

Ardex (Ardex NZ)

Chemwatch: **5367-67** Version No: **4.1.1.1** 

Safety Data Sheet according to HSNO Regulations

Chemwatch Hazard Alert Code: 2

Issue Date: **07/03/2020** Print Date: **16/07/2020** S.GHS.NZL.EN

### SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

#### **Product Identifier**

Product name	ARDEX R 50 ES Part A
Synonyms	Not Available
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains bisphenol A/ diglycidyl ether resin, liquid and bisphenol F diglycidyl ether copolymer)
Other means of identification	Not Available

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

Relevant identified uses Coating.

### Details of the supplier of the safety data sheet

Registered company name	Ardex (Ardex NZ)		
Address	32 Lane Street Woolston Christchurch New Zealand		
Telephone	+64 3384 3029		
Fax	+64 3384 9779		
Website	Not Available		
Email	Not Available		

### Emergency telephone number

Association / Organisation	Ardex (Ardex NZ)
Emergency telephone numbers	+64 3 373 6900
Other emergency telephone numbers	0800 764 766 (NZ NPC)

### **SECTION 2 HAZARDS IDENTIFICATION**

### Classification of the substance or mixture

Considered a Hazardous Substance according to the criteria of the New Zealand Hazardous Substances New Organisms legislation. Classified as Dangerous Goods for transport purposes.

### CHEMWATCH HAZARD RATINGS

	Min	Max	
Flammability	1	:	
Toxicity	1		0 = Minimum
Body Contact	2		1 = Low 2 = Moderate
Reactivity	1		3 = High
Chronic	2	į	4 = Extreme

Classification <sup>[1]</sup>	Skin Corrosion/Irritation Category 2, Eye Irritation Category 2, Skin Sensitizer Category 1, Germ cell mutagenicity Category 1, Specific target organ toxicity - single exposure Category 2, Chronic Aquatic Hazard Category 2	
Legend:	1. Classified by Chemwatch; 2. Classification drawn from CCID EPA NZ; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI	
Determined by Chemwatch using GHS/HSNO criteria	6.3A, 6.4A, 6.5B (contact), 6.6A, 6.9B, 9.1B	

### Label elements

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### Hazard pictogram(s)







SIGNAL WORD

DANGER

### Hazard statement(s)

H315	Causes skin irritation.	
H319	Causes serious eye irritation.	
H317	May cause an allergic skin reaction.	
H340	May cause genetic defects.	
H371	May cause damage to organs.	
H411	Toxic to aquatic life with long lasting effects.	

### Precautionary statement(s) Prevention

P201	Obtain special instructions before use.	
P260	Do not breathe mist/vapours/spray.	
P280	Wear protective gloves/protective clothing/eye protection/face protection.	
P270	Do not eat, drink or smoke when using this product.	

### Precautionary statement(s) Response

P321	Specific treatment (see advice on this label).		
P302+P352	IF ON SKIN: Wash with plenty of water and soap.		
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+P311	IF exposed or concerned: Call a POISON CENTER/doctor/physician/first aider.		

### Precautionary statement(s) Storage

P405 Store locked up.

### Precautionary statement(s) Disposal

P501 Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

### SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

### Substances

See section below for composition of Mixtures

### Mixtures

CAS No	%[weight]	Name
25068-38-6	26-50	bisphenol A/ diglycidyl ether resin, liquid
68609-97-2	2.4-7	(C12-14)alkylglycidyl ether
9003-36-5	1-6	bisphenol F diglycidyl ether copolymer
68512-30-1	0.8-4	hydrocarbons, C9-unsaturated, polymers with phenol
85711-46-2	<0.5	fatty acids, C14-18 and C16-18-unsaturated, maleated
1330-20-7	<0.5	xylene

### **SECTION 4 FIRST AID MEASURES**

Description of first aid measures		
Eye Contact	<ul> <li>If this product comes in contact with the eyes:</li> <li>Wash out immediately with fresh 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>Seek medical attention without delay; if pain persists or recurs seek medical attention.</li> <li>Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul>	
Skin Contact	If skin contact occurs:  Immediately remove all contaminated clothing, including footwear.  Flush skin and hair with running water (and soap if available).  Seek medical attention in event of irritation.	
Inhalation	<ul> <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.</li> </ul>	

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## Ingestion

- For advice, contact a Poisons Information Centre or a doctor at once.
- Urgent hospital treatment is likely to be needed.
- ► If swallowed do **NOT** induce vomiting.
- If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.
- Observe the patient carefully.
- ▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.
- Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.
- ► Transport to hospital or doctor without delay.

