

**SUMA SPECIAL L4**

Revision: 2016-04-18

Version: 01.0

**SECTION 1: Identification of the substance/mixture and supplier**

**1.1 Product identifier**

**Product name** SUMA SPECIAL L4

**1.2 Recommended use and restrictions on use**

**Identified uses:**

Dishmachine detergent

**Restrictions of use:**

Uses other than those identified are not recommended

**1.3 Details of the supplier**

Diversey Australia Pty. Limited  
29 Chifley St, Smithfield, NSW, 2164, Australia  
Telephone: 1800 647 779 (toll free)  
Fax: (02) 9725 5767  
Email: aucustserv@sealedair.com  
Website: <http://www.sealedair.com/>

**1.4 Emergency telephone number**

Call 1800 033 111 (24hrs)

**SECTION 2: Hazards identification**

**2.1 Classification of the substance or mixture**

Skin corrosion, Category 1A  
Corrosive to metals, Category 1

**2.2 Label elements**



**Signal word:** Danger

**Hazard statements:**

H314 - Causes severe skin burns and eye damage.  
H290 - May be corrosive to metals.

**Prevention statement(s):**

P101 - If medical advice is needed, have product container or label at hand.  
P102 - Keep out of reach of children.  
P233 - Keep container tightly closed.  
P234 - Keep only in original container.  
P264 - Wash face, hands and any exposed skin thoroughly after handling.  
P280 - Wear protective gloves, protective clothing and eye or face protection.

**Response statement(s):**

P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.  
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P310 - Immediately call a POISON CENTRE, doctor or physician.  
P321 - Specific treatment (see supplemental first aid instructions on this label).  
P363 - Wash contaminated clothing before reuse.  
P390 - Absorb spillage to prevent material damage.

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**Storage statement(s):**

P405 - Store locked up.

P406 - Store in corrosive-resistant container with a resistant inner liner.

**Disposal statement(s):**

P501 - Dispose of unused content as chemical waste.

**2.3 Other hazards**

No other hazards known.

**2.4 Classification diluted product:**

Recommended maximum concentration (%): 0.2

Not classified

P102 - Keep out of reach of children.

**SECTION 3: Composition/information on ingredients****3.1 Substances / Mixtures**

Ingredient(s)	CAS number	EC number	Classification	Weight percent
sodium hydroxide	1310-73-2	215-185-5	Skin Corr. 1A (H314) Met. Corr. 1 (H290)	10-30
tetrasodium (1-hydroxy ethylidene)bisphosphonate	3794-83-0	223-267-7	Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)	1-3

Non-hazardous ingredients are the remainder and add up to 100%.

\* Polymer.

Workplace exposure limit(s), if available, are listed in subsection 8.1.

For the full text of the H and AUH phrases mentioned in this Section, see Section 16.

**SECTION 4: First aid measures****4.1 Description of first aid measures****General Information:**

If unconscious place in recovery position and seek medical advice. Provide fresh air. If breathing is irregular or stopped, administer artificial respiration. No mouth-to-mouth or mouth-to-nose resuscitation. Use Ambu bag or ventilator.

**Inhalation:**

Remove person to fresh air and keep comfortable for breathing. Get medical attention or advice if you feel unwell.

**Skin contact:**

Take off immediately all contaminated clothing and wash it before re-use. Immediately call a POISON CENTRE, doctor or physician.

**Eye contact:**

Hold eyelids apart and flush eyes with plenty of lukewarm water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTRE, doctor or physician.

**Ingestion:**

Rinse mouth. Immediately drink 1 glass of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Keep at rest. Immediately call a POISON CENTRE, doctor or physician.

**Self-protection of first aider:**

Consider personal protective equipment as indicated in subsection 8.2.

**First aid facilities:**

Shower and eyewash facilities should be considered in a workplace where necessary.

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

No known effects or symptoms in normal use.

**Skin contact:**

Causes severe burns.

**Eye contact:**

Causes severe or permanent damage.

**Ingestion:**

Ingestion will lead to a strong caustic effect on mouth and throat and to the danger of perforation of oesophagus and stomach.

