/Mixture : Delimer  
Substance type: : Mixture

**For professional users only.**

Product dilution information : No dilution information provided.

**1.2 Relevant identified uses of the substance or mixture and uses advised against**

Identified uses : Descaling agent. Manual process  
Recommended restrictions on use : Reserved for industrial and professional use.

**1.3 Details of the supplier of the safety data sheet**

Company : Ecolab Ltd.  
PO Box 11; Winnington Avenue  
Northwich, Cheshire, United Kingdom CW8 4DX  
+ 44 (0)1606 74488  
ccs@ecolab.com

**1.4 Emergency telephone number**

Emergency telephone number : +441618841235  
+32-(0)3-575-5555 Trans-European  
Poison Information Centre telephone number : Not Available


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**Section: 2. HAZARDS IDENTIFICATION****2.1 Classification of the substance or mixture****Classification (REGULATION (EC) No 1272/2008)**

Corrosive to metals, Category 1 H290  
Eye irritation, Category 2 H319  
The classification of this product is based on toxicological assessment.

**2.2 Label elements****Labelling (REGULATION (EC) No 1272/2008)**

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Hazard pictograms	:		
Signal Word	:	Warning	
Hazard Statements	:	H290 H319	May be corrosive to metals. Causes serious eye irritation.
Precautionary Statements	:	<b>Prevention:</b> P280e	Wear eye protection/face protection.

**2.3 Other hazards**

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

**Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS**

**3.2 Mixtures**

**Hazardous components**

Chemical Name	CAS-No. EC-No. REACH No.	ClassificationREGULATION (EC) No 1272/2008	Concentration: [%]
citric acid, monohydrate	5949-29-1 201-069-1 01-2119457026-42	Eye irritation Category 2; H319	>= 20 - < 25
Lactic acid	79-33-4 201-196-2 01-2119474164-39	Skin irritation Category 2; H315 Serious eye damage Category 1; H318	>= 5 - < 10

For the full text of the H-Statements mentioned in this Section, see Section 16.

**Section: 4. FIRST AID MEASURES**

**4.1 Description of 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.
In case of skin contact	:	Rinse with plenty of water.
If swallowed	:	Rinse mouth. Get medical attention if symptoms occur.
If inhaled	:	Get medical attention if symptoms occur.

**4.2 Most important symptoms and effects, both acute and delayed**

See Section 11 for more detailed information on health effects and symptoms.

**4.3 Indication of immediate medical attention and special treatment needed**

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Treatment : Treat symptomatically.

**Section: 5. FIREFIGHTING MEASURES**

**5.1 Extinguishing media**

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

Unsuitable extinguishing media : None known.

**5.2 Special hazards arising from the substance or mixture**

Specific hazards during firefighting : Not flammable or combustible.

Hazardous combustion products : Decomposition products may include the following materials:  
Carbon oxides  
nitrogen oxides (NOx)  
Sulphur oxides  
Oxides of phosphorus

**5.3 Advice for firefighters**

Special protective equipment for firefighters : Use personal protective equipment.

Further information : 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**

**6.1 Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel : Ensure clean-up is conducted by trained personnel only. Refer to protective measures listed in sections 7 and 8.

Advice for emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials.

**6.2 Environmental precautions**

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

**6.3 Methods and materials for containment and cleaning up**

Methods for 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.

**6.4 Reference to other sections**

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See Section 1 for emergency contact information.  
For personal protection see section 8.  
See Section 13 for additional waste treatment information.

**Section: 7. HANDLING AND STORAGE**

**7.1 Precautions for safe handling**

- Advice on safe handling : Avoid contact with skin and eyes. Use only with adequate ventilation. Wash hands thoroughly after handling. Do not mix with bleach or other chlorinated products – will cause chlorine gas.
- 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.

