



# WS353 Flux Gel/Paste

## Chemtools Pty Ltd

Chemwatch Hazard Alert Code: 3

Chemwatch: 5683-02

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Safety Data Sheet according to Work Health and Safety Regulations (Hazardous Chemicals) 2023 and ADG requirements

S.GHS.AUS/NZ.EN.E

Safety Data Sheet according to the Health and Safety at Work (Hazardous Substances) Regulations 2017

### SECTION 1 Identification of the substance / mixture and of the company / undertaking

#### Product Identifier

Product name	WS353 Flux Gel/Paste
Chemical Name	Not Applicable
Proper shipping name	CORROSIVE LIQUID, N.O.S. (contains N-(tallow alkyl)-1,3-diaminopropane, ethoxylated)
Chemical formula	Not Applicable
Other means of identification	Not Available

#### Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses	Use according to manufacturer's directions.
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#### Details of the manufacturer or supplier of the safety data sheet

Registered company name	Chemtools Pty Ltd	Chemtools Ltd
Address	Unit 2, 14 - 16 Lee Holm Road St Marys NSW 2760 Australia	15/62 Factory Road Belfast Christchurch 8051 New Zealand
Telephone	1300 738 250, +61 2 9833 9766	+64 3 323 4177
Fax	+61 2 9623 3670	+61 2 9623 3670
Website	<a href="http://www.chemtools.com.au">www.chemtools.com.au</a>	<a href="http://www.chemtools.co.nz">www.chemtools.co.nz</a>
Email	<a href="mailto:sales@chemtools.com.au">sales@chemtools.com.au</a>	<a href="mailto:nzsales@chemtools.co.nz">nzsales@chemtools.co.nz</a>

#### Emergency telephone number

Association / Organisation	Poisons Information Centre	National Poisons Centre
Emergency telephone numbers	13 11 26	0800 764 766
Other emergency telephone numbers	Not Available	Not Available

### SECTION 2 Hazards identification

#### Classification of the substance or mixture

**HAZARDOUS CHEMICAL. DANGEROUS GOODS. According to the WHS Regulations and the ADG Code.**

Poisons Schedule	Not Applicable
Classification <sup>[1]</sup>	Skin Corrosion/Irritation Category 1A, Serious Eye Damage/Eye Irritation Category 1, Specific Target Organ Toxicity - Single Exposure (Respiratory Tract Irritation) Category 3, Carcinogenicity Category 2, Reproductive Toxicity Category 1A, Specific Target Organ Toxicity - Repeated Exposure Category 2, Hazardous to the Aquatic Environment Acute Hazard Category 3, Hazardous to the Aquatic Environment Long-Term Hazard Category 3
Legend:	1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI

#### Label elements

Hazard pictogram(s)	
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Signal word	<b>Danger</b>
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**Hazard statement(s)**

H314	Causes severe skin burns and eye damage.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H360D	May damage the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

**Precautionary statement(s) Prevention**

P201	Obtain special instructions before use.
P260	Do not breathe mist/vapours/spray.
P264	Wash all exposed external body areas thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves, protective clothing, eye protection and face protection.
P273	Avoid release to the environment.

**Precautionary statement(s) Response**

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].
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313	IF exposed or concerned: Get medical advice/ attention.
P310	Immediately call a POISON CENTER/doctor/physician/first aider.
P363	Wash contaminated clothing before reuse.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.

**Precautionary statement(s) Storage**

P405	Store locked up.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.

**Precautionary statement(s) Disposal**

P501	Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.
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**Considered a Hazardous Substance according to the criteria of the New Zealand Hazardous Substances New Organisms legislation. Classified as Dangerous Goods for transport purposes.**

**NFPA 704 diamond**

Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health Red = Fire Yellow = Reactivity White = Special (Oxidizer or water reactive substances)

Classification <sup>[1]</sup>	Skin Corrosion/Irritation Category 1B, Serious Eye Damage/Eye Irritation Category 1, Reproductive Toxicity Category 1, Specific Target Organ Toxicity - Repeated Exposure Category 2
<b>Legend:</b>	1. Classified by Chemwatch; 2. Classification drawn from CCID EPA NZ; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI
<b>Determined by Chemwatch using GHS/HSNO criteria</b>	8.2B, 8.3A, 6.8A, 6.9B

**Label elements**

Hazard pictogram(s)	
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Signal word	Danger
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**Hazard statement(s)**

H314	Causes severe skin burns and eye damage.
H360	May damage fertility or the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.

**Supplementary statement(s)**

Not Applicable

**Precautionary statement(s) Prevention**

P201	Obtain special instructions before use.
P260	Do not breathe mist/vapours/spray.
P264	Wash all exposed external body areas thoroughly after handling.
P280	Wear protective gloves, protective clothing, eye protection and face protection.

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**Precautionary statement(s) Disposal**

P501	Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.
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**SECTION 3 Composition / information on ingredients****Substances**

See section below for composition of Mixtures

**Mixtures**

CAS No	%[weight]	Name
9004-99-3	<30	<u>glyceryl monostearate, self-emulsifying</u>
872-50-4	<20	<u>N-methyl-2-pyrrolidone</u>
61790-85-0	<10	<u>N-(tallow alkyl)-1,3-diaminopropane, ethoxylated</u>
111-42-2	<10	<u>diethanolamine</u>
Not Available	NotSpec	amines, proprietary
110-15-6	<10	<u>succinic acid</u>
Not Available	balance	Ingredients determined not to be hazardous

**Legend:** 1. Classified by Chemwatch; 2. Classification drawn from CCID EPA NZ; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 4. Classification drawn from C&L; \* EU IOELVs available

**SECTION 4 First aid measures**

Continued...

## Description of first aid measures

<b>Eye Contact</b>	<p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> <li>▶ Immediately hold eyelids apart and flush the eye continuously with running water.</li> <li>▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.</li> <li>▶ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.</li> <li>▶ Transport to hospital or doctor without delay.</li> <li>▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul>
<b>Skin Contact</b>	<p>If skin or hair contact occurs:</p> <ul style="list-style-type: none"> <li>▶ Immediately flush body and clothes with large amounts of water, using safety shower if available.</li> <li>▶ Quickly remove all contaminated clothing, including footwear.</li> <li>▶ Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre.</li> <li>▶ Transport to hospital, or doctor.</li> </ul>
<b>Inhalation</b>	<ul style="list-style-type: none"> <li>▶ If fumes or combustion products are inhaled remove from contaminated area.</li> <li>▶ Lay patient down. Keep warm and rested.</li> <li>▶ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.</li> <li>▶ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.</li> <li>▶ Transport to hospital, or doctor, without delay.</li> </ul>
<b>Ingestion</b>	<ul style="list-style-type: none"> <li>▶ For advice, contact a Poisons Information Centre or a doctor at once.</li> <li>▶ Urgent hospital treatment is likely to be needed.</li> <li>▶ <b>If swallowed do NOT induce vomiting.</b></li> <li>▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.</li> <li>▶ Observe the patient carefully.</li> <li>▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.</li> <li>▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.</li> <li>▶ Transport to hospital or doctor without delay.</li> </ul>

## Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## SECTION 5 Firefighting measures

### Extinguishing media

- ▶ Water spray or fog.
- ▶ Foam.
- ▶ Dry chemical powder.
- ▶ BCF (where regulations permit).
- ▶ Carbon dioxide.

