

**Assert Lemon****SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING****1.1 Product identifier**

Product name : Assert Lemon  
Product code : 110551E  
Use of the Substance/Mixture : Manual Warewashing Detergent  
Type of substance : Mixture

**For professional users only.**

Product dilution information : 0.08 % - 0.12 %

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

Identified uses : Dishwash product. 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 : Food & Beverage, Institutional, Agriculture, Textile Hygiene:  
Northwich: +44 (0)1606 74488  
Healthcare Leeds: +44 (0)113 232 2480  
Healthcare Swansea: +44 (0)1252 717616

Poison Information Centre telephone number : Not Available

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version : 1.0

**SECTION 2. HAZARDS IDENTIFICATION****2.1 Classification of the substance or mixture**

**Classification (REGULATION (EC) No 1272/2008)**

**Product AS SOLD**

Eye irritation , Category 2

H319

**Product AT USE DILUTION**

Not a hazardous substance or mixture.

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**Classification (67/548/EEC, 1999/45/EC)**

**Product AS SOLD**

Xi; IRRITANT

R36

**Product AT USE DILUTION**

The product does not need to be labelled in accordance with EC directives or respective national laws.

For the full text of the R-phrases mentioned in this Section, see Section 16.

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

**2.2 Label elements**

**Labelling (REGULATION (EC) No 1272/2008)**

**Product AS SOLD**

Hazard pictograms



Signal Word : Warning

Hazard Statements : H319 Causes serious eye irritation.

Precautionary Statements : **Prevention:**  
P280e Wear eye protection/face protection.

**Product AT USE DILUTION**

Not a hazardous substance or mixture.

**2.3 Other hazards**

**Product AS SOLD**

None known.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

**3.2 Mixtures**

**Product AS SOLD**

**Hazardous components**

Chemical Name	CAS-No. EC-No. REACH No.	Classification (67/548/EEC)	Classification (REGULATION (EC) No 1272/2008)	Concentration: [%]
Organic sulfonic acid salt	85117-50-6 285-600-2 01-2119489428-22	R22-R38-R41	Acute toxicityCategory 4; H302 Skin irritationCategory 2; H315 Serious eye damage/eye irritationCategory 1; H318	>= 10 - < 20
alkylethersulphates	68891-38-3	Xi; R38-R41	Skin irritationCategory 2;	>= 3 - < 5

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	500-234-8 01-2119488639-16		H315 Serious eye damage/eye irritation Category 1; H318	
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**Product AT USE DILUTION**

Remarks : No hazardous ingredients

For the full text of the R-phrases mentioned in this Section, see Section 16.  
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**

**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.

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.

**Product AT USE DILUTION**

In case of eye contact : Rinse with plenty of water.

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**

Treatment : Treat symptomatically.

**SECTION 5. FIREFIGHTING MEASURES**

**Product AS SOLD**

**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 : Not flammable or combustible.

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firefighting

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

**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**

**Product AS SOLD**

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.

**Product AT USE DILUTION**

Advice for non-emergency personnel : 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**

**Product AS SOLD**

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

**Product AT USE DILUTION**

Environmental precautions : No special environmental precautions required.

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

**Product AS SOLD**

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.

**Product AT USE DILUTION**

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,

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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**

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**

**Product AS SOLD**

Advice on safe handling : Avoid contact with skin and eyes. Use only with adequate ventilation. Wash hands thoroughly after handling.

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.

**Product AT USE DILUTION**

Advice on safe handling : Wash hands after handling. For personal protection see section 8.

Hygiene measures : Wash hands before breaks and immediately after handling the product.

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

**Product AS SOLD**

Requirements for storage areas and containers : Keep out of reach of children. Keep container tightly closed. Store in suitable labeled containers.

Storage temperature : 0 °C to 40 °C

**Product AT USE DILUTION**

Requirements for storage areas and containers : Keep out of reach of children. Keep container tightly closed. Store in suitable labeled containers.

**7.3 Specific end use(s)**

**Product AS SOLD**

Specific use(s) : Dishwash product. Manual process

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**8.1 Control parameters**

**Product AS SOLD**

**Occupational Exposure Limits**

Contains no substances with occupational exposure limit values.

**8.2 Exposure controls**

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**Product AS SOLD**

**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 (EN 14605) : No special protective equipment required.

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.

**Product AT USE DILUTION**

**Appropriate engineering controls**

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

**Individual protection measures**

Hygiene measures : Wash hands before breaks and immediately after handling the product.

Eye/face protection (EN 166) : No special protective equipment required.

Hand protection (EN 374) : No special protective equipment required.

Skin and body protection (EN 14605) : No special protective equipment required.

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.

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**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

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

	<b>Product AS SOLD</b>	<b>Product AT USE DILUTION</b>
Appearance	: liquid	liquid
Colour	: dark yellow	Colourless
Odour	: citrus	pleasant
pH	: 4.5 - 5.5, 100 %	7.3
Flash point	: Not applicable.	
Odour Threshold	: no data available	
Melting point/freezing point	: no data available	
Initial boiling point and boiling range	: no data available	
Evaporation rate	: no data available	
Flammability (solid, gas)	: no data available	
Upper explosion limit	: no data available	
Lower explosion limit	: no data available	
Vapour pressure	: no data available	
Relative vapour density	: no data available	
Relative density	: 0.98 - 1.08	
Water solubility	: soluble	
Solubility in other solvents	: no data available	
Partition coefficient: n-octanol/water	: no data available	
Auto-ignition temperature	: no data available	
Thermal decomposition	: no data available	
Viscosity, kinematic	: 437.680 mm <sup>2</sup> /s (40 °C)	
Explosive properties	: no data available	
Oxidizing properties	: The substance or mixture is not classified as oxidizing.	

**9.2 Other information**

no data available

**SECTION 10. STABILITY AND REACTIVITY**

**Product AS SOLD**

**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**

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No dangerous reaction known under conditions of normal use.

**10.4 Conditions to avoid**

None known.

**10.5 Incompatible materials**

None known.

**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  
metal oxides

**SECTION 11. TOXICOLOGICAL INFORMATION**

**11.1 Information on toxicological effects**

**Product AS SOLD**

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

**Toxicity**

Acute oral toxicity : Acute toxicity estimate : > 2,000 mg/kg  
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 : There is no data available for this product.  
Serious eye damage/eye irritation : There is no data available for this product.  
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.



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**Components**

Acute oral toxicity : Organic sulfonic acid salt  
LD50 rat: 1,090 mg/kg  
  
alkylethersulphates  
LD50 rat: 3,350 mg/kg

Acute dermal toxicity : Organic sulfonic acid salt  
LD50 rat: > 2,000 mg/kg  
  
alkylethersulphates  
LD50 rabbit: 8,000 mg/kg

**Potential Health Effects**

**Product AS SOLD**

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.

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**

**Product AS SOLD**

Eye contact : Redness, Pain, Irritation

Skin contact : No symptoms known or expected.

Ingestion : No symptoms known or expected.

Inhalation : No symptoms known or expected.

**Product AT USE DILUTION**

Eye contact : No symptoms known or expected.

Skin contact : No symptoms known or expected.

Ingestion : No symptoms known or expected.

Inhalation : No symptoms known or expected.

**SECTION 12. ECOLOGICAL INFORMATION**

**Product AS SOLD**

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**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 : Organic sulfonic acid salt  
96 h LC50 Fish : 3.2 mg/l

alkylethersulphates  
96 h LC50 Fish : 7.1 mg/l

**12.2 Persistence and degradability**

no data available

**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

**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 AS SOLD**

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

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not re-use empty containers.

European Waste Catalogue : 200130 - detergents other than those mentioned in 20 01 29

**Product AT USE DILUTION**

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.

**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 (ADR/ADN/RID)**

14.1 UN number : Not dangerous goods  
14.2 UN proper shipping name : Not dangerous goods  
14.3 Transport hazard class(es) : Not dangerous goods  
14.4 Packing group : Not dangerous goods  
14.5 Environmental hazards : Not dangerous goods  
14.6 Special precautions for user : Not dangerous goods

**Air transport (IATA)**

14.1 UN number : Not dangerous goods  
14.2 UN proper shipping name : Not dangerous goods  
14.3 Transport hazard class(es) : Not dangerous goods  
14.4 Packing group : Not dangerous goods  
14.5 Environmental hazards : Not dangerous goods  
14.6 Special precautions for user : Not dangerous goods

**Sea Transport (IMDG/IMO)**

14.1 UN number : Not dangerous goods  
14.2 UN proper shipping name : Not dangerous goods  
14.3 Transport hazard class(es) : Not dangerous goods  
14.4 Packing group : Not dangerous goods  
14.5 Environmental hazards : Not dangerous goods  
14.6 Special precautions for user : Not dangerous goods  
14.7 Transport in bulk : Not dangerous goods

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according to Annex II of  
MARPOL 73/78 and the IBC  
Code

**Product AT USE DILUTION**  
Not intended for transport.

**SECTION 15. REGULATORY INFORMATION**

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

according to Detergents Regulation EC 648/2004 : 5 % or over but less than 15 %: Anionic surfactants  
Allergens:  
d-Limonene  
Citral

**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**

**Full text of R-Phrases**

R22 Harmful if swallowed.  
R38 Irritating to skin.  
R41 Risk of serious damage to eyes.

**Full text of H-Statements**

H302 Harmful if swallowed.  
H315 Causes skin irritation.  
H318 Causes serious eye damage.

**Full text of other abbreviations**

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

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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	Organic sulfonic acid salt	85117-50-6	285-600-2
Inhalation	No lead substance		
Dermal	Organic sulfonic acid salt	85117-50-6	285-600-2
Eyes	Organic sulfonic acid salt	85117-50-6	285-600-2
aquatic environment	No lead substance		

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** : **Dishwash product. 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  
**PROC8a:** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities
- 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