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

No information available on clinical testing and medical monitoring. Specific toxicological information on substances, if available, can be found in section 11.

**Poison Information Center:**

Call 13 11 26 (Australia Wide).

**SECTION 5: Firefighting measures****5.1 Extinguishing media**

Carbon dioxide. Dry powder. Water spray jet. Fight larger fires with water spray jet or alcohol-resistant foam.

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

No special hazards known.

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**5.3 Advice for firefighters**

As in any fire, wear self contained breathing apparatus and suitable protective clothing including gloves and eye/face protection.

**5.4 Hazchem code**

2R

2 - Fine water spray.

R - Liquid-tight chemical protective clothing and breathing apparatus. Dilute. W - Liquid-tight chemical protective clothing and breathing apparatus. Contain.

**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

Wear suitable protective clothing, gloves and eye/face protection.

**6.2 Environmental precautions**

Do not allow to enter drainage system, surface or ground water. Dilute with plenty of water.

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

Use neutralising agent. Absorb onto dry sand or similar inert material.

**6.4 Reference to other sections**

For personal protective equipment see subsection 8.2. For disposal considerations see section 13.

**SECTION 7: Handling and storage****7.1 Precautions for safe handling****Measures to prevent fire and explosions:**

No special precautions required.

**Measures required to protect the environment:**

For environmental exposure controls see subsection 8.2.

**Advices on general occupational hygiene:**

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Keep out of reach of children. Do not mix with other products unless advised by Sealed Air. Wash hands before breaks and at the end of workday. Wash face, hands and any exposed skin thoroughly after handling. Take off immediately all contaminated clothing. Wash contaminated clothing before reuse. Use personal protective equipment as required. Avoid contact with skin and eyes. Use only with adequate ventilation.

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

Store in accordance with local and national regulations. Keep locked up and out of the reach of children. Keep only in original container. Store in a closed container.

For conditions to avoid see subsection 10.4. For incompatible materials see subsection 10.5.

**7.3 Specific end use(s)**

No specific advice for end use available.

**SECTION 8: Exposure controls/personal protection****8.1 Control parameters****Workplace exposure limits**

Air limit values, if available:

Ingredient(s)	Long term value(s) (TWA)	Short term value(s) (STEL)	Peak value(s)
sodium hydroxide			2 mg/m <sup>3</sup>

Biological limit values, if available:

**8.2 Exposure controls**

*The following information applies for the uses indicated in subsection 1.2 of the Safety Data Sheet.*

*If available, please refer to the product information sheet for application and handling instructions.*

*Normal use conditions are assumed for this section.*

*Recommended safety measures for handling the undiluted product:*

*Covering activities such as filling and transfer of product to application equipment, flasks or buckets*

**Appropriate engineering controls:**

If the product is diluted by using specific dosing systems with no risk of splashes or direct skin contact, the personal protection equipment as described in this section is not required. Where possible: use in automated/closed system and cover open containers. Transport over pipes. Filling with automatic systems. Use tools for manual handling of product.

**Appropriate organisational controls:**

Avoid direct contact and/or splashes where possible. Train personnel.

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**Personal protective equipment****Eye / face protection:**

Safety glasses or goggles (EN 166). The use of a full-face shield or other full-face protection is strongly recommended when handling open containers or if splashes may occur.  
Chemical-resistant protective gloves (EN 374).

**Hand protection:**

Verify instructions regarding permeability and breakthrough time, as provided by the gloves supplier.

Consider specific local use conditions, such as risk of splashes, cuts, contact time and temperature.

Suggested gloves for prolonged contact:

Material: butyl rubber

Penetration time:  $\geq 480$  min

Material thickness:  $\geq 0.7$  mm

Suggested gloves for protection against splashes:

Material: nitrile rubber

Penetration time:  $\geq 30$  min

Material thickness:  $\geq 0.4$  mm

In consultation with the supplier of protective gloves a different type providing similar protection may be chosen.

**Body protection:**

Wear chemical-resistant clothing and boots in case direct dermal exposure and/or splashes may occur (EN 14605).

**Respiratory protection:**

No special requirements under normal use conditions.