### Special hazards arising from the substrate or mixture

<b>Fire Incompatibility</b>	▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result
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### Advice for firefighters

<b>Fire Fighting</b>	<ul style="list-style-type: none"> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ Wear breathing apparatus plus protective gloves.</li> <li>▶ Prevent, by any means available, spillage from entering drains or water courses.</li> <li>▶ Use water delivered as a fine spray to control fire and cool adjacent area.</li> <li>▶ <b>DO NOT</b> approach containers suspected to be hot.</li> <li>▶ Cool fire exposed containers with water spray from a protected location.</li> <li>▶ If safe to do so, remove containers from path of fire.</li> <li>▶ Equipment should be thoroughly decontaminated after use.</li> </ul>
<b>Fire/Explosion Hazard</b>	<ul style="list-style-type: none"> <li>▶ Combustible.</li> <li>▶ Slight fire hazard when exposed to heat or flame.</li> <li>▶ Heating may cause expansion or decomposition leading to violent rupture of containers.</li> <li>▶ On combustion, may emit toxic fumes of carbon monoxide (CO).</li> <li>▶ May emit acrid smoke.</li> <li>▶ Mists containing combustible materials may be explosive.</li> </ul> <p>Combustion products include:  carbon monoxide (CO)  carbon dioxide (CO<sub>2</sub>)  acrolein  nitrogen oxides (NO<sub>x</sub>)  other pyrolysis products typical of burning organic material.  May emit poisonous fumes.  May emit corrosive fumes.</p>

## SECTION 6 Accidental release measures

### Personal precautions, protective equipment and emergency procedures

See section 8

### Environmental precautions

See section 12

### Methods and material for containment and cleaning up

<b>Minor Spills</b>	<ul style="list-style-type: none"> <li>▶ Clean up all spills immediately.</li> <li>▶ Avoid contact with skin and eyes.</li> <li>▶ Wear impervious gloves and safety goggles.</li> <li>▶ Trowel up/scrape up.</li> <li>▶ Place spilled material in clean, dry, sealed container.</li> <li>▶ Flush spill area with water.</li> </ul>
<b>Major Spills</b>	<ul style="list-style-type: none"> <li>▶ Clear area of personnel and move upwind.</li> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ Wear breathing apparatus plus protective gloves.</li> <li>▶ Prevent, by any means available, spillage from entering drains or water course.</li> <li>▶ Stop leak if safe to do so.</li> <li>▶ Contain spill with sand, earth or vermiculite.</li> <li>▶ Collect recoverable product into labelled containers for recycling.</li> <li>▶ Neutralise/decontaminate residue (see Section 13 for specific agent).</li> <li>▶ Collect solid residues and seal in labelled drums for disposal.</li> <li>▶ Wash area and prevent runoff into drains.</li> <li>▶ After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using.</li> <li>▶ If contamination of drains or waterways occurs, advise emergency services.</li> </ul>

Personal Protective Equipment advice is contained in Section 8 of the SDS.

## SECTION 7 Handling and storage

### Precautions for safe handling

<b>Safe handling</b>	<ul style="list-style-type: none"> <li>▶ Avoid all personal contact, including inhalation.</li> <li>▶ Wear protective clothing when risk of exposure occurs.</li> <li>▶ Use in a well-ventilated area.</li> <li>▶ Prevent concentration in hollows and sumps.</li> <li>▶ <b>DO NOT enter confined spaces until atmosphere has been checked.</b></li> <li>▶ <b>DO NOT allow material to contact humans, exposed food or food utensils.</b></li> <li>▶ Avoid contact with incompatible materials.</li> <li>▶ <b>When handling, DO NOT eat, drink or smoke.</b></li> <li>▶ Keep containers securely sealed when not in use.</li> <li>▶ Avoid physical damage to containers.</li> <li>▶ Always wash hands with soap and water after handling.</li> <li>▶ Work clothes should be laundered separately. Launder contaminated clothing before re-use.</li> <li>▶ Use good occupational work practice.</li> <li>▶ Observe manufacturer's storage and handling recommendations contained within this SDS.</li> <li>▶ Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.</li> </ul>
<b>Other information</b>	<ul style="list-style-type: none"> <li>▶ Store in original containers.</li> <li>▶ Keep containers securely sealed.</li> <li>▶ Store in a cool, dry, well-ventilated area.</li> <li>▶ Store away from incompatible materials and foodstuff containers.</li> <li>▶ Protect containers against physical damage and check regularly for leaks.</li> <li>▶ Observe manufacturer's storage and handling recommendations contained within this SDS.</li> </ul>

### Conditions for safe storage, including any incompatibilities

<b>Suitable container</b>	<ul style="list-style-type: none"> <li>▶ Lined metal can, lined metal pail/ can.</li> <li>▶ Plastic pail.</li> <li>▶ Polyliner drum.</li> <li>▶ Packing as recommended by manufacturer.</li> <li>▶ Check all containers are clearly labelled and free from leaks.</li> <li>▶ Metal can or drum</li> <li>▶ Packaging as recommended by manufacturer.</li> <li>▶ Check all containers are clearly labelled and free from leaks.</li> </ul>
<b>Storage incompatibility</b>	<ul style="list-style-type: none"> <li>▶ Avoid strong acids, acid chlorides, acid anhydrides and chloroformates.</li> <li>▶ Avoid contact with copper, aluminium and their alloys.</li> <li>▶ Avoid reaction with oxidising agents</li> </ul>



X — Must not be stored together

O — May be stored together with specific preventions

+ — May be stored together

Note: Depending on other risk factors, compatibility assessment based on the table above may not be relevant to storage situations, particularly where large volumes of dangerous goods are stored and handled. Reference should be made to the Safety Data Sheets for each substance or article and risks assessed accordingly.

## SECTION 8 Exposure controls / personal protection

### Control parameters

#### Occupational Exposure Limits (OEL)

##### INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Australia Exposure Standards	glyceryl monostearate, self-emulsifying	Stearates	10 mg/m <sup>3</sup>	Not Available	Not Available	(a) This value is for inhalable dust containing no asbestos and < 1% crystalline silica.
New Zealand Workplace Exposure Standards (WES)	glyceryl monostearate, self-emulsifying	Inhalable dust (not otherwise classified)	10 mg/m <sup>3</sup>	Not Available	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	glyceryl monostearate, self-emulsifying	Stearates	10 mg/m <sup>3</sup>	Not Available	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	glyceryl monostearate, self-emulsifying	Respirable dust (not otherwise classified)	3 mg/m <sup>3</sup>	Not Available	Not Available	Not Available
Australia Exposure Standards	N-methyl-2-pyrrolidone	1-Methyl-2-pyrrolidone	25 ppm / 103 mg/m <sup>3</sup>	309 mg/m <sup>3</sup> / 75 ppm	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	N-methyl-2-pyrrolidone	1-Methyl-2-pyrrolidone	10 ppm / 40 mg/m <sup>3</sup>	80 mg/m <sup>3</sup> / 20 ppm	Not Available	(skin) - Skin absorption
Australia Exposure Standards	diethanolamine	Diethanolamine	3 ppm / 13 mg/m <sup>3</sup>	Not Available	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	diethanolamine	Diethanolamine	3 ppm / 13 mg/m <sup>3</sup>	Not Available	Not Available	(skin) - Skin absorption

#### Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
N-methyl-2-pyrrolidone	30 ppm	32 ppm	190 ppm
diethanolamine	3 mg/m <sup>3</sup>	28 mg/m <sup>3</sup>	130 mg/m <sup>3</sup>
succinic acid	6.8 mg/m <sup>3</sup>	75 mg/m <sup>3</sup>	450 mg/m <sup>3</sup>


Ingredient	Original IDLH	Revised IDLH
glyceryl monostearate, self-emulsifying	Not Available	Not Available
N-methyl-2-pyrrolidone	Not Available	Not Available
N-(tallow alkyl)-1,3-diaminopropane, ethoxylated	Not Available	Not Available
diethanolamine	Not Available	Not Available
succinic acid	Not Available	Not Available

#### Occupational Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
N-(tallow alkyl)-1,3-diaminopropane, ethoxylated	E	≤ 0.1 ppm
succinic acid	E	≤ 0.01 mg/m <sup>3</sup>