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

Treat symptomatically.

#### **SECTION 5 FIREFIGHTING MEASURES**

### Extinguishing media

► Foam.

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- ► Dry chemical powder.
- ▶ BCF (where regulations permit).
- ► Carbon dioxide.

#### Special hazards arising from the substrate or mixture

Fire Incompatibility	▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result		
Advice for firefighters			
Fire Fighting	<ul> <li>Alert Fire Brigade and tell them location and nature of hazard.</li> <li>Wear full body protective clothing with breathing apparatus.</li> <li>Prevent, by any means available, spillage from entering drains or water course.</li> <li>Use water delivered as a fine spray to control fire and cool adjacent area.</li> </ul>		
Fire/Explosion Hazard	<ul> <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>Combustion products include:</li> <li>carbon dioxide (CO2)</li> <li>other pyrolysis products typical of burning organic material.</li> </ul>		

### **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

Minor Spills	<ul> <li>Environmental hazard - contain spillage.</li> <li>Clean up all spills immediately.</li> <li>Avoid breathing vapours and contact with skin and eyes.</li> <li>Control personal contact with the substance, by using protective equipment.</li> <li>Contain and absorb spill with sand, earth, inert material or vermiculite.</li> </ul>
Major Spills	Environmental hazard - contain spillage.  Moderate hazard.  Clear area of personnel and move upwind.  Alert Fire Brigade and tell them location and nature of hazard.  Wear breathing apparatus plus protective gloves.

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

### **SECTION 7 HANDLING AND STORAGE**

#### Precautions for safe handling ▶ DO NOT allow clothing wet with material to stay in contact with skin ▶ Electrostatic discharge may be generated during pumping - this may result in fire. ▶ Ensure electrical continuity by bonding and grounding (earthing) all equipment. ▶ Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (<=1 m/sec until fill pipe submerged to twice its diameter, then <= 7 m/sec). Safe handling Avoid splash filling. ▶ Avoid all personal contact, including inhalation. Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area. Prevent concentration in hollows and sumps. ▶ Store in original containers. Keep containers securely sealed. Other information No smoking, naked lights or ignition sources. ► Store in a cool, dry, well-ventilated area.

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#### Suitable container

Storage incompatibility

- Metal can or drum
- Packaging as recommended by manufacturer.
- ► Check all containers are clearly labelled and free from leaks.
- Avoid cross contamination between the two liquid parts of product (kit).
- If two part products are mixed or allowed to mix in proportions other than manufacturer's recommendation, polymerisation with gelation and evolution of heat (exotherm) may occur.
- ► This excess heat may generate toxic vapour
- ▶ Avoid reaction with amines, mercaptans, strong acids and oxidising agents

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

#### **Control parameters**

#### OCCUPATIONAL EXPOSURE LIMITS (OEL)

#### INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
New Zealand Workplace Exposure Standards (WES)	xylene	Dimethylbenzene	50 ppm / 217 mg/m3	Not Available	Not Available	Not Available

#### **EMERGENCY LIMITS**

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
bisphenol A/ diglycidyl ether resin, liquid	Epoxy resin includes EPON 1001, 1007, 820, ERL-2795	90 mg/m3	990 mg/m3	5,900 mg/m3
xylene	Xylenes	Not Available	Not Available	Not Available

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Ingredient	Original IDLH	Revised IDLH
bisphenol A/ diglycidyl ether resin, liquid	Not Available	Not Available
(C12-14)alkylglycidyl ether	Not Available	Not Available
bisphenol F diglycidyl ether copolymer	Not Available	Not Available
hydrocarbons, C9-unsaturated, polymers with phenol	Not Available	Not Available
fatty acids, C14-18 and C16-18- unsaturated, maleated	Not Available	Not Available
xylene	900 ppm	Not Available