**Environmental exposure controls:**

Should not reach sewage water or drainage ditch undiluted or unneutralised.

*Recommended safety measures for handling the diluted product:*

**Recommended maximum concentration (%):** 0.2

**Appropriate engineering controls:**

No special requirements under normal use conditions.

**Appropriate organisational controls:**

No special requirements under normal use conditions.

**Personal protective equipment****Eye / face protection:**

No special requirements under normal use conditions.

**Hand protection:**

No special requirements under normal use conditions.

**Body protection:**

No special requirements under normal use conditions.

**Respiratory protection:**

No special requirements under normal use conditions.

**Environmental exposure controls:**

No special requirements under normal use conditions.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Method / remark

**Physical State:** Liquid

**Colour:** Clear, Light Yellow

**Odour:** Product specific

**Odour threshold:** Not applicable

**pH:**  $\approx 14.0$  (neat)

**Dilution pH:**  $\approx 12$  (1%)

**Melting point/freezing point (°C):** Not determined

**Initial boiling point and boiling range (°C):** Not determined

**Flash point (°C):** Not applicable.

**Sustained combustion:** Not applicable.

**Evaporation rate:** Not determined

**Flammability (solid, gas):** Not determined

**Upper/lower flammability limit (%):** Not determined

**Vapour pressure:** Not determined

**Vapour density:** Not determined

**Relative density:** 1.13 (approximately) g/cm<sup>3</sup> (20 °C)

**Solubility in / Miscibility with Water:** Fully miscible

**Autoignition temperature:** Not determined

**Decomposition temperature:** Not applicable.

**Viscosity:** Not determined

**Explosive properties:** Not explosive.

**Oxidising properties:** Not oxidising

### 9.2 Other information

**Surface tension (N/m):** Not determined

**Corrosion to metals:** Corrosive

Weight of evidence

**SECTION 10: Stability and reactivity****10.1 Reactivity**

No reactivity hazards known under normal storage and use conditions.

**10.2 Chemical stability**

Stable under normal storage and use conditions.

**10.3 Possibility of hazardous reactions**

No hazardous reactions known under normal storage and use conditions.

**10.4 Conditions to avoid**

None known under normal storage and use conditions.

**10.5 Incompatible materials**

Reacts with water and acids.

**10.6 Hazardous decomposition products**

None known under normal storage and use conditions.

**SECTION 11: Toxicological information****11.1 Information on toxicological effects**

Mixture data:

**Relevant calculated ATE(s):**

ATE - Oral (mg/kg): >5000

Substance data, where relevant and available, are listed below:

**Acute toxicity**

Acute oral toxicity

Ingredient(s)	Endpoint	Value (mg/kg)	Species	Method	Exposure time (h)
sodium hydroxide		No data available			
tetrasodium (1-hydroxy ethylidene)bisphosphonate		No data available			

Acute dermal toxicity

Ingredient(s)	Endpoint	Value (mg/kg)	Species	Method	Exposure time (h)
sodium hydroxide		No data available			
tetrasodium (1-hydroxy ethylidene)bisphosphonate		No data available			

Acute inhalative toxicity

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
sodium hydroxide		No data available			
tetrasodium (1-hydroxy ethylidene)bisphosphonate		No data available			

**Irritation and corrosivity**

Skin irritation and corrosivity

Ingredient(s)	Result	Species	Method	Exposure time
sodium hydroxide	Corrosive	Rabbit	Method not given	
tetrasodium (1-hydroxy ethylidene)bisphosphonate	No data available			

Eye irritation and corrosivity

Ingredient(s)	Result	Species	Method	Exposure time
sodium hydroxide	Corrosive	Rabbit	Method not given	
tetrasodium (1-hydroxy ethylidene)bisphosphonate	No data available			

Respiratory tract irritation and corrosivity

Ingredient(s)	Result	Species	Method	Exposure time
sodium hydroxide	No data available			
tetrasodium (1-hydroxy ethylidene)bisphosphonate	No data available			