**Notes:** Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.

**Exposure controls**

	<p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.</p> <p>The basic types of engineering controls are:</p> <p>Process controls which involve changing the way a job activity or process is done to reduce the risk.</p> <p>Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use. Employers may need to use multiple types of controls to prevent employee overexposure.</p> <p>Local exhaust ventilation usually required. If risk of overexposure exists, wear approved respirator. Correct fit is essential to obtain adequate protection. Supplied-air type respirator may be required in special circumstances. Correct fit is essential to ensure adequate protection.</p> <p>An approved self contained breathing apparatus (SCBA) may be required in some situations.</p> <p>Provide adequate ventilation in warehouse or closed storage area. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.</p> <table border="1" data-bbox="383 694 1500 985"> <thead> <tr> <th>Type of Contaminant:</th> <th>Air Speed:</th> </tr> </thead> <tbody> <tr> <td>solvent, vapours, degreasing etc., evaporating from tank (in still air).</td> <td>0.25-0.5 m/s (50-100 f/min.)</td> </tr> <tr> <td>aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation)</td> <td>0.5-1 m/s (100-200 f/min.)</td> </tr> <tr> <td>direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)</td> <td>1-2.5 m/s (200-500 f/min.)</td> </tr> <tr> <td>grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).</td> <td>2.5-10 m/s (500-2000 f/min.)</td> </tr> </tbody> </table> <p>Within each range the appropriate value depends on:</p> <table border="1" data-bbox="383 1008 1212 1198"> <thead> <tr> <th>Lower end of the range</th> <th>Upper end of the range</th> </tr> </thead> <tbody> <tr> <td>1: Room air currents minimal or favourable to capture</td> <td>1: Disturbing room air currents</td> </tr> <tr> <td>2: Contaminants of low toxicity or of nuisance value only.</td> <td>2: Contaminants of high toxicity</td> </tr> <tr> <td>3: Intermittent, low production.</td> <td>3: High production, heavy use</td> </tr> <tr> <td>4: Large hood or large air mass in motion</td> <td>4: Small hood-local control only</td> </tr> </tbody> </table> <p>Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.</p>	Type of Contaminant:	Air Speed:	solvent, vapours, degreasing etc., evaporating from tank (in still air).	0.25-0.5 m/s (50-100 f/min.)	aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation)	0.5-1 m/s (100-200 f/min.)	direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)	1-2.5 m/s (200-500 f/min.)	grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).	2.5-10 m/s (500-2000 f/min.)	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<p><b>Individual protection measures, such as personal protective equipment</b></p>																					
<p><b>Eye and face protection</b></p>	<ul style="list-style-type: none"> <li>▶ Safety glasses with unperforated side shields may be used where continuous eye protection is desirable, as in laboratories; spectacles are not sufficient where complete eye protection is needed such as when handling bulk-quantities, where there is a danger of splashing, or if the material may be under pressure.</li> <li>▶ Chemical goggles. Whenever there is a danger of the material coming in contact with the eyes; goggles must be properly fitted. [AS/NZS 1337.1, EN166 or national equivalent]</li> <li>▶ Full face shield (20 cm, 8 in minimum) may be required for supplementary but never for primary protection of eyes; these afford face protection.</li> <li>▶ Alternatively a gas mask may replace splash goggles and face shields.</li> <li>▶ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59].</li> </ul>																				
<p><b>Skin protection</b></p>	<p>See Hand protection below</p>																				
<p><b>Hands/feet protection</b></p>	<ul style="list-style-type: none"> <li>▶ Elbow length PVC gloves</li> </ul> <p><b>NOTE:</b></p> <ul style="list-style-type: none"> <li>▶ The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact.</li> <li>▶ Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.</li> </ul>																				
<p><b>Body protection</b></p>	<p>See Other protection below</p>																				
<p><b>Other protection</b></p>	<ul style="list-style-type: none"> <li>▶ Overalls.</li> </ul>																				

- ▶ P.V.C apron.
- ▶ Barrier cream.
- ▶ Skin cleansing cream.
- ▶ Eye wash unit.

## Recommended material(s)

### GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:

"Forsberg Clothing Performance Index".

The effect(s) of the following substance(s) are taken into account in the

**computer-generated** selection:

WS353 Flux Gel/Paste

Material	CPI
BUTYL	A
NATURAL RUBBER	B
NATURAL+NEOPRENE	C
NEOPRENE	C
NITRILE	C
PE/EVAL/PE	C
PVA	C
PVC	C
TEFLON	C
VITON	C

\* CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to Dangerous Choice for other than short term immersion

**NOTE:** As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -

\* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

## Respiratory protection

Type AK-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required. Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	AK-AUS P2	-	AK-PAPR-AUS / Class 1 P2
up to 50 x ES	-	AK-AUS / Class 1 P2	-
up to 100 x ES	-	AK-2 P2	AK-PAPR-2 P2 ^

^ - Full-face

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO<sub>2</sub>), G = Agricultural chemicals, K = Ammonia(NH<sub>3</sub>), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

- ▶ Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.
- ▶ The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.
- ▶ Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

## SECTION 9 Physical and chemical properties

### Information on basic physical and chemical properties

Appearance	Brown solid paste with no odour; mixes with water.		
Physical state	Non Slump Paste	Relative density (Water = 1)	Not Available
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Available	Decomposition temperature (°C)	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	Not Available	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Available	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water	Miscible	pH as a solution (1%)	Not Available

Continued...



Vapour density (Air = 1)	Not Available	VOC g/L	Not Available
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## SECTION 10 Stability and reactivity

<b>Reactivity</b>	See section 7
<b>Chemical stability</b>	Product is considered stable and hazardous polymerisation will not occur.
<b>Possibility of hazardous reactions</b>	See section 7
<b>Conditions to avoid</b>	See section 7
<b>Incompatible materials</b>	See section 7
<b>Hazardous decomposition products</b>	See section 5

## SECTION 11 Toxicological information

### Information on toxicological effects

<b>Inhaled</b>	Inhaling corrosive bases may irritate the respiratory tract. Symptoms include cough, choking, pain and damage to the mucous membrane. Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual.
<b>Ingestion</b>	Considered an unlikely route of entry in commercial/industrial environments Ingestion of alkaline corrosives may produce burns around the mouth, ulcerations and swellings of the mucous membranes, profuse saliva production, with an inability to speak or swallow. Both the oesophagus and stomach may experience burning pain; vomiting and diarrhoea may follow.
<b>Skin Contact</b>	Skin contact with alkaline corrosives may produce severe pain and burns; brownish stains may develop. The corroded area may be soft, gelatinous and necrotic; tissue destruction may be deep. Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.
<b>Eye</b>	If applied to the eyes, this material causes severe eye damage. Direct eye contact with corrosive bases can cause pain and burns. There may be swelling, epithelium destruction, clouding of the cornea and inflammation of the iris. Mild cases often resolve; severe cases can be prolonged with complications such as persistent swelling, scarring, permanent cloudiness, bulging of the eye, cataracts, eyelids glued to the eyeball and blindness.
<b>Chronic</b>	Repeated or prolonged exposure to acids may result in the erosion of teeth, swelling and/or ulceration of mouth lining. Irritation of airways to lung, with cough, and inflammation of lung tissue often occurs. There has been concern that this material can cause cancer or mutations, but there is not enough data to make an assessment. Long-term exposure to respiratory irritants may result in airways disease, involving difficulty breathing and related whole-body problems. Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population. This material can cause serious damage if one is exposed to it for long periods. It can be assumed that it contains a substance which can produce severe defects. Ample evidence exists that developmental disorders are directly caused by human exposure to the material. Ample evidence exists, from results in experimentation, that developmental disorders are directly caused by human exposure to the material. In animal testing, N-methyl-2-pyrrolidone (NMP) has not been shown to cause cancer. There is no evidence of it being toxic to the kidney. In animals, reproductive effects have been reported, and very high doses are toxic to the embryo. Oral exposure of diethanolamine in rats for a long duration revealed allergic skin reactions, kidney and liver damage. On itself, it does not cause cancer but it undergoes reaction in strongly acidic conditions to form a potent cancer-causing substance. Respiratory sensitisation may result in allergic/asthma like responses; from coughing and minor breathing difficulties to bronchitis with wheezing, gasping.