### OCCUPATIONAL EXPOSURE BANDING

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
bisphenol A/ diglycidyl ether resin, liquid	Е	≤ 0.1 ppm
(C12-14)alkylglycidyl ether	E	≤ 0.1 ppm
bisphenol F diglycidyl ether copolymer	E	≤ 0.1 ppm
hydrocarbons, C9-unsaturated, polymers with phenol	E	≤ 0.1 ppm
fatty acids, C14-18 and C16-18- unsaturated, maleated	E	≤ 0.1 ppm

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**

## Appropriate engineering controls

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. The basic types of engineering controls are:

Process controls which involve changing the way a job activity or process is done to reduce the risk.

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.

### Personal protection









## Eye and face protection

- ► Safety glasses with side shields.
- ► Chemical goggles
- 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.

#### Skin protection

### See Hand protection below

NOTE:

## Hands/feet protection

- 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.
  - Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.

The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to

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manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.

Personal hygiene is a key element of effective hand care.

When handling liquid-grade epoxy resins wear chemically protective gloves, boots and aprons.

The performance, based on breakthrough times .of:

- ·Ethyl Vinyl Alcohol (EVAL laminate) is generally excellent
- ·Butyl Rubber ranges from excellent to good
- ·Nitrile Butyl Rubber (NBR) from excellent to fair.
- ·Neoprene from excellent to fair
- ·Polyvinyl (PVC) from excellent to poor

As defined in ASTM F-739-96

- •Excellent breakthrough time > 480 min
- ·Good breakthrough time > 20 min
- ·Fair breakthrough time < 20 min
- ·Poor glove material degradation

Gloves should be tested against each resin system prior to making a selection of the most suitable type. Systems include both the resin and any hardener, individually and collectively)

·DO NOT use cotton or leather (which absorb and concentrate the resin), natural rubber (latex), medical or polyethylene gloves (which absorb the resin).

**Body protection** 

See Other protection below

Other protection

- Overalls.
- P.V.C apron.
- Barrier cream.
- Skin cleansing cream.

#### 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 computergenerated selection:

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Material	СРІ
PE/EVAL/PE	A
PVA	A
TEFLON	A
VITON	A
BUTYL	С
BUTYL/NEOPRENE	С
HYPALON	С
NAT+NEOPR+NITRILE	С
NATURAL+NEOPRENE	С
NEOPRENE	С
NEOPRENE/NATURAL	С
NITRILE	С
NITRILE+PVC	С
PVC	С
PVDC/PE/PVDC	С

<sup>\*</sup> 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 A-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 5 x ES	A-AUS / Class 1 P2	-	A-PAPR-AUS / Class 1 P2
up to 25 x ES	Air-line*	A-2 P2	A-PAPR-2 P2
up to 50 x ES	-	A-3 P2	-
50+ x ES	-	Air-line**	-

### ^ - 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(SO2), G = Agricultural chemicals, K = Ammonia(NH3), 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	Coloured liquid; does not mix with water.		
Physical state	Liquid	Relative density (Water = 1)	1.44-1.48
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Applicable	Decomposition temperature	Not Available

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Melting point / freezing point (°C)	Not Applicable	Viscosity (cSt)	2534.25-3219.18
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	>135 (COC)	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Applicable	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	Immiscible	pH as a solution (1%)	Not Applicable
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available

### **SECTION 10 STABILITY AND REACTIVITY**

Reactivity	See section 7
Chemical stability	<ul> <li>Unstable in the presence of incompatible materials.</li> <li>Product is considered stable.</li> <li>Hazardous polymerisation will not occur.</li> </ul>
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