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**Sensitisation**

Sensitisation by skin contact

Ingredient(s)	Result	Species	Method	Exposure time (h)
sodium hydroxide	Not sensitising		Human repeated patch test	
tetrasodium (1-hydroxy ethylidene)bisphosphonate	No data available			

Sensitisation by inhalation

Ingredient(s)	Result	Species	Method	Exposure time
sodium hydroxide	No data available			
tetrasodium (1-hydroxy ethylidene)bisphosphonate	No data available			

**CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

Mutagenicity

Ingredient(s)	Result (in-vitro)	Method (in-vitro)	Result (in-vivo)	Method (in-vivo)
sodium hydroxide	No evidence for mutagenicity, negative test results	DNA repair test on rat hepatocytes OECD 473	No evidence for mutagenicity, negative test results	OECD 474 (EU B.12) OECD 475 (EU B.11)
tetrasodium (1-hydroxy ethylidene)bisphosphonate	No data available		No data available	

Carcinogenicity

Ingredient(s)	Effect
sodium hydroxide	No evidence for carcinogenicity, weight-of-evidence
tetrasodium (1-hydroxy ethylidene)bisphosphonate	No data available

Toxicity for reproduction

Ingredient(s)	Endpoint	Specific effect	Value (mg/kg bw/d)	Species	Method	Exposure time	Remarks and other effects reported
sodium hydroxide			No data available				No evidence for developmental toxicity No evidence for reproductive toxicity
tetrasodium (1-hydroxy ethylidene)bisphosphonate			No data available				

**Repeated dose toxicity**

Sub-acute or sub-chronic oral toxicity

Ingredient(s)	Endpoint	Value (mg/kg bw/d)	Species	Method	Exposure time (days)	Specific effects and organs affected
sodium hydroxide		No data available				
tetrasodium (1-hydroxy ethylidene)bisphosphonate		No data available				

Sub-chronic dermal toxicity

Ingredient(s)	Endpoint	Value (mg/kg bw/d)	Species	Method	Exposure time (days)	Specific effects and organs affected
sodium hydroxide		No data available				
tetrasodium (1-hydroxy ethylidene)bisphosphonate		No data available				

Sub-chronic inhalation toxicity

Ingredient(s)	Endpoint	Value (mg/kg bw/d)	Species	Method	Exposure time (days)	Specific effects and organs affected
sodium hydroxide		No data available				
tetrasodium (1-hydroxy ethylidene)bisphosphonate		No data available				

Chronic toxicity

Ingredient(s)	Exposure route	Endpoint	Value (mg/kg bw/d)	Species	Method	Exposure time	Specific effects and organs affected	Remark
sodium hydroxide			No data available					
tetrasodium (1-hydroxy ethylidene)bisphosphonate			No data available					

STOT-single exposure

Ingredient(s)	Affected organ(s)
sodium hydroxide	No data available
tetrasodium (1-hydroxy ethylidene)bisphosphonate	No data available

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STOT-repeated exposure

Ingredient(s)	Affected organ(s)
sodium hydroxide	No data available
tetrasodium (1-hydroxy ethylidene)bisphosphonate	No data available

**Aspiration hazard**

Substances with an aspiration hazard (H304), if any, are listed in section 3. If relevant, see section 9 for dynamic viscosity and relative density of the product.

**Potential adverse health effects and symptoms**

Effects and symptoms related to the product, if any, are listed in subsection 4.2.

**SECTION 12: Ecological information****12.1 Toxicity**

No data is available on the mixture

Substance data, where relevant and available, are listed below:

**Aquatic short-term toxicity**

Aquatic short-term toxicity - fish

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
sodium hydroxide	LC <sub>50</sub>	35	<i>Various species</i>	Method not given	96
tetrasodium (1-hydroxy ethylidene)bisphosphonate		No data available			

Aquatic short-term toxicity - crustacea

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
sodium hydroxide	EC <sub>50</sub>	40.4	<i>Ceriodaphnia sp.</i>	Method not given	48
tetrasodium (1-hydroxy ethylidene)bisphosphonate		No data available			