**7.2 Conditions for safe storage, including any incompatibilities**

- Requirements for storage areas and containers : Keep only in original container. Absorb spillage to prevent material damage.  
Keep away from strong bases. Keep out of reach of children. Keep container tightly closed. Store in suitable labeled containers.
- Storage temperature : 0 °C to 40 °C
- Packaging material : Suitable material: Plastic material  
Unsuitable material: Aluminium, Mild steel

**7.3 Specific end uses**

- Specific use(s) : Descaling agent. Manual process

**Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**8.1 Control parameters**

Contains no substances with occupational exposure limit values.

**8.2 Exposure controls**

**Appropriate engineering controls**

- Engineering measures : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

**Individual protection measures**

- 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.
- Eye/face protection (EN 166) : Safety glasses with side-shields
- Hand protection (EN 374) : No special protective equipment required.
- Skin and body protection : No special protective equipment required.

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(EN 14605)

Respiratory protection (EN 143, 14387) : None required if airborne concentrations are maintained below the exposure limit listed in Exposure Limit Information. Use certified respiratory protection equipment meeting EU requirements(89/656/EEC, 89/686/EEC ), or equivalent, when respiratory risks cannot be avoided or sufficiently limited by technical means of collective protection or by measures, methods or procedures of work organization.

**Environmental exposure controls**

General advice : Consider the provision of containment around storage vessels.

**Section: 9. PHYSICAL AND CHEMICAL PROPERTIES**

**9.1 Information on basic physical and chemical properties**

Appearance : liquid  
Colour : colourless  
Odour : odourless  
pH : 1.3 - 2.0, 100 %  
Flash point : Not applicable.  
Odour Threshold : Not applicable and/or not determined for the mixture  
Melting point/freezing point : Not applicable and/or not determined for the mixture  
Initial boiling point and boiling range : Not applicable and/or not determined for the mixture  
Evaporation rate : Not applicable and/or not determined for the mixture  
Flammability (solid, gas) : Not applicable and/or not determined for the mixture  
Upper explosion limit : Not applicable and/or not determined for the mixture  
Lower explosion limit : Not applicable and/or not determined for the mixture  
Vapour pressure : Not applicable and/or not determined for the mixture  
Relative vapour density : Not applicable and/or not determined for the mixture  
Relative density : 1.107 - 1.113  
Water solubility : soluble  
Solubility in other solvents : Not applicable and/or not determined for the mixture  
Partition coefficient: n-octanol/water : Not applicable and/or not determined for the mixture  
Auto-ignition temperature : Not applicable and/or not determined for the mixture  
Thermal decomposition : Not applicable and/or not determined for the mixture  
Viscosity, kinematic : 225.631 mm<sup>2</sup>/s (40 °C)  
  
Explosive properties : Not applicable and/or not determined for the mixture  
Oxidizing properties : The substance or mixture is not classified as oxidizing.

**9.2 Other information**

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Not applicable and/or not determined for the mixture

**Section: 10. STABILITY AND REACTIVITY**

**10.1 Reactivity**

No dangerous reaction known under conditions of normal use.

**10.2 Chemical stability**

Stable under normal conditions.

**10.3 Possibility of hazardous reactions**

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

**10.4 Conditions to avoid**

None known.

**10.5 Incompatible materials**

Bases

Aluminium

Mild steel

**10.6 Hazardous decomposition products**

Decomposition products may include the following materials:

Carbon oxides

nitrogen oxides (NO<sub>x</sub>)

Sulphur oxides

Oxides of phosphorus

**Section: 11. TOXICOLOGICAL INFORMATION**

**11.1 Information on toxicological effects**

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

**Product**

Acute oral toxicity : There is no data available for this product.

Acute inhalation toxicity : There is no data available for this product.

Acute dermal toxicity : There is no data available for this product.

Skin corrosion/irritation : No skin irritation  
Test substance:ProductThe classification of this product is based on toxicological assessment.

Serious eye damage/eye : Causes serious eye irritation.  
Test substance: ProductThe classification of this product is based

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irritation : on toxicological assessment.