### **SECTION 11 TOXICOLOGICAL INFORMATION**

### Information on toxicological effects

Inhaled	Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by sleepiness, reduced alertness, loss of reflexes, lack of co-ordination, and vertigo.  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.  Central nervous system (CNS) depression may include general discomfort, symptoms of giddiness, headache, dizziness, nausea, anaesthetic effects, slowed reaction time, slurred speech and may progress to unconsciousness. Serious poisonings may result in respiratory depression and may be fatal.
Ingestion	Accidental ingestion of the material may be damaging to the health of the individual.
Skin Contact	This material can cause inflammation of the skin on contact in some persons.  The material may accentuate any pre-existing dermatitis condition  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.
Eye	This material can cause eye irritation and damage in some persons.
Chronic	Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population.  There has been some concern that this material can cause cancer or mutations but there is not enough data to make an assessment.  Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.  Based on experience with similar materials, there is a possibility that exposure to the material may reduce fertility in humans at levels which do not cause other toxic effects.

ARDEX R 50 ES Part A	TOXICITY  Not Available	IRRITATION  Not Available
bisphenol A/ diglycidyl ether resin, liquid	TOXICITY  dermal (rat) LD50: >1200 mg/kg <sup>[2]</sup> Oral (rat) LD50: >1000 mg/kg <sup>[2]</sup>	IRRITATION  Eye (rabbit): 100mg - Mild
(C12-14)alkylglycidyl ether	TOXICITY  Oral (rat) LD50: >10000 mg/kg <sup>[2]</sup>	IRRITATION  Eye (rabbit): mild [Ciba]  Eye: adverse effect observed (irritating) <sup>[1]</sup> Skin (guinea pig): sensitiser  Skin (human): Irritant  Skin (human): non- sensitiser  Skin (rabbit): moderate  Skin: Moderate  Skin: adverse effect observed (irritating) <sup>[1]</sup>

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	TOXICITY	IRRITATION	
bisphenol F diglycidyl ether copolymer	dermal (rat) LD50: >400 mg/kg <sup>[2]</sup>	Eye: no adverse effect observed (not irritating) <sup>[1]</sup>	
сорозуние	Oral (rat) LD50: >2000 mg/kg <sup>[1]</sup>	Skin: adverse effect observed (irritating) <sup>[1]</sup>	
hydrocarbons,	TOXICITY	IRRITATION	
C9-unsaturated, polymers	dermal (rat) LD50: >10100 mg/kg <sup>[2]</sup>	Not Available	
with phenol	Oral (rat) LD50: 1200 mg/kg <sup>[2]</sup>		
	TOXICITY	IRRITATION	
fatty acids, C14-18 and C16-18-unsaturated, maleated	dermal (rat) LD50: >2000 mg/kg <sup>[1]</sup>	Not Available	
C10-10-unsaturateu, maieateu	Oral (rat) LD50: >2000 mg/kg <sup>[1]</sup>		
	TOXICITY	IRRITATION	
	Dermal (rabbit) LD50: >1700 mg/kg <sup>[2]</sup>	Eye (human): 200 ppm irritant	
	Inhalation (rat) LC50: 4994.295 mg/l/4h <sup>[2]</sup>	Eye (rabbit): 5 mg/24h SEVERE	
xylene	Oral (rat) LD50: 3523-8700 mg/kg <sup>[2]</sup>	Eye (rabbit): 87 mg mild	
		Eye: adverse effect observed (irritating) <sup>[1]</sup>	
		Skin (rabbit):500 mg/24h moderate	
	Skin: adverse effect observed (irritating) <sup>[1]</sup>		
Legend:	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		

#### BISPHENOL A/ DIGLYCIDYL ETHER RESIN, LIQUID

Foetoxicity has been observed in animal studies Oral (rabbit, female) NOEL 180 mg/kg (teratogenicity; NOEL (maternal 60 mg/kg Animal testing over 13 weeks showed bisphenol A diglycidyl ether (BADGE) caused mild to moderate, chronic, inflammation of the skin. Reproductive and Developmental Toxicity: Animal testing showed BADGE given over several months caused reduction in body weight but had no reproductive effects.

reproductive enects.

Cancer-causing potential: It has been concluded that bisphenol A diglycidyl ether cannot be classified with respect to its cancer-causing potential in humans.