Aquatic short-term toxicity - algae

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
sodium hydroxide	EC <sub>50</sub>	22	<i>Photobacterium phosphoreum</i>	Method not given	0.25
tetrasodium (1-hydroxy ethylidene)bisphosphonate		No data available			

Aquatic short-term toxicity - marine species

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (days)
sodium hydroxide		No data available			-
tetrasodium (1-hydroxy ethylidene)bisphosphonate		No data available			

Impact on sewage plants - toxicity to bacteria

Ingredient(s)	Endpoint	Value (mg/l)	Inoculum	Method	Exposure time
sodium hydroxide		No data available			
tetrasodium (1-hydroxy ethylidene)bisphosphonate		No data available			

**Aquatic long-term toxicity**

Aquatic long-term toxicity - fish

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time	Effects observed
sodium hydroxide		No data available				
tetrasodium (1-hydroxy ethylidene)bisphosphonate		No data available				

Aquatic long-term toxicity - crustacea

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time	Effects observed
sodium hydroxide		No data available				
tetrasodium (1-hydroxy ethylidene)bisphosphonate		No data available				

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Aquatic toxicity to other aquatic benthic organisms, including sediment-dwelling organisms, if available:

Ingredient(s)	Endpoint	Value (mg/kg dw sediment)	Species	Method	Exposure time (days)	Effects observed
sodium hydroxide		No data available			-	
tetrasodium (1-hydroxy ethylidene)bisphosphonate		No data available				

**Terrestrial toxicity**

Terrestrial toxicity - soil invertebrates, including earthworms, if available:

Ingredient(s)	Endpoint	Value (mg/kg dw soil)	Species	Method	Exposure time (days)	Effects observed
sodium hydroxide		No data available			-	

Terrestrial toxicity - plants, if available:

Ingredient(s)	Endpoint	Value (mg/kg dw soil)	Species	Method	Exposure time (days)	Effects observed
sodium hydroxide		No data available			-	

Terrestrial toxicity - birds, if available:

Ingredient(s)	Endpoint	Value	Species	Method	Exposure time (days)	Effects observed
sodium hydroxide		No data available			-	

Terrestrial toxicity - beneficial insects, if available:

Ingredient(s)	Endpoint	Value (mg/kg dw soil)	Species	Method	Exposure time (days)	Effects observed
sodium hydroxide		No data available			-	

Terrestrial toxicity - soil bacteria, if available:

Ingredient(s)	Endpoint	Value (mg/kg dw soil)	Species	Method	Exposure time (days)	Effects observed
sodium hydroxide		No data available			-	

**12.2 Persistence and degradability****Abiotic degradation**

Abiotic degradation - photodegradation in air, if available:

Ingredient(s)	Half-life time	Method	Evaluation	Remark
sodium hydroxide	13 second(s)	Method not given	Rapidly photodegradable	

Abiotic degradation - hydrolysis, if available:

Abiotic degradation - other processes, if available:

**Biodegradation**

Ready biodegradability - aerobic conditions

Ingredient(s)	Inoculum	Analytical method	DT <sub>50</sub>	Method	Evaluation
sodium hydroxide					Not applicable (inorganic substance)
tetrasodium (1-hydroxy ethylidene)bisphosphonate					No data available

Ready biodegradability - anaerobic and marine conditions, if available:

Degradation in relevant environmental compartments, if available:

**12.3 Bioaccumulative potential**

Partition coefficient n-octanol/water (log Kow)

Ingredient(s)	Value	Method	Evaluation	Remark
sodium hydroxide	No data available		Not relevant, does not bioaccumulate	
tetrasodium (1-hydroxy ethylidene)bisphosphonate	No data available			

Bioconcentration factor (BCF)

Ingredient(s)	Value	Species	Method	Evaluation	Remark
sodium hydroxide	No data available				
tetrasodium (1-hydroxy	No data available				



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ethylidene)bisphosphonate					
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**12.4 Mobility in soil**

Adsorption/Desorption to soil or sediment

Ingredient(s)	Adsorption coefficient Log Koc	Desorption coefficient Log Koc(des)	Method	Soil/sediment type	Evaluation
sodium hydroxide	No data available				Mobile in soil
tetrasodium (1-hydroxy ethylidene)bisphosphonate	No data available				

**12.5 Other adverse effects**

No other adverse effects known.