<b>WS353 Flux Gel/Paste</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Not Available	Not Available
<b>glyceryl monostearate, self-emulsifying</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Oral (Rat) LD50: >25000 mg/kg <sup>[2]</sup> Oral (Rat) LD50: 12100 mg/kg <sup>[2]</sup>	Not Available
<b>N-methyl-2-pyrrolidone</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Dermal (rabbit) LD50: 8000 mg/kg <sup>[2]</sup> Inhalation (Rat) LC50: 3.1-8.8 mg/4h <sup>[2]</sup>	Eye (rabbit): 100 mg - moderate *[Manufacturer] Eye: adverse effect observed (irritating) <sup>[1]</sup>
	Oral (Rat) LD50: 3914 mg/kg <sup>[2]</sup>	Skin: adverse effect observed (irritating) <sup>[1]</sup>

<b>N-(tallow alkyl)-1,3-diaminopropane, ethoxylated</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Oral (Rat) LD50: 770 mg/kg <sup>[2]</sup>	Not Available
<b>diethanolamine</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Dermal (rabbit) LD50: 12200 mg/kg <sup>[2]</sup>	Eye (rabbit): 5500 mg - SEVERE
	Oral (Rat) LD50: 710 mg/kg <sup>[2]</sup>	Eye (rabbit): 0.75 mg/24 hr SEVERE
		Eye: adverse effect observed (irritating) <sup>[1]</sup>
		Skin (rabbit): 50 mg (open)-mild
		Skin (rabbit): 500 mg/24 hr-mild
<b>succinic acid</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Oral (Rat) LD50: 2260 mg/kg <sup>[2]</sup>	Eye: adverse effect observed (irritating) <sup>[1]</sup>
		Eyes (rabbit) 1.179mg Draize - SEVERE
		Skin: no adverse effect observed (not irritating) <sup>[1]</sup>

**Legend:**

1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances

<b>GLYCERYL MONOSTEARATE, SELF-EMULSIFYING</b>	<p>No significant acute toxicological data identified in literature search.</p> <p>For group E aliphatic esters (polyol esters):</p> <p>The polyol esters, including trimethylolpropane (TMP), Pentaerythritol (PE) and dipentaerythritol (diPE) are unique in their chemical characteristics since they lack beta-tertiary hydrogen atoms, thus leading to stability against oxidation and elimination. Therefore their esters with C5-C10 fatty acids have applications as artificial lubricants. Because of their stability at high temperatures, they are also used in high temperature applications such as industrial oven chain oils, high temperature greases, fire resistant transformer coolants and turbine engines.</p> <p>Polyol esters that are extensively esterified also have greater polarity, less volatility and enhanced lubricating properties.</p> <p>Acute toxicity: Animal studies show relatively low toxicity by swallowing. These esters are hydrolysed in the gastrointestinal tract, and studies have not shown evidence of these accumulating in body tissues. Acute toxicity by skin contact was also found to be low.</p> <p>Repeat dose toxicity: According to animal testing, polyol esters show a low level of toxicity following repeated application, either by swallowing or by skin contact.</p> <p>Reproductive and developmental toxicity: This group should not produce profound reproductive effects in animals.</p> <p>Genetic toxicity: Tests have shown this group to be inactive. It is unlikely that these substances cause mutations.</p> <p>Cancer-causing potential: No association between this group of substances and cancer.</p>
<b>N-METHYL-2-PYRROLIDONE</b>	<p>For N-methyl-2-pyrrolidone (NMP):</p> <p>Acute toxicity: Animal testing shows NMP is quickly absorbed after inhalation, swallowing and administration on skin, distributed throughout the body, and eliminated mostly by hydroxylation to polar compounds, which are excreted in the urine. In animal testing NMP has a low potential for skin irritation and a moderate potential for eye irritation. Repeated daily doses of high amounts on the skin have caused severe, painful bleeding and eschar formation. In general, animal testing suggests NMP has low acute toxicity. Exposure to toxic amounts caused functional disturbances and depression of the central nervous system.</p> <p>Local irritation of the airway occurred after inhalation, and irritation of the gastrointestinal tract occurred after swallowing in animals.</p> <p>Repeat dose toxicity: There is no clear toxicity profile for NMP after multiple administration. In animal testing, shrinking of the testes and thymus gland were observed, together with an increase in red blood cells, after exposure to high amounts. There is no data for humans after repeated-dose exposure.</p> <p>Cancer-causing potential: NMP did not show any clear evidence for cancer-causing ability in an animal test for inhalation.</p> <p>Genetic toxicity: The potential for NMP to cause mutations is rare. Tests do reveal that NMP may cause chromosome aberrations with bacteria and yeast. No tests involving human cells are available.</p> <p>Reproductive toxicity: In animal tests, exposure to NMP resulted in a decrease in foetal weight.</p> <p>Developmental toxicity: Animal testing showed that NMP can result in decreased foetal weights and delayed bone development.</p> <p>A substance (or part of a group of chemical substances) of very high concern (SVHC) - or product containing an SVHC: It is proposed that use within the European Union be subject to authorisation under the REACH Regulation. Indeed, listing of a substance as an SVHC by the European Chemicals Agency (ECHA) is the first step in the procedure for authorisation or restriction of use of a chemical.</p> <p>The criteria are given in article 57 of the REACH Regulation. A substance may be proposed as an SVHC if it meets one or more of the following criteria:</p> <ul style="list-style-type: none"> <li>▶ it is carcinogenic *;</li> <li>▶ it is mutagenic *;</li> <li>▶ it is toxic for reproduction *;</li> <li>▶ it is persistent, bioaccumulative and toxic (PBT substances);</li> <li>▶ it is very persistent and very bioaccumulative (vPvB substances);</li> <li>▶ there is "scientific evidence of probable serious effects to human health or the environment which give rise to an equivalent level of concern"; such substances are identified on a case-by-case basis.</li> </ul> <p>* Collectively described as CMR substances</p> <p>The "equivalent concern" criterion is significant because it is this classification which allows substances which are, for example, neurotoxic, endocrine-disrupting or otherwise present an unanticipated environmental health risk to be regulated under REACH]</p>

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Simply because a substance meets one or more of the criteria does not necessarily mean that it will be proposed as an SVHC. Many such substances are already subject to restrictions on their use within the European Union, such as those in Annex XVII of the REACH Regulation SVHCs are substances for which the current restrictions on use (where these exist) might be insufficient.

There are three priority groups for assessment:

- ▶ PBT substances and vPvB substances;
- ▶ substances which are widely dispersed during use;
- ▶ substances which are used in large quantities.