Genetic toxicity: Laboratory tests on genetic toxicity of BADGE have so far been negative.

Immunotoxicity: Animal testing suggests regular injections of diluted BADGE may result in sensitization.

Consumer exposure: Comsumer exposure to BADGE is almost exclusively from migration of BADGE from can coatings into food. Testing has not found any evidence of hormonal disruption.

#### (C12-14)ALKYLGLYCIDYL ETHER

For 1,2-butylene oxide (ethyloxirane):

In animal testing, ethyloxirane increased the incidence of tumours of the airways in animals exposed via inhalation. However, tumours were not observed in mice chronically exposed via skin. Two structurally related substances, oxirane (ethylene oxide) and methyloxirane (propylene oxide), which are also direct-acting alkylating agents, have been classified as causing cancer.

## BISPHENOL F DIGLYCIDYL ETHER COPOLYMER

Data for liquid polymer, ie for molecular weights generally less than 700 CAUTION: Epoxy resin products may contain sensitising glycidyl ethers, even when these are not mentioned in the information given for the product. Limited animal studies have indicated that bisphenol A diglycidyl ethers may be potential carcinogens. [CISDOC Patty] No significant acute toxicological data identified in literature search. The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

In a local lymph node assay with mice, the stimulation index (SI) threshold of = 3.0, indicating a positive sensitisation response, was attained in all treated groups. The NOAEL of 300 mg/kg bw/day for systemic toxicity after 90 days exposure does not necessitate any classification regarding repeated exposure according to European classification rules. Based on the negative results attained in all in vitro genotoxicity studies, the material is considered not to be genotoxic and does not warrant any classification regarding mutagenicity according to European classification rule. There were no findings or adverse effects in the Combined Repeated Dose Oral (Gavage) Toxicity Study with the Reproduction/Developmental Toxicity Screening Test (OECD 422) and in the prenatal developmental toxicity study warranting the classification of the material regarding reproductive or developmental toxicity according to European classification rules \* REACh Dossier 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. 551liper

For aliphatic fatty acids (and salts) Acute oral (gavage) toxicity:

#### FATTY ACIDS, C14-18 AND C16-18-UNSATURATED, MALEATED

The acute oral LD50 values in rats for both were greater than >2000 mg/kg bw Clinical signs were generally associated with poor condition following administration of high doses (salivation, diarrhoea, staining, piloerection and lethargy). There were no adverse effects on body weight in any study In some studies, excess test substance and/or irritation in the gastrointestinal tract was observed at necropsy. Skin and eye irritation potential, with a few stated exceptions, is chain length dependent and decreases with increasing chain length According to several OECD test regimes the animal skin irritation studies indicate that the C6-10 aliphatic acids are severely irritating or corrosive, while the C12 aliphatic acid is irritating, and the C14-22 aliphatic acids generally are not irritating or mildly irritating. Human skin irritation studies using more realistic exposures (30-minute,1-hour or 24-hours) indicate that the aliphatic acids have sufficient.

good or very good skin compatibility.

Animal eye irritation studies indicate that among the aliphatic acids, the C8-12 aliphatic acids are irritating to the eye while the C14-22 aliphatic acids are not irritating.

Eye irritation potential of the ammonium salts does not follow chain length dependence; the C18 ammonium salts are corrosive to the eyes. Dermal absorption:

The in vitro penetration of C10, C12, C14, C16 and C18 fatty acids (as sodium salt solutions) through rat skin decreases with increasing chain length. At 86.73 ug C16/cm2 and 91.84 ug C18/cm2, about 0.23% and less than 0.1% of the C16 and C18 soap solutions is absorbed after 24 h exposure, respectively.

Sensitisation:

No sensitisation data were located.