Respiratory or skin sensitization : There is no data available for this product.

Carcinogenicity : There is no data available for this product.

Reproductive effects : There is no data available for this product.

Germ cell mutagenicity : There is no data available for this product.

Teratogenicity : There is no data available for this product.

STOT - single exposure : There is no data available for this product.

STOT - repeated exposure : There is no data available for this product.

Aspiration toxicity : There is no data available for this product.

**Components**

Acute oral toxicity : citric acid, monohydrate  
LD50 rat: 11,700 mg/kg

Lactic acid  
LD50 rat: 3,543 mg/kg

**Components**

Acute inhalation toxicity : Lactic acid  
4 h LC50 rat: 7.94 mg/l

**Components**

Acute dermal toxicity : citric acid, monohydrate  
LD50 rat: > 2,000 mg/kg

Lactic acid  
LD50 rabbit: 2,000 mg/kg

**Potential Health Effects**

Eyes : Causes serious eye irritation.

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

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

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, Irritation

Skin contact : No symptoms known or expected.

Ingestion : No symptoms known or expected.

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Inhalation : No symptoms known or expected.

**Section: 12. ECOLOGICAL INFORMATION**

**12.1 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 fish : citric acid, monohydrate  
96 h LC50 Fish: > 100 mg/l

Lactic acid  
96 h LC50 Fish: 130 mg/l

**12.2 Persistence and degradability**

**Product**

no data available

**Components**

Biodegradability : citric acid, monohydrate  
Result: Readily biodegradable.

Lactic acid  
Result: Readily biodegradable.

**12.3 Bioaccumulative potential**

no data available

**12.4 Mobility in soil**

no data available

**12.5 Results of PBT and vPvB assessment**

**Product**

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

**12.6 Other adverse effects**

no data available



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**Section: 13. DISPOSAL CONSIDERATIONS**

Dispose of in accordance with the European Directives on waste and hazardous waste. Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.

**13.1 Waste treatment methods**

- Product : 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.
- Contaminated packaging : 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.
- Guidance for Waste Code selection : Organic wastes containing dangerous substances. If this product is used in any further processes, the final user must redefine and assign the most appropriate European Waste Catalogue Code. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable European (EU Directive 2008/98/EC) and local 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.

**Land transport (ADR/ADN/RID)**

- 14.1 UN number : 3265
- 14.2 UN proper shipping name : CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.  
(Citric acid, Lactic acid)
- 14.3 Transport hazard class(es) : 8
- 14.4 Packing group : III
- 14.5 Environmental hazards : No
- 14.6 Special precautions for user : None

**Air transport (IATA)**

- 14.1 UN number : 3265
- 14.2 UN proper shipping name : Corrosive liquid, acidic, organic, n.o.s.  
(Citric acid, Lactic acid)
- 14.3 Transport hazard class(es) : 8
- 14.4 Packing group : III
- 14.5 Environmental hazards : No
- 14.6 Special precautions for user : None

**Sea transport (IMDG/IMO)**

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14.1 UN number : 3265  
 14.2 UN proper shipping name : CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.  
 (Citric acid, Lactic acid)  
 14.3 Transport hazard class(es) : 8  
 14.4 Packing group : III  
 14.5 Environmental hazards : No  
 14.6 Special precautions for user : None  
 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not applicable.

**Section: 15. REGULATORY INFORMATION**

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**National Regulations**

**Take note of Dir 94/33/EC on the protection of young people at work.**

Other regulations : The Chemicals (Hazard Information and Packaging for Supply) Regulations.  
 The Control of Substances Hazardous to Health Regulations.  
 Health and Safety at Work Act.

**15.2 Chemical Safety Assessment**

This product contains substances for which Chemical Safety Assessments are still required.