**N-(TALLOW ALKYL)-1,3-DIAMINOPROPANE, ETHOXYLATED**

for similar product: The test substance, tris (2-hydroxyethyl) tallow diaminopropane, CAS 90367-27-4 (recently redefined as amines, N-(C16-18 (even numbered) and C18-unsatd. alkyl) trimethylenedi-, ethoxylated (NLP), CAS 1290049-56-7), also referred to as tallowdiamine 3EO, has a molecular weight range of 426-454 g/mol and is an amber coloured liquid at 23 deg C. The substance has a measured melting point of 19 C, a measured boiling point of 300 deg C at 1013 hPa and a vapour pressure 0.0015 Pa at 20 C. The octanol-water partition coefficient (log Kow) is 2.8 at 25 deg C (OECD 123) and as the substance forms micelles in water the water solubility is expressed as the critical micelle concentration (CMC, a solubility limit) at 19 mg/L at pH 7 and 23 deg C. In physiological circumstances the nitrogens can become positively charged, resulting to a cationic surfactant structure which leads to high adsorptive properties to negatively charged surfaces as cellular membranes. At pH below 7.2 more than 99.9% of the substance has at least one positively charged nitrogen. The apolar tails easily dissolve in the membranes, whereas the polar head causes disruption and leakage of the membranes leading to cell damage or lysis of the cell content. As a consequence, the whole molecule will not easily pass membrane structures. Cytotoxicity at the local site of contact through disruption of cell membrane will be considered the most prominent mechanism of action for toxic effects. Acute toxicity data was evaluated in an Acute Toxic Class (ATC, OECD 423) study on tallowdiamine 3EO, indicating a LD50 in the range of 50 - 300 mg/kg bw, with a LD50 cut-off of 500 mg/kg bw. A second, older study on tallowdiamine 3EO confirms these results with an LD50 that was calculated to be 770 mg/kg bw. Tallowdiamine 3EO is severely corrosive (Classification Cat. 1B) to the skin and is not expected to easily pass the skin in view of its ionised form at physiological conditions. However, as this is not quantitatively evaluated, 100% dermal absorption is considered as worst case assumption. There is only one study available of high quality, in which tallowdiamine 3EO has been evaluated for acute dermal irritation/corrosion in rabbits according to OECD 404 and in compliance to GLP. Results after a 3-min exposure: No cutaneous reactions were observed at the 1-hour reading. A severe erythema and a severe oedema, together with cutaneous necrosis, were noted on days 2 and 3. After a 4 -hour exposure: A well-defined erythema and a slight oedema were observed at the 1-hour reading. A severe erythema and a severe oedema, together with cutaneous necrosis, were noted on days 2 and 3. Based on the results of this study, Tallowdiamine 3EO is considered to be severe corrosive to the skin. The product was tested for eye irritation in rabbit eyes. The method was performed according to Draize. 8 rabbits were exposed to 1 ml of a 5% solution of the product. The product was applied to the right eye of the animal. In 4 animals the product was rinsed from the eye after 1 minute, in the other 4 animals the product was left. None of the animals showed reactions of the eye or relating membranes. Also, no immunoresponses were noted. Classification according to GHS is not possible, as the study does not allow this on the basis of results presented. Based on the findings, this 5% solution of the test substance does not give indications for eye irritation. A recent GLP Guinea pig study following the Magnusson and Kligman Maximisation Method according to OECD guidelines indicated that tallowdiamine 3EO was mildly sensitising to skin, but does not need classification. An additional also recent GLP Maximisation has shown oleyldiamine 3EO not to be sensitising to skin.. Data from repeated dose toxicity studies STOT-RE Cat.1 is required in case of significant toxicity at levels at levels = 10 mg/kgbw/d in 90-day studies or = 30 mg/kgbw/d in case of 28-day studies. For Cat.2 classification levels up to 10 times higher apply. Evaluation for classification cannot be based on the available 28-day study on oleyldiamine 3EO (CAS RN: 1268344-02-0) as the highest dose level involved 25 mg/kg bw. However, cross-reading to alkyl-diamine data is justified, and classification therefore is based on the results from an available 28-day study on oleyldiamine and a 90-day study on the C12-14-diamine. The available data from C12-14-diamine and oleyldiamine indicate that these substances should be classified Cat.1 for STOT-RE: Cat-1 90-day study on C12-14-diamine: This study showed significant toxicity at the highest tested dose of 6 mg/ kgbw/ day based on mortality observed in the highest dose group. This is below 10 mg/kg bw and therefore also results to classification STOT-RE Cat.1. 28-day study on oleyldiamine: This resulted to significant toxicity (mortality) at the highest dose of 20 mg/kgbw/day with effects on weight of body and organs without histological changes. This is below 30 mg/kg bw and therefore also results to classification STOT-RE Cat.1. Consequently, as cross-reading is appropriate, tallowdiamine 3EO should be classified for GHS as STOT-RE 1, H372: Causes damage to organs (morbidity or death) through prolonged or repeated exposure. Oral: Repeated dose toxicity data was evaluated in a Combined 28-day repeated dose toxicity study with the reproduction/developmental toxicity screening test (OECD 422) on the comparable substance oleyldiamine 3EO. The difference between both substances is a slightly lower average alkyl chain for the tallow as it contains some C16-alkyl chains and a higher level of unsaturation of the C18 alkyl chain for the oleyl. For further information use is made of cross-reading to various results obtained on non-ethoxylated alkyl amines. The most significant treatment-related changes in all studies are increased WBC (neutrophils) at higher dose levels combined with changes in body weight gain. The critical effects are histopathological test item-related effects on the small intestine and mesenteric lymph nodes, which only partially regressed during the recovery period. A relatively strong inflammatory reaction is also observed. These effects have consistently been observed with these sort of substances (Fatty amine derived substances), which support the current approach of grouping of substances and read-across of data. When taking into consideration the relatively strong corrosive effects of these substances and the route of administration, it cannot be excluded that the overall toxicity reflects a point-of-first-contact effect. A mode of action has not been established but it is possible to suspect the known corrosivity to be at least partially involved. The observed effects of foamy macrophages are local and are by some interpreted as phospholipidosis (PLDsis), something which is commonly observed following treatment with cationic amphiphilic drugs and considered to be non-adverse. Also the further studies on C12-14-diamine show the same toxicological responses. The results from C12-14-diamine are considered to represent a worst case situation for oleyldiamine (and thus also for oleyldiamine 3EO), as both substances share the same molecular structure, but due to its overall smaller alkyl chain length, its solubility and potential to pass cell-membranes is expected to be possibly somewhat higher than that of oleyldiamine 3EO. This is expected to lead to the relative highest absorption. Therefore, any inherent hazards for systemic toxicity are more likely to be expressed when testing with C12-14-diamine than with oleyldiamine All findings observed in the 90-day repeated dose toxicity study are comparable with the 28-day repeated dose toxicity study performed with C12-14-diamine, which indicates that duration has no great impact on the NOEL. Small intestinal and mesenteric lymph node lesions show only slowly reversible. The effects were not reversible during the 28-day recovery period, but had partially regressed after the 90-day recovery period. Other effects seen at higher dose levels as spleen, bone marrow and tracheal changes had completely regressed after the 28-day and 90-day recovery period. Although based on a summary and therefore information of low validity, the reported results from the tallowdiamine 3EO based 90-day dietary study in rats perfectly agrees with the information as presented by the repeated dose studies on oleyldiamine 3EO, oleyldiamine and C12-14-diamine, thus supporting the acceptability of this cross-reading from these substances to tallowdiamine 3EO. An additional observation is that for risk assessment derivation of DNELs from the 90-day study on C12-14-diamine (NOAEL 0.4 mg/kg) and from the 28-day study on Oleyl-diamine3EO (NOAEL 1 mg/kg) leads to