Repeat dose toxicity:

Repeated dose oral (gavage or diet) exposure to aliphatic acids did not result in systemic toxicity with NOAELs greater than the limit dose of

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	1000 mg/kg bw.  Epoxidation of double bonds is a common bioactivation pathway for alkenes. The allylic epoxides formed were found to be sensitizing. Research has shown that conjugated dienes in or in conjunction with a six-membered ring are prohaptens, while related dienes containing isolated double bonds or an acrylic conjugated diene were weak or non-sensitising.  Group A aliphatic monoesters (fatty acid esters) cause very little or no injury and are considered safe for use in cosmetics.		
XYLENE	Reproductive effector in rats The material may produce severe irritation to the eye produce conjunctivitis.	causing pronounced inflammation. Re	epeated or prolonged exposure to irritants may
BISPHENOL A/ DIGLYCIDYL ETHER RESIN, LIQUID & (C12-14)ALKYLGLYCIDYL ETHER & BISPHENOL F DIGLYCIDYL ETHER COPOLYMER & FATTY ACIDS, C14-18 AND C16-18- UNSATURATED, MALEATED	The following information refers to contact allergens as a group and may not be specific to this product.  Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions. The significance of the contact allergen is not simply determined by its sensitisation potential: the distribution of the substance and the opportunities for contact with it are equally important.		
BISPHENOL A/ DIGLYCIDYL ETHER RESIN, LIQUID & BISPHENOL F DIGLYCIDYL ETHER COPOLYMER	The chemical structure of hydroxylated diphenylalkanes or bisphenols consists of two phenolic rings joined together through a bridging carbon.  This class of endocrine disruptors that mimic oestrogens is widely used in industry, particularly in plastics  Bisphenol A (BPA) and some related compounds exhibit oestrogenic activity in human breast cancer cell line MCF-7, but there were remarkable differences in activity. Several derivatives of BPA exhibited significant thyroid hormonal activity towards rat pituitary cell line GH3, which releases growth hormone in a thyroid hormone-dependent manner. However, BPA and several other derivatives did not show such activity.		
BISPHENOL A/ DIGLYCIDYL ETHER RESIN, LIQUID & XYLENE	The substance is classified by IARC as Group 3:  NOT classifiable as to its carcinogenicity to humans.  Evidence of carcinogenicity may be inadequate or limited in animal testing.		
(C12-14)ALKYLGLYCIDYL ETHER & BISPHENOL F DIGLYCIDYL ETHER COPOLYMER	Oxiranes (including glycidyl ethers and alkyl oxides, and epoxides) share many common characteristics with respect to animal toxicology. One such oxirane is ethyloxirane; data presented here may be taken as representative.		
BISPHENOL F DIGLYCIDYL ETHER COPOLYMER & XYLENE	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.		
Acute Toxicity	×	Carcinogenicity	×
Skin Irritation/Corrosion	<b>✓</b>	Reproductivity	×
Serious Eye Damage/Irritation	✓	STOT - Single Exposure	✓
Respiratory or Skin sensitisation	<b>~</b>	STOT - Repeated Exposure	×
Mutagenicity	Aspiration Hazard X		

Legend:

X − Data either not available or does not fill the criteria for classification
 y − Data available to make classification

### **SECTION 12 ECOLOGICAL INFORMATION**

### Toxicity

ARDEX R 50 ES Part A	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Available	Not Available	Not Available	Not Available	Not Available
bisphenol A/ diglycidyl ether	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
resin, liquid	EC50	48	Crustacea	ca.2mg/L	2
	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
(040.44) - 11 - 1 - 1 - 1 - 1 - 1 - 1 - 1	LC50	96	Fish	>5-mg/L	2
(C12-14)alkylglycidyl ether	EC50	48	Crustacea	6.07mg/L	2
	NOEC	48	Crustacea	<10mg/L	2
	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	0.55mg/L	2
bisphenol F diglycidyl ether copolymer	EC50	48	Crustacea	>1-mg/L	2
Соролуппс	EC50	72	Algae or other aquatic plants	>1.8mg/L	2
	NOEC	504	Crustacea	0.3mg/L	2
hydrocarbons,	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
C9-unsaturated, polymers with phenol	Not Available	Not Available	Not Available	Not Available	Not Available
	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	>=1.17mg/L	2
fatty acids, C14-18 and C16-18-unsaturated, maleated	EC50	48	Crustacea	>5.3mg/L	2
	EC50	72	Algae or other aquatic plants	>2.76mg/L	2

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	NOEC	96	Fish	>=1.17mg/L	2
	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	2.6mg/L	2
xylene	EC50	48	Crustacea	1.8mg/L	2
	EC50	72	Algae or other aquatic plants	3.2mg/L	2
	NOEC	73	Algae or other aquatic plants	0.44mg/L	2
Legend:	Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 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				

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. **DO NOT** discharge into sewer or waterways.

#### Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
bisphenol A/ diglycidyl ether resin, liquid	HIGH	нівн
xylene	HIGH (Half-life = 360 days)	LOW (Half-life = 1.83 days)

#### Bioaccumulative potential

Ingredient	Bioaccumulation
bisphenol A/ diglycidyl ether resin, liquid	LOW (LogKOW = 2.6835)
xylene	MEDIUM (BCF = 740)

#### Mobility in soil

Ingredient	Mobility
bisphenol A/ diglycidyl ether resin, liquid	LOW (KOC = 51.43)

### **SECTION 13 DISPOSAL CONSIDERATIONS**

#### Waste treatment methods

- ► Containers may still present a chemical hazard/ danger when empty.
- Return to supplier for reuse/ recycling if possible

#### Otherwise

- 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.
- Where possible retain label warnings and SDS and observe all notices pertaining to the product.
   Waste Management

# Product / Packaging disposal

Production waste from epoxy resins and resin systems should be treated as hazardous waste in accordance with National regulations. Fire retarded resins containing halogenated compounds should also be treated as special waste. Accidental spillage of resins, curing agents and their formulations should be contained and absorbed by special mineral absorbents to prevent them from entering the environment.

Contaminated or surplus product should not be washed down the sink, but preferably be fully reacted to form cross-linked solids which is

Contaminated or surplus product should not be washed down the sink, but preferably be fully reacted to form cross-linked solids which non-hazardous and can be more easily disposed.

- ▶ DO NOT allow wash water from cleaning or process equipment to enter drains.
- It may be necessary to collect all wash water for treatment before disposal.
- In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.
- ▶ Where in doubt contact the responsible authority.
- ▶ Recycle wherever possible or consult manufacturer for recycling options.
- ► Consult State Land Waste Authority for disposal.
- ▶ Bury or incinerate residue at an approved site
- ▶ Recycle containers if possible, or dispose of in an authorised landfill.

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.

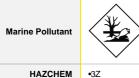
### **SECTION 14 TRANSPORT INFORMATION**

### Labels Required



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HAZCHEM

### Land transport (UN)

UN number	3082		
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains bisphenol A/ diglycidyl ether resin, liquid and bisphenol F diglycidyl ether copolymer)		
Transport hazard class(es)	Class 9 Subrisk Not Applicable		
Packing group	III		
Environmental hazard	Environmentally hazardous		
Special precautions for user	Special provisions 274; 331; 335; 375  Limited quantity 5 L		

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

UN number	3082		
UN proper shipping name	Environmentally hazardous substance, liquid, n.o.s. * (contains bisphenol A/ diglycidyl ether resin, liquid and bisphenol F diglycidyl ether copolymer)		
Transport hazard class(es)	ICAO/IATA Class 9 ICAO / IATA Subrisk Not Applicable ERG Code 9L		
Packing group	III		
Environmental hazard	Environmentally hazardous		
	Special provisions	A97 A158 A197	
	Cargo Only Packing Instructions	964	
	Cargo Only Maximum Qty / Pack	450 L	
Special precautions for user	Passenger and Cargo Packing Instructions	964	
	Passenger and Cargo Maximum Qty / Pack	450 L	
	Passenger and Cargo Limited Quantity Packing Instructions	Y964	
	Passenger and Cargo Limited Maximum Qty / Pack	30 kg G	

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

UN number	3082		
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains bisphenol A/ diglycidyl ether resin, liquid and bisphenol F diglycidyl ether copolymer)		
Transport hazard class(es)	IMDG Class 9 IMDG Subrisk Not Applicable		
Packing group	III		
Environmental hazard	Marine Pollutant		
Special precautions for user	EMS Number F-A , S-F Special provisions 274 335 969 Limited Quantities 5 L		

### Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

### **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
HSR002624	N.O.S. (Subsidiary Hazard) Group Standard 2017
HSR002535	Gas Under Pressure Mixtures (Subsidiary Hazard) Group Standard 2017

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HSR002596	Laboratory Chemicals and Reagent Kits Group Standard 2017
HSR002530	Cleaning Products (Subsidiary Hazard) Group Standard 2017
HSR002585	Fuel Additives (Subsidiary Hazard) Group Standard 2017
HSR002519	Aerosols (Subsidiary Hazard) Group Standard 2017
HSR002521	Animal Nutritional and Animal Care Products Group Standard 2017
HSR002606	Lubricants, Lubricant Additives, Coolants and Anti-freeze Agents (Subsidiary Hazard) Group Standard 2017
HSR002644	Polymers (Subsidiary Hazard) Group Standard 2017
HSR002670	Surface Coatings and Colourants (Subsidiary Hazard) Group Standard 2017
HSR002638	Photographic Chemicals (Subsidiary Hazard) Group Standard 2017
HSR002565	Embalming Products (Subsidiary Hazard) Group Standard 2017
HSR002558	Dental Products (Subsidiary Hazard) Group Standard 2017
HSR002684	Water Treatment Chemicals (Subsidiary Hazard) Group Standard 2017
HSR002573	Fire Fighting Chemicals Group Standard 2017
HSR100425	Pharmaceutical Active Ingredients Group Standard 2017
HSR002600	Leather and Textile Products (Subsidiary Hazard) Group Standard 2017
HSR002571	Fertilisers (Subsidiary Hazard) Group Standard 2017
HSR002648	Refining Catalysts Group Standard 2017
HSR002653	Solvents (Subsidiary Hazard) Group Standard 2017
HSR002544	Construction Products (Subsidiary Hazard) Group Standard 2017
HSR002549	Corrosion Inhibitors (Subsidiary Hazard) Group Standard 2017
HSR100757	Veterinary Medicine (Limited Pack Size, Finished Dose) Standard 2017
HSR100758	Veterinary Medicines (Non-dispersive Closed System Application) Group Standard 2017
HSR100759	Veterinary Medicines (Non-dispersive Open System Application) Group Standard 2017
HSR002612	Metal Industry Products (Subsidiary Hazard) Group Standard 2017
HSR002503	Additives, Process Chemicals and Raw Materials (Subsidiary Hazard) Group Standard 2017

### BISPHENOL A/ DIGLYCIDYL ETHER RESIN, LIQUID IS FOUND ON THE FOLLOWING REGULATORY LISTS

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

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

New Zealand Inventory of Chemicals (NZIoC)

### (C12-14)ALKYLGLYCIDYL ETHER IS FOUND ON THE FOLLOWING REGULATORY LISTS

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)

### BISPHENOL F DIGLYCIDYL ETHER COPOLYMER IS FOUND ON THE FOLLOWING REGULATORY LISTS

New Zealand Inventory of Chemicals (NZIoC)

of Chemicals

### HYDROCARBONS, C9-UNSATURATED, POLYMERS WITH PHENOL IS FOUND ON THE FOLLOWING REGULATORY LISTS

New Zealand Inventory of Chemicals (NZIoC)

### FATTY ACIDS, C14-18 AND C16-18-UNSATURATED, MALEATED IS FOUND ON THE FOLLOWING REGULATORY LISTS

New Zealand Inventory of Chemicals (NZIoC)

### XYLENE IS FOUND ON THE FOLLOWING REGULATORY LISTS

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

New Zealand Approved Hazardous Substances with controls

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

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)

#### **Hazardous Substance Location**

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

Hazard Class	Quantity beyond which controls apply for closed containers	Quantity beyond which controls apply when use occurring in open containers
Not Applicable	Not Applicable	Not Applicable

### Certified Handler

of Chemicals

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

### **Tracