

SAFETY DATA SHEET

Liquinox(r) phosphate-free liquid detergent

Version 1 · issued 18 August 2026

1. IDENTIFICATION

Product Identifiers

Product Name Liquinox(r) phosphate-free liquid detergent
Product Number(s) CMZ-LPD1L, CMZ-LPD4L, CMZ-LPD4XL, Z742915-947ML, Z742916-3.8L, Z742916-4X3.8L
CAS Number Not Assigned

Recommended use of the chemical and restriction on use

For R&D use only. Not for pharmaceutical, household or other uses.

Company Details

ProSciTech Pty Ltd
 11 Carlton Street
 KIRWAN QLD 4817
 Australia
 (07) 4773 9444
 pst@proscitech.com
 proscitech.com.au

Emergency Contact Details

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 proscitech.com.au

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

Skin corrosion/irritation: Category 2
 Serious eye damage/eye irritation: Category 1
 Short-term (acute) aquatic hazard: Category 2
 Long-term (chronic) aquatic hazard: Category 3

Label Elements

Corrosive

Signal Words Danger
Hazard Statement(s) H315 Causes skin irritation.
 H318 Causes serious eye damage.
 H401 Toxic to aquatic life.
 H412 Harmful to aquatic life with long lasting effects.

Precautionary Statement(s) Prevention:
 P264 Wash skin thoroughly after handling.
 P273 Avoid release to the environment.
 P280 Wear protective gloves/ eye protection/ face protection.
 Response:
 P302 + P352 IF ON SKIN: Wash with plenty of water.
 P305 + P351 + P338 + P310 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.
 P332 + P313 If skin irritation occurs: Get medical advice/ attention.
 P362 + P364 Take off contaminated clothing and wash it before reuse.
 Disposal:
 P501 Dispose of contents/ container to an approved waste disposal plant.

Primary route(s) of entry

Primary route(s) of entry: Skin contact, Eye Contact
 Secondary Route of Entry: Inhalation

Human Health**Inhalation**

Not classified as an inhalation hazard. Vapour generation is low because it is an aqueous detergent. Aerosol/mist could irritate the respiratory tract.

Ingestion

Not classified as an acute oral toxicity hazard. Swallowing may cause irritation of the mouth, throat and gastrointestinal tract; nausea/vomiting may occur.

Eyes

Causes serious eye damage; concentrated product can cause significant injury.

Skin

Causes skin irritation; repeated/prolonged contact may cause dryness or irritation.

Environment

Harmful to aquatic life with long-lasting effects (H412). Avoid release to the environment. Product is phosphate-free and biodegradable. Prevent uncontrolled discharge of concentrated product to drains, waterways or soil.

Other Hazards

None known.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Name	CAS No.	Content (w/w)	Classification
n-alkylbenzenesulfonic acid, sodium salts	68411-30-3	>= 10 - < 30	
Dimethyldodecylamine oxide	1643-20-5	>= 3 - < 10	
Sodium xylenesulphonate	1300-72-7	< 10	
Alcohols, C12-14-secondary, ethoxylated	84133-50-6	>= 3 - < 10	

4. FIRST AID MEASURES**Ingestion**

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

Inhalation

After inhalation: fresh air.

Skin Contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

Eye Contact

After eye contact: rinse out with plenty of water.
Immediately call in ophthalmologist.
Remove contact lenses.

Other Information

General advice: Show this safety data sheet to the doctor in attendance.
Most important symptoms and effects, both acute and delayed: The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11
Protection of first-aiders: For personal protection see section 8.
Notes to physician: No data available

5. FIREFIGHTING MEASURES**Suitable extinguishing equipment****Fire**

Suitable extinguishing media:
Water
Foam
Carbon dioxide (CO₂)
Dry powder

Large Fire

No information available

HAZCHEM

N/A

Special protective equipment and precautions for fire fighters

Suitable extinguishing media: Water

Foam

Carbon dioxide (CO₂)

Dry powder

Unsuitable extinguishing media: For this substance/mixture no limitations of extinguishing agents are given.

Specific hazards during fire fighting: Combustible. Development of hazardous combustion gases or vapours possible in the event of fire.

Hazardous combustion products:

Carbon oxides

Nitrogen oxides (NO_x)

Sulphur oxides

Sodium oxides

Specific extinguishing methods: Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire

extinguishing water from contaminating surface water or the ground water system.
 Special protective equipment for fire-fighters: Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	Advice for non-emergency personnel: Do not breathe vapours, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. Advice for emergency responders: For personal protection see section 8.
Environmental precautions	Do not let product enter drains.
Methods and materials for containment and clean up	Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

7. HANDLING AND STORAGE

Precautions for safe handling	For precautions see section 2.2. Hygiene measures: Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.
Conditions for safe storage	Further information on storage conditions: Tightly closed. Storage class: 10, Combustible liquids Recommended storage temperature: Recommended storage temperature see product label.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Standards	No data available
Engineering controls	No data available
Personal protective equipment	
Eye and face protection	Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles
Skin protection	Hand protection Remarks: required
Body protection	protective clothing
Respiratory protection	required when vapours/aerosols are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system. Recommended Filter type: Filter type ABEK The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

9. PHYSICAL AND CHEMICAL PROPERTIES

General information	
Appearance	Light yellow liquid
Odour	No data available
pH	8.5
Vapour Pressure	No data available
Density	No data available
Boiling Point	No data available
Melting Point	No data available
Solubility	Water solubility: soluble (20 °C)
Specific Gravity of Density	No data available
Flash Point	No data available
Flammable (Explosive) Limits	No data available

Ignition Temperature No data available

10. STABILITY AND REACTIVITY

Reactivity No data available

Chemical stability The product is chemically stable under standard ambient conditions (room temperature)

Possibility of hazardous reactions No data available

Conditions to avoid No data available

Incompatible materials Strong oxidizing agents

11. TOXICOLOGICAL INFORMATION

Acute effects

Mixture

Oral: No data available

Acute toxicity estimate Inhalation - 4 h - > 5 mg/l - dust/mist(Calculation method)

Symptoms: Possible symptoms:, mucosal irritations

Dermal: No data available

Eye contact

Serious eye damage/eye irritation

Remarks: Mixture causes serious eye damage.

Skin contact

Skin corrosion/irritation

Remarks: Mixture causes skin irritation.

Ingestion

No data available

Inhalation

No data available

Chronic effects

No data available

Toxicity and irritation

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

Components

n-alkylbenzenesulfonic acid, sodium salts

Acute toxicity: LD50 Oral - Rat - male and female - 1,080 mg/kg (OECD Test Guideline 401)

Inhalation: No data available

LD50 Dermal - Rat - male and female - > 2,000 mg/kg (OECD Test Guideline 402)

Skin corrosion/irritation: Skin - Rabbit - Result: irritating - 4 h (OECD Test Guideline 404)

Serious eye damage/eye irritation: Eyes - Rabbit - Result: Irreversible effects on the eye - 72 h (OECD Test Guideline 405)

Respiratory or skin sensitization: Maximisation Test - Guinea pig - Result: Does not cause skin sensitisation. (OECD Test Guideline 406)

Germ cell mutagenicity: Test Type: In vitro mammalian cell gene mutation test - Result: negative; Test Type: Ames test - Test system: Salmonella typhimurium - Result: negative; Test Type: Mutagenicity (mammal cell test): chromosome aberration. - Result: Positive results were obtained in some in vitro tests.; Species: Mouse - male - Bone marrow - Result: negative - Remarks: (ECHA)

Carcinogenicity: No data available

Reproductive toxicity: No data available

Specific target organ toxicity - single exposure: No data available

Aspiration hazard: No data available

Dimethyldodecylamine oxide

Acute toxicity: LD50 Oral - Rat - male and female - 1,064 mg/kg (OECD Test Guideline 401)

Inhalation: No data available

Dermal: No data available

Skin corrosion/irritation: Skin - Rabbit - Result: Irritating to skin. (OECD Test Guideline 404)

Serious eye damage/eye irritation: Eyes - Rabbit - Result: Risk of serious damage to eyes. (OECD Test Guideline 405)

Respiratory or skin sensitization: Buehler Test - Guinea pig - Result: negative (OECD Test Guideline 406)

Germ cell mutagenicity: Test Type: In vitro mammalian cell gene mutation test - Test

system: Chinese hamster lung cells - Result: negative - Remarks: (ECHA); Test Type: Ames test - Test system: S. typhimurium - Result: negative; Test Type: Mutagenicity (mammal cell test): micronucleus. - Test system: Human lymphocytes - Result: negative

Carcinogenicity: No data available

Reproductive toxicity: No data available

Specific target organ toxicity - single exposure: No data available

Aspiration hazard: No data available

Sodium xylenesulphonate

Acute toxicity: LD50 Oral - Rat - male and female - > 7,000 mg/kg (OECD Test Guideline 401)

LC50 Inhalation - Rat - male and female - 3.8 h - > 6.41 mg/l - dust/mist (OECD Test Guideline 403)

LD50 Dermal - Rabbit - male and female - > 2,000 mg/kg (OECD Test Guideline 402)

Skin corrosion/irritation: Skin - Rabbit - Result: No skin irritation - 24 h

Serious eye damage/eye irritation: Eyes - Rabbit - Result: Irritating to eyes. - Remarks: (ECHA)

Respiratory or skin sensitization: No data available

Germ cell mutagenicity: Test Type: Hamster - Test system: ovary - Result: negative

Carcinogenicity: No data available

Reproductive toxicity: No data available

Specific target organ toxicity - single exposure: No data available

Specific target organ toxicity - repeated exposure: No data available

Aspiration hazard: No data available

Alcohols, C12-14-secondary, ethoxylated

Acute toxicity: Acute toxicity estimate Oral - 500.1 mg/kg (Expert judgement)

LC50 Inhalation - Rat - 4 h - 1.06 mg/l - dust/mist - Remarks: (External MSDS)

LD50 Dermal - Rat - male and female - > 14,000 mg/kg - Remarks: (External MSDS)

Skin corrosion/irritation: Remarks: Causes skin irritation. The value is given in analogy to the following substances: Mixed linear and branched C14-15 alcohols ethoxylated, reaction product with epichlorohydrin

Serious eye damage/eye irritation: Remarks: Causes serious eye damage.

Respiratory or skin sensitization: No data available

Germ cell mutagenicity: No data available

Carcinogenicity: No data available

Reproductive toxicity: No data available

Specific target organ toxicity - single exposure: No data available

Specific target organ toxicity - repeated exposure: No data available

Aspiration hazard: No data available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

n-alkylbenzenesulfonic acid, sodium salts:

Toxicity to fish: LC50 (Lepomis macrochirus (Bluegill sunfish)): 1.67 mg/l

End point: mortality

Exposure time: 96 h

Test Type: static test

Analytical monitoring: yes

Method: US-EPA

GLP: yes

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 2.9 mg/l

Exposure time: 48 h

Test Type: static test

Analytical monitoring: yes

Method: OECD Test Guideline 202

GLP: yes

Toxicity to algae/aquatic plants: ErC50 (Pseudokirchneriella subcapitata (green algae)): 235 mg/l

Exposure time: 72 h

Test Type: static test

Remarks: (ECHA)

Toxicity to fish (Chronic toxicity): NOEC (Oncorhynchus tshawytscha (chinook

salmon)): 0.23 mg/l
 End point: mortality
 Exposure time: 72 d
 Test Type: flow-through test
 Analytical monitoring: yes
 Method: OECD Test Guideline 210
 GLP: yes
 Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity): NOEC (Daphnia magna (Water flea)): 1.18 mg/l
 End point: reproduction rate
 Exposure time: 21 d
 Test Type: flow-through test
 Analytical monitoring: yes
 Method: OECD Test Guideline 211
 Dimethyldodecylamine oxide:
 Toxicity to fish: LC50 (Danio rerio (zebra fish)): 31.8 mg/l
 End point: mortality
 Exposure time: 96 h
 Test Type: semi-static test
 Method: OECD Test Guideline 203
 Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 3.9 mg/l
 End point: Immobilization
 Exposure time: 48 h
 Test Type: static test
 Method: OECD Test Guideline 202
 GLP: yes
 Toxicity to algae/aquatic plants: ErC50 (Pseudokirchneriella subcapitata (green algae)): 0.2 mg/l
 Exposure time: 72 h
 Test Type: static test
 Method: OECD Test Guideline 201
 M-Factor (Acute aquatic toxicity): 1
 Toxicity to fish (Chronic toxicity): LC50 (Pimephales promelas (fathead minnow)): 0.87 mg/l
 End point: mortality
 Exposure time: 120 d
 Test Type: flow-through test
 Analytical monitoring: yes
 Method: US-EPA
 Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity): NOEC (Daphnia magna (Water flea)): 0.7 mg/l
 Exposure time: 21 d
 Test Type: flow-through test
 Analytical monitoring: yes
 Method: OECD Test Guideline 211
 Toxicity to microorganisms: EC10 (Pseudomonas putida): 80 mg/l
 Exposure time: 18 h
 Ecotoxicology Assessment
 Chronic aquatic toxicity: Toxic to aquatic life with long lasting effects.
 Alcohols, C12-14-secondary, ethoxylated:
 Toxicity to fish: LC50 (Pimephales promelas (fathead minnow)): 3.2 - 3.6 mg/l
 Exposure time: 96 h
 Test Type: static test
 Remarks: (External MSDS)
 Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 7.3 mg/l
 Exposure time: 48 h
 Test Type: static test
 Remarks: (External MSDS)
 Toxicity to microorganisms: EC50 (Bacteria): > 1,000 mg/l
 Exposure time: 16 h
 Remarks: (External MSDS)

Persistence and degradability

Components:
 n-alkylbenzenesulfonic acid, sodium salts:
 Biodegradability: aerobic
 Inoculum: activated sludge, non-adapted
 Concentration: 34.3 mg/l
 Result: Readily biodegradable.
 Biodegradation: 85 %
 Exposure time: 29 d
 Method: OECD Test Guideline 301B
 GLP: yes
 Dimethyldodecylamine oxide:
 Biodegradability: aerobic
 Inoculum: activated sludge
 Concentration: 20 mg/l
 Result: Readily biodegradable.
 Biodegradation: 95.27 %
 Exposure time: 28 d
 Method: OECD Test Guideline 301B
 Sodium xylenesulphonate:
 Biodegradability: aerobic
 Inoculum: activated sludge, non-adapted
 Result: Readily biodegradable.
 Biodegradation: 83 - 85 %
 Exposure time: 28 d
 Method: OECD Test Guideline 301B
 GLP: yes
 Alcohols, C12-14-secondary, ethoxylated:
 Biodegradability: Result: Readily biodegradable.
 Biodegradation: > 60 %
 Exposure time: 28 d
 Method: OECD Test Guideline 301F
 Remarks: (External MSDS)

Bioaccumulative potential

Components:
 n-alkylbenzenesulfonic acid, sodium salts:
 Bioaccumulation: Species: Pimephales promelas (fathead minnow)
 Bioconcentration factor (BCF): 87
 Partition coefficient: n-octanol/water: log Pow: 1.4 (23 °C)
 pH: 6.1
 Method: OECD Test Guideline 123
 Sodium xylenesulphonate:
 Partition coefficient: n-octanol/water: log Pow: -3.12 (20 °C)
 pH: 11.96
 Method: Regulation (EC) No. 440/2008, Annex, A.8
 GLP: yes
 Alcohols, C12-14-secondary, ethoxylated:
 Bioaccumulation: Bioconcentration factor (BCF): 29
 Remarks: No bioaccumulation is to be expected (log Pow <= 4).
 (External MSDS)
 Partition coefficient: n-octanol/water: log Pow: 2.72
 Remarks: Bioaccumulation is not expected.
 (External MSDS)

Other adverse effects

Mobility in soil
 No data available
 Other adverse effects
 Components:
 n-alkylbenzenesulfonic acid, sodium salts:
 Results of PBT and vPvB assessment: Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.
 Endocrine disrupting properties
 No data available

13. DISPOSAL CONSIDERATIONS**General information**

Waste from residues: Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

14. TRANSPORT INFORMATION**ADG label required**

HAZCHEM N/A

UN Number Not applicable

Proper shipping name Not applicable

Transport hazard class Not applicable

Packing group Not applicable

Environmental hazard Not applicable

Special precautions for users Not classified as dangerous in the meaning of transport regulations.

Additional information

National Regulations

ADG

Not regulated as a dangerous good

Subsidiary risk: Not applicable

Labels: Not applicable

Hazchem Code: Not applicable

International Regulations

IATA-DGR

Not regulated as a dangerous good

UN/ID No.: Not applicable

Proper shipping name: Not applicable

Class: Not applicable

Subsidiary risk: Not applicable

Packing group: Not applicable

Labels: Not applicable

Packing instruction (cargo aircraft): Not applicable

Packing instruction (passenger aircraft): Not applicable

IMDG-Code

Not regulated as a dangerous good

UN number: Not applicable

Proper shipping name: Not applicable

Class: Not applicable

Subsidiary risk: Not applicable

Packing group: Not applicable

Labels: Not applicable

EmS Code: Not applicable

Marine pollutant: Not applicable

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

Not applicable for product as supplied.

15. REGULATORY INFORMATION**Poisons Schedule Number**

Therapeutic Goods (Poisons Standard) Instrument: No poison schedule number allocated

(Please use the original publication to check for specific uses, specific conditions or threshold limits that might apply for this chemical)

Other Information

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

Prohibition/Licensing Requirements: There is no applicable prohibition, authorisation and restricted use requirements, including for carcinogens referred to in Schedule 10 of the model WHS Act and Regulations.

National Code of Practice for Chemicals of Security Concern: Not listed

16. OTHER INFORMATION**SDS preparation date**

18 August 2026

Comments

Revision Date: 26.03.2026

Other information: The information is believed to be correct but is not exhaustive and will be used solely as a guideline, which is based on current knowledge of the chemical substance or mixture and is applicable to appropriate safety precautions for the product. It does not represent any guarantee of the properties of the product.

Full text of other abbreviations

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonised 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 Organisation; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardisation; 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; MERCOSUR - The Agreement for the Facilitation of the Transport of Dangerous Goods; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organisation 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; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

References

Merch Safety Data Sheet "Liquinox(r) phosphate-free liquid detergent". 26/03/2026
<https://www.sigmaaldrich.com/AU/en/sds/aldrich/z742916?userType=anonymous>.

This Safety Data Sheet (SDS) has been prepared in compliance with the Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice February 2016. It is the user's responsibility to determine the suitability of this information for adoption of necessary safety precautions. The information published in this SDS has been compiled from the publications listed in Section 16: to the best of our ability and knowledge these publications are considered accurate. We reserve the right to revise Safety Data Sheets as new information becomes available. Copies may be made for non-profit use.

... End of SDS ...