**Section: 16. OTHER INFORMATION**

**Procedure used to derive the classification according to REGULATION (EC) No 1272/2008**

Classification	Justification
Corrosive to metals 1, H290	On basis of test data.
Eye irritation 2, H319	Calculation method

**Full text of H-Statements**

H315 Causes skin irritation.  
 H318 Causes serious eye damage.  
 H319 Causes serious eye irritation.

**Full text of other abbreviations**

ADN – European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR – European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS – Australian Inventory of Chemical Substances; ASTM – American Society for the Testing of Materials; bw – Body weight; CLP – Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR – Carcinogen, Mutagen or Reproductive Toxicant; DIN – Standard of the German Institute for Standardisation; DSL – Domestic Substances List (Canada); ECHA – European Chemicals Agency; EC-Number – European Community number; ECx – Concentration associated with x% response; ELx – Loading

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rate associated with x% response; EmS – Emergency Schedule; ENCS – Existing and New Chemical Substances (Japan); ErCx – Concentration associated with x% growth rate response; GHS – Globally Harmonized System; GLP – Good Laboratory Practice; IARC – International Agency for Research on Cancer; IATA – International Air Transport Association; IBC – International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 – Half maximal inhibitory concentration; ICAO – International Civil Aviation Organization; IECSC – Inventory of Existing Chemical Substances in China; IMDG – International Maritime Dangerous Goods; IMO – International Maritime Organization; ISHL – Industrial Safety and Health Law (Japan); ISO – International Organisation for Standardization; KECI – Korea Existing Chemicals Inventory; LC50 – Lethal Concentration to 50 % of a test population; LD50 – Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL – International Convention for the Prevention of Pollution from Ships; n.o.s. – Not Otherwise Specified; NO(A)EC – No Observed (Adverse) Effect Concentration; NO(A)EL – No Observed (Adverse) Effect Level; NOELR – No Observable Effect Loading Rate; NZIoC – New Zealand Inventory of Chemicals; OECD – Organization for Economic Co-operation and Development; OPPTS – Office of Chemical Safety and Pollution Prevention; PBT – Persistent, Bioaccumulative and Toxic substance; PICCS – Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR – (Quantitative) Structure Activity Relationship; REACH – Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID – Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT – Self-Accelerating Decomposition Temperature; SDS – Safety Data Sheet; TCSI – Taiwan Chemical Substance Inventory; TRGS – Technical Rule for Hazardous Substances; TSCA – Toxic Substances Control Act (United States); UN – United Nations; vPvB – Very Persistent and Very Bioaccumulative

Prepared by : Regulatory Affairs

Numbers quoted in the MSDS are given in the format: 1,000,000 = 1 million and 1,000 = 1 thousand. 0.1 = 1 tenth and 0.001 = 1 thousandth

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.

**ANNEX: EXPOSURE SCENARIOS**

**DPD+ Substances:**

The following substances are the lead substances that contribute to the mixture Exposure Scenario according to the DPD+ Rule:

Route	Substance	CAS-No.	EINECS-No.
Ingestion	No lead substance		
Inhalation	No lead substance		
Dermal	Lactic acid	79-33-4	201-196-2
Eyes	Lactic acid	79-33-4	201-196-2

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aquatic environment	No lead substance		
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**Physical properties DPD+ Substances:**

Substance	Vapour pressure	Water solubility	Pow	Molar Mass
Lactic acid	0.0041 hPa		0.25	

To calculate if your downstream Operating Conditions and Risk management Measures are safe, please calculate your risk factor at the website below:

[www.ecetoc.org/tra](http://www.ecetoc.org/tra)

**Short title of Exposure Scenario** : **Descaling agent. Manual process**

**Use descriptors**

- Main User Groups : Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
- Sectors of end-use : **SU22:** Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
- Process categories : **PROC10:** Roller application or brushing
- Product categories : **PC35:** Washing and cleaning products (including solvent based products)
- Environmental Release Categories : **ERC8a:** Wide dispersive indoor use of processing aids in open systems