**SECTION 13: Disposal considerations****13.1 Waste treatment methods****Waste from residues / unused products:**

The concentrated contents or contaminated packaging should be disposed of by a certified handler or according to the site permit. Release of waste to sewers is discouraged. The cleaned packaging material is suitable for energy recovery or recycling in line with local legislation.

**Empty packaging****Recommendation:**

Dispose of observing national or local regulations.

**Suitable cleaning agents:**

Water, if necessary with cleaning agent.

**SECTION 14: Transport information****ADG, IMO/IMDG, ICAO/IATA****14.1 UN number:** 1824**14.2 UN proper shipping name:**

Sodium hydroxide solution

**14.3 Transport hazard class(es):****Class:** 8**Label(s):** 8**14.4 Packing group:** II**14.5 Environmental hazards:****Environmentally hazardous:** No**Marine pollutant:** No**14.6 Special precautions for user:** None known.**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:** The product is not transported in bulk tankers.**Other relevant information:****Hazchem code:** 2R**IMO/IMDG****EmS:** F-A, S-B

The product has been classified, labelled and packaged in accordance with the requirements of ADG and the provisions of the IMDG Code. Transport regulations include special provisions for certain classes of dangerous goods packed in limited quantities.

**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****Poison schedule**

Classified as a Schedule 6 (S6) Poison using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classification**

Globally Harmonised System of Classification and Labelling of Chemicals (GHS) as published by Safework Australia.

**Inventory listing(s)**

AICS (Australian Inventory of Chemical Substances): All components are listed on AICS, or are exempt

## SECTION 16: Other information

*The information in this document is based on our best present knowledge. However, it does not constitute a guarantee for any specific product features and does not establish a legally binding contract*

**SDS code:** MS31000664

**Version:** 01.0

**Revision:** 2016-04-18

### Full text of the H and EUH phrases mentioned in section 3: Full text of the H phrases mentioned in section 3:

- H290 - May be corrosive to metals.
- H302 - Harmful if swallowed.
- H314 - Causes severe skin burns and eye damage.
- H315 - Causes skin irritation.
- H319 - Causes serious eye irritation.

### Additional information:

**Respirators:** In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

**Work practices - solvents:** Organic solvents may present both a health and flammability hazard. It is recommended that engineering controls should be adopted to reduce exposure where practicable (for example, if using indoors, ensure explosion proof extraction ventilation is available). Flammable or combustible liquids with explosive limits have the potential for ignition from static discharge. Refer to AS 1020 (The control of undesirable static electricity) and AS 1940 (The storage and handling of flammable and combustible liquids) for control procedures.

**Exposure standards - Time Weighted Average (TWA) or Workplace Exposure Standard (WES) (NZ):** Exposure standards are established on the premise of an 8 hour work period of normal intensity, under normal climatic conditions and where a 16 hour break between shifts exists to enable the body to eliminate absorbed contaminants. In the following circumstances, exposure standards must be reduced: strenuous work conditions; hot, humid climates; high altitude conditions; extended shifts (which increase the exposure period and shorten the period of recuperation).

**Personal protective equipment guidelines:** The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

**Health effects from exposure:** It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a Safety Data Sheet which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

### Abbreviations and acronyms:

- ATE - Acute Toxicity Estimate
- AISE - The international Association for Soaps, Detergents and Maintenance Products
- DNEL - Derived No Effect Limit
- LC50 - Lethal Concentration, 50% / Median Lethal Concentration
- EUH - CLP Specific hazard statement
- LD50 - Lethal Dose, 50% / Median Lethal dose
- PBT - Persistent, Bioaccumulative and Toxic
- STOT-RE - Specific target organ toxicity (repeated exposure)
- PNEC - Predicted No Effect Concentration
- STOT-SE - Specific target organ toxicity (single exposure)
- REACH number - REACH registration number, without supplier specific part
- EC No. - European Community Number
- vPvB - very Persistent and very Bioaccumulative

**End of Safety Data Sheet**