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the same results. This is based on the considerations for assessment factors used for extrapolation for study duration: C12-14-diamine, NOEL from 90 day: Default assessment factor 2 for sub-chronic to chronic. Oleyldiamine 3EO, NOEL from OECD 422: The guidance indicates that for sub-acute to chronic a factor 6 should be applied. However, we know that the dose levels of the NOEL for this effect of foamy macrophages in mesenteric lymph nodes is not influenced by the duration of the study. Besides, the females have been dosed for 43-52 days rather than 28 days (Males 29 days). Therefore a factor 5 is considered sufficient. When comparing the 28-day results on oleyldiamine 3EO (OECD 422) with the 28-day study on oleyldiamine clearly shows a comparable toxicological profile. For both studies the effects observed, as well as the levels of the effects are very similar resulting to the same NOEL of 1 mg/kg bw for oleyldiamine 3EO and 1.25 for oleyldiamine (differences are related to dose selection per study rather than actual differences in response). This can be explained on the basis of their comparable structure leading to comparable properties and toxicological behaviour, and the notion that these substances do not undergo important phase-one metabolism leading to different structures and toxicity. Inhalation: Tallowdiamine 3EO is a viscous liquid/paste with bp 300 C and has a vapour pressure below 0.0015 Pa at 20 C. Its use is limited to industrial and professional users and does not involve the forming of aerosols, particles or droplets of an inhalable size. So exposure to humans via the inhalation route will be unlikely to occur. Dermal: There is an illegible copy of an old report of a repeated dose study by dermal route on tallowdiamine 3EO. Rabbits were percutaneously dosed with 0, 0.77 or 7.7 mg/kg/day for 91 days. Treatment with the test material resulted in slight to moderate skin irritation in both dose groups. Besides irritation, also foamy macrophages in mesenteric lymph nodes were noted in 2/6 animals treated at 7.7 mg/kg. No other effects other effects were observed. As these effects are local reactions following the route of absorption, it is most likely that this is most likely a consequence following oral uptake from grooming. Tallowdiamine 3EO is severely corrosive to the skin and is not expected to easily pass the skin in view of its ionised form at physiological conditions. The dermal route is therefore not a preferred route for dosing when evaluating repeated dose toxicity. In addition, there is no consumer exposure to tallowdiamine 3EO. Further, manufacture and use are highly controlled. Its use is limited to industrial and professional users where following its severe corrosive properties the applied protection measures will provide for sufficient protection to prevent exposure. Absorption, distribution, metabolism, excretion There are no specific studies available that study Absorption, distribution, metabolism or excretion of ethoxylated diamines. It is expected that tallowdiamine 3EO when administered orally is not extensively absorbed, due to its low solubility and CMC formation. The effects of the diamines and the ethoxylated diamines on which the NOEL's are based in the 28 and 90-day repeated dose toxicity studies, concern effects in the small intestinal and mesenteric lymph node lesions intestines. As these indicate local effects they can probably be considered local NOEL's. The available repeated dose studies show that the NOEL does not change with increasing study duration from 28-day to 90-days. This is an indication for lack of bioaccumulating potential. Dermal absorption: At this stage no data are available on dermal absorption. Based on the severe corrosive properties of tallowdiamine 3EO, dermal absorption as a consequence of facilitated penetration through damaged skin can be anticipated. Dependent on the solvent and concentration, up to 60% dermal absorption may be taken as a worst case for assessment purposes (value taken from the existing EU risk assessment on primary alkylamines). Due to the lack of quantitative absorption data, 100% absorption is taken as a conservative approach. Genetic toxicity in vitro The following studies are available tallowdiamine 3EO and cocodiamine 3EO for the assessment of genetic toxicity. All tests are performed to current OECD/EU protocols and in compliance to GLP. In conclusion, both studies evaluating the possible clastogenicity and aneugenicity properties of cocodiamine 3EO and tallowdiamine 3EO in an in vitro micronucleus assay in cultured peripheral human lymphocytes show consistent results that can, on overall be characterised as inconsistent, possibly weakly positive responses at cytotoxic levels. Reprotoxicity: Available data from a reproduction screening study (OECD 422) with oleyldiamine 3EO showed no effects on reproduction parameters. Also cross-reading from a developmental toxicity (OECD 414) with oleyldiamine indicate no concerns for developmental toxicity. In both studies the lack of developmental effects at the highest dose levels tested of 25 resp. 20 mg/ kg bw/ day is in large contrast with the NOELs obtained for parental toxicity of 1 resp. 5 mg/kg bw. Also information from a developmental study of Tallow-diamine 3EO in rabbits showed no concerns for reproduction toxicity. In conclusion, the available data do not indicate a concern for reproductive health. REACH Dossier (CAS RN: 1290049-56-7) Polyethers (such as ethoxylated surfactants and polyethylene glycols) are highly susceptible to being oxidized in the air. They then form complex mixtures of oxidation products. Animal testing reveals that whole the pure, non-oxidised surfactant is non-sensitizing, many of the oxidation products are sensitizers. The oxidization products also cause irritation. The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. The material may produce respiratory tract irritation, and result in damage to the lung including reduced lung function. Tallow derivatives used in the manufacture of cosmetic products are safe for consumption when it undergoes- transesterification or hydrolysis at 200 C, under pressure for 20 minutes (for glycerol, fatty acids and esters) ; saponification with 12 M of NaOH (for glycerol and soap) at 95 C for 3 hours; continuous process at 140 C, for about 8 minutes or its equivalent.

**DIETHANOLAMINE**

**WARNING:** This substance has been classified by the IARC as Group 2B: Possibly Carcinogenic to Humans. DEA has low acute toxicity if ingested orally or applied on the skin. It can cause moderate skin irritation and severe eye irritation. It may affect sperm production, cause anaemia and damage the liver and kidney. It has not been shown to cause cancer in humans; though there is evidence that it may cause cancer in mice, and damage to the foetus at levels toxic to the mother.

**SUCCINIC ACID**

Substance has been investigated as a mutagen by DNA inhibition in human fibroblasts. For acid mists, aerosols, vapours Test results suggest that eukaryotic cells are susceptible to genetic damage when the pH falls to about 6.5. Cells from the respiratory tract have not been examined in this respect. Mucous secretion may protect the cells of the airway from direct exposure to inhaled acidic mists (which also protects the stomach lining from the hydrochloric acid secreted there). The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

**N-METHYL-2-PYRROLIDONE & N-(TALLOW ALKYL)-1,3-DIAMINOPROPANE, ETHOXYLATED & DIETHANOLAMINE & SUCCINIC ACID**

Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. On the other hand, industrial bronchitis is a disorder that occurs as a result

of exposure due to high concentrations of irritating substance (often particles) and is completely reversible after exposure ceases. The disorder is characterized by difficulty breathing, cough and mucus production.

The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.

Overexposure to most of these materials may cause adverse health effects.

Many amine-based compounds can cause release of histamines, which, in turn, can trigger allergic and other physiological effects, including constriction of the bronchi or asthma and inflammation of the cavity of the nose. Whole-body symptoms include headache, nausea, faintness, anxiety, a decrease in blood pressure, rapid heartbeat, itching, reddening of the skin, urticaria (hives) and swelling of the face, which are usually transient.

There are generally four routes of possible or potential exposure: inhalation, skin contact, eye contact, and swallowing.

**Inhalation:** Inhaling vapours may result in moderate to severe irritation of the tissues of the nose and throat and can irritate the lungs. Higher concentrations of certain amines can produce severe respiratory irritation, characterized by discharge from the nose, coughing, difficulty in breathing and chest pain. Chronic exposure via inhalation may cause headache, nausea, vomiting, drowsiness, sore throat, inflammation of the bronchi and lungs, and possible lung damage. Repeated and/or prolonged exposure to some amines may result in liver disorders, jaundice and liver enlargement. Some amines have been shown to cause kidney, blood and central nervous system disorders in animal studies.

While most polyurethane amine catalysts are not sensitizers, some certain individuals may also become sensitized to amines and may experience distress while breathing, including asthma-like attacks, whenever they are subsequently exposed to even very small amounts of vapours. Once sensitized, these individuals must avoid any further exposure to amines. Chronic overexposure may lead to permanent lung injury, including reduction in lung function, breathlessness, chronic inflammation of the bronchi, and immunologic lung disease.

Products with higher vapour pressures may reach higher concentrations in the air, and this increases the likelihood of worker exposure.

Inhalation hazards are increased when exposure to amine catalysts occurs in situations that produce aerosols, mists or heated vapours. Such situations include leaks in fitting or transfer lines. Medical conditions generally aggravated by inhalation exposure include asthma, bronchitis and emphysema.

**Skin contact:** Skin contact with amine catalysts poses a number of concerns. Direct skin contact can cause moderate to severe irritation and injury, from simple redness and swelling to painful blistering, ulceration, and chemical burns. Repeated or prolonged exposure may also result in severe cumulative skin inflammation. Skin contact with some amines may result in allergic sensitization. Sensitized persons should avoid all contact with amine catalysts. Whole-body effects resulting from the absorption of the amines through skin exposure may include headaches, nausea, faintness, anxiety, decrease in blood pressure, reddening of the skin, hives, and facial swelling. These symptoms may be related to the pharmacological action of the amines, and they are usually temporary.

**Eye contact:** Amine catalysts are alkaline and their vapours are irritating to the eyes, even at low concentrations. Direct contact with liquid amine may cause severe irritation and tissue injury, and the "burning" may lead to blindness. Contact with solid products may result in mechanical irritation, pain and corneal injury.

Exposed persons may experience excessive tearing, burning, inflammation of the conjunctiva, and swelling of the cornea, which manifests as a blurred or foggy vision with a blue tint, and sometimes a halo phenomenon around lights. These symptoms are temporary and usually disappear when exposure ends. Some people may experience this effect even when exposed to concentrations that do not cause respiratory irritation.

**Ingestion:** Amine catalysts have moderate to severe toxicity if swallowed. Some amines can cause severe irritation, ulcers and burns of the mouth, throat, gullet and gastrointestinal tract. Material aspirated due to vomiting can damage the bronchial tubes and the lungs. Affected people may also experience pain in the chest or abdomen, nausea, bleeding of the throat and gastrointestinal tract, diarrhea, dizziness, drowsiness, thirst, collapse of circulation, coma and even death.

**N-(TALLOW ALKYL)-1,3-DIAMINOPROPANE, ETHOXYLATED & DIETHANOLAMINE**

<b>Acute Toxicity</b>	✗	<b>Carcinogenicity</b>	✓
<b>Skin Irritation/Corrosion</b>	✓	<b>Reproductivity</b>	✓
<b>Serious Eye Damage/Irritation</b>	✗	<b>STOT - Single Exposure</b>	✗
<b>Respiratory or Skin sensitisation</b>	✗	<b>STOT - Repeated Exposure</b>	✗
<b>Mutagenicity</b>	✗	<b>Aspiration Hazard</b>	✗

**Legend:** ✗ – Data either not available or does not fill the criteria for classification  
 ✓ – Data available to make classification

## SECTION 12 Ecological information

### Toxicity

	Endpoint	Test Duration (hr)	Species	Value	Source
<b>WS353 Flux Gel/Paste</b>	Not Available	Not Available	Not Available	Not Available	Not Available
<b>glyceryl monostearate, self-emulsifying</b>	Not Available	Not Available	Not Available	Not Available	Not Available
<b>N-methyl-2-pyrrolidone</b>	Endpoint	Test Duration (hr)	Species	Value	Source
	NOEC(ECx)	504h	Crustacea	12.5mg/l	2
	EC50	72h	Algae or other aquatic plants	>500mg/l	1

Continued...



	EC50	48h	Crustacea	ca.4897mg/l	1
	LC50	96h	Fish	464mg/l	1
<b>N-(tallow alkyl)-1,3-diaminopropane, ethoxylated</b>	<b>Endpoint</b>	<b>Test Duration (hr)</b>	<b>Species</b>	<b>Value</b>	<b>Source</b>
	LC50	96h	Fish	1-10mg/l	Not Available
	EC50(ECx)	48h	Crustacea	1-10mg/l	Not Available
	EC50	48h	Crustacea	1-10mg/l	Not Available
<b>diethanolamine</b>	<b>Endpoint</b>	<b>Test Duration (hr)</b>	<b>Species</b>	<b>Value</b>	<b>Source</b>
	LC50	96h	Fish	>100mg/l	4
	EC50	48h	Crustacea	28.8mg/l	1
	EC50	72h	Algae or other aquatic plants	2.7mg/l	2
	NOEC(ECx)	72h	Algae or other aquatic plants	0.6mg/l	2
	EC50	96h	Algae or other aquatic plants	0.86-3.5mg/l	4
<b>succinic acid</b>	<b>Endpoint</b>	<b>Test Duration (hr)</b>	<b>Species</b>	<b>Value</b>	<b>Source</b>
	LC50	96h	Fish	>100mg/l	2
	EC50	48h	Crustacea	63mg/l	2
	EC50	72h	Algae or other aquatic plants	40.7mg/l	2
	NOEC(ECx)	48h	Crustacea	23mg/l	2
<b>Legend:</b>	<i>Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data</i>				

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.

Wastes resulting from use of the product must be disposed of on site or at approved waste sites.

**DO NOT discharge into sewer or waterways.**

#### Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
glyceryl monostearate, self-emulsifying	LOW	LOW
N-methyl-2-pyrrolidone	LOW	LOW
diethanolamine	LOW (Half-life = 14 days)	LOW (Half-life = 0.3 days)
succinic acid	LOW	LOW

#### Bioaccumulative potential

Ingredient	Bioaccumulation
glyceryl monostearate, self-emulsifying	LOW (LogKOW = 7.257)
N-methyl-2-pyrrolidone	LOW (BCF = 0.16)
diethanolamine	LOW (BCF = 1)
succinic acid	LOW (LogKOW = -0.59)

#### Mobility in soil

Ingredient	Mobility
glyceryl monostearate, self-emulsifying	LOW (Log KOC = 6425)
N-methyl-2-pyrrolidone	LOW (Log KOC = 20.94)
diethanolamine	HIGH (Log KOC = 1)
succinic acid	LOW (Log KOC = 6.314)

## SECTION 13 Disposal considerations

### Waste treatment methods

<b>Product / Packaging disposal</b>	<ul style="list-style-type: none"> <li>▶ Containers may still present a chemical hazard/ danger when empty.</li> <li>▶ Return to supplier for reuse/ recycling if possible.</li> </ul> <p>Otherwise:</p> <ul style="list-style-type: none"> <li>▶ If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.</li> <li>▶ Where possible retain label warnings and SDS and observe all notices pertaining to the product.</li> <li>▶ <b>DO NOT allow wash water from cleaning or process equipment to enter drains.</b></li> <li>▶ It may be necessary to collect all wash water for treatment before disposal.</li> <li>▶ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.</li> <li>▶ Where in doubt contact the responsible authority.</li> <li>▶ Recycle wherever possible or consult manufacturer for recycling options.</li> <li>▶ Consult State Land Waste Authority for disposal.</li> <li>▶ Bury or incinerate residue at an approved site.</li> <li>▶ Recycle containers if possible, or dispose of in an authorised landfill.</li> </ul>
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Ensure that the hazardous substance is disposed in accordance with the Hazardous Substances (Disposal) Notice 2017

### Disposal Requirements

Packages that have been in direct contact with the hazardous substance must be only disposed if the hazardous substance was appropriately removed and cleaned out from the package. The package must be disposed according to the manufacturer's directions taking into account the material it is made of. Packages which hazardous content have been appropriately treated and removed may be recycled.

The hazardous substance must only be disposed if it has been treated by a method that changed the characteristics or composition of the substance and it is no longer hazardous.

Only dispose to the environment if a tolerable exposure limit has been set for the substance.

Only deposit the hazardous substance into or onto a landfill or sewage facility or incinerator, where the hazardous substance can be handled and treated appropriately.

## SECTION 14 Transport information

### Labels Required

	
<b>Marine Pollutant</b>	NO
<b>HAZCHEM</b>	2X

### Land transport (ADG)

14.1. UN number or ID number	1760	
14.2. UN proper shipping name	CORROSIVE LIQUID, N.O.S. (contains N-(tallow alkyl)-1,3-diaminopropane, ethoxylated)	
14.3. Transport hazard class(es)	Class	8
	Subsidiary Hazard	Not Applicable
14.4. Packing group	II	
14.5. Environmental hazard	Not Applicable	
14.6. Special precautions for user	Special provisions	274
	Limited quantity	1 L

### Land transport (UN)

14.1. UN number or ID number	1760	
14.2. UN proper shipping name	CORROSIVE LIQUID, N.O.S. (contains N-(tallow alkyl)-1,3-diaminopropane, ethoxylated)	
14.3. Transport hazard class(es)	Class	8
	Subsidiary Hazard	Not Applicable

14.4. Packing group	II	
14.5. Environmental hazard	Not Applicable	
14.6. Special precautions for user	Special provisions	274
	Limited quantity	1 L

**Air transport (ICAO-IATA / DGR)**

14.1. UN number	1760	
14.2. UN proper shipping name	Corrosive liquid, n.o.s. * (contains N-(tallow alkyl)-1,3-diaminopropane, ethoxylated)	
14.3. Transport hazard class(es)	ICAO/IATA Class	8
	ICAO / IATA Subsidiary Hazard	Not Applicable
	ERG Code	8L
14.4. Packing group	II	
14.5. Environmental hazard	Not Applicable	
14.6. Special precautions for user	Special provisions	A3 A803
	Cargo Only Packing Instructions	855
	Cargo Only Maximum Qty / Pack	30 L
	Passenger and Cargo Packing Instructions	851
	Passenger and Cargo Maximum Qty / Pack	1 L
	Passenger and Cargo Limited Quantity Packing Instructions	Y840
	Passenger and Cargo Limited Maximum Qty / Pack	0.5 L

**Sea transport (IMDG-Code / GGVSee)**

14.1. UN number	1760	
14.2. UN proper shipping name	CORROSIVE LIQUID, N.O.S. (contains N-(tallow alkyl)-1,3-diaminopropane, ethoxylated)	
14.3. Transport hazard class(es)	IMDG Class	8
	IMDG Subsidiary Hazard	Not Applicable
14.4. Packing group	II	
14.5. Environmental hazard	Not Applicable	
14.6. Special precautions for user	EMS Number	F-A , S-B
	Special provisions	274
	Limited Quantities	1 L

**14.7.1. Transport in bulk according to Annex II of MARPOL and the IBC code**

Not Applicable

**14.7.2. Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code**

Product name	Group
glyceryl monostearate, self-emulsifying	Not Available
N-methyl-2-pyrrolidone	Not Available
N-(tallow alkyl)-1,3-diaminopropane, ethoxylated	Not Available
diethanolamine	Not Available
succinic acid	Not Available

**14.7.3. Transport in bulk in accordance with the IGC Code**

Product name	Ship Type
glyceryl monostearate, self-emulsifying	Not Available



Product name	Ship Type
N-methyl-2-pyrrolidone	Not Available
N-(tallow alkyl)-1,3-diaminopropane, ethoxylated	Not Available
diethanolamine	Not Available
succinic acid	Not Available

## SECTION 15 Regulatory information

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

This substance is to be managed using the conditions specified in an applicable Group Standard

HSR Number	Group Standard
HSR002526	Cleaning Products Corrosive Group Standard 2020
HSR002491	Additives Process Chemicals and Raw Materials Corrosive Group Standard 2020
HSR002609	Metal Industry Products Corrosive Group Standard 2020
HSR002618	N.O.S. Corrosive Group Standard 2020
HSR002636	Photographic Chemicals Corrosive Group Standard 2020
HSR002648	Refining Catalysts Group Standard 2020
HSR002658	Surface Coatings and Colourants Corrosive Group Standard 2020
HSR002681	Water Treatment Chemicals Corrosive Group Standard 2020
HSR100425	Pharmaceutical Active Ingredients Group Standard 2020
HSR002598	Leather and Textile Products Corrosive Group Standard 2020
HSR002547	Corrosion Inhibitors Corrosive Group Standard 2020
HSR002555	Dental Products Corrosive Group Standard 2020
HSR002569	Fertilisers Corrosive Group Standard 2020
HSR002582	Fuel Additives Corrosive Group Standard 2020
HSR100757	Veterinary Medicines Limited Pack Size Finished Dose Group Standard 2020
HSR100758	Veterinary Medicines Non dispersive Closed System Application Group Standard 2020
HSR100756	Active Ingredients for Use in the Manufacture of Agricultural Compounds Group Standard 2020

Please refer to Section 8 of the SDS for any applicable tolerable exposure limit or Section 12 for environmental exposure limit.

#### glyceryl monostearate, self-emulsifying is found on the following regulatory lists

Australian Inventory of Industrial Chemicals (AIIC)

International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

New Zealand Inventory of Chemicals (NZIoC)

New Zealand Workplace Exposure Standards (WES)

#### N-methyl-2-pyrrolidone is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6

Australian Inventory of Industrial Chemicals (AIIC)

Chemical Footprint Project - Chemicals of High Concern List

New Zealand Approved Hazardous Substances with controls

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data

New Zealand Inventory of Chemicals (NZIoC)

New Zealand Workplace Exposure Standards (WES)

#### N-(tallow alkyl)-1,3-diaminopropane, ethoxylated is found on the following regulatory lists

Australian Inventory of Industrial Chemicals (AIIC)

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data

New Zealand Inventory of Chemicals (NZIoC)

#### diethanolamine is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6  
 Australian Inventory of Industrial Chemicals (AIIC)  
 Chemical Footprint Project - Chemicals of High Concern List  
 International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs  
 International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 2B: Possibly carcinogenic to humans  
 New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals  
 New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data  
 New Zealand Inventory of Chemicals (NZIoC)  
 New Zealand Workplace Exposure Standards (WES)

#### succinic acid is found on the following regulatory lists

Australian Inventory of Industrial Chemicals (AIIC)  
 New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals  
 New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data  
 New Zealand Inventory of Chemicals (NZIoC)

### Additional Regulatory Information

Not Applicable

### Hazardous Substance Location

Subject to the Health and Safety at Work (Hazardous Substances) Regulations 2017.

Hazard Class	Quantity (Compliance Certificate)	Quantity (Compliance Certificate - Farms >4 ha)
8.2B	250 kg or 250 L	3500 kg or 3500 L

### Certified Handler

Subject to Part 4 of the Health and Safety at Work (Hazardous Substances) Regulations 2017.

Class of substance	Quantities
Not Applicable	Not Applicable

Refer Group Standards for further information

### Maximum quantities of certain hazardous substances permitted on passenger service vehicles

Subject to Regulation 13.14 of the Health and Safety at Work (Hazardous Substances) Regulations 2017.

Hazard Class	Gas (aggregate water capacity in mL)	Liquid (L)	Solid (kg)	Maximum quantity per package for each classification
8.2B	120	1	3	

### Tracking Requirements

Not Applicable

### National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Yes
Canada - DSL	Yes
Canada - NDSL	No (glyceryl monostearate, self-emulsifying; N-methyl-2-pyrrolidone; N-(tallow alkyl)-1,3-diaminopropane, ethoxylated; diethanolamine; succinic acid)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	No (N-(tallow alkyl)-1,3-diaminopropane, ethoxylated)
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	Yes
Vietnam - NCI	Yes
Russia - FBEPH	Yes
<b>Legend:</b>	Yes = All CAS declared ingredients are on the inventory

Continued...

National Inventory	Status
	<i>No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.</i>

## SECTION 16 Other information

Revision Date	04/06/2024
Initial Date	04/06/2024

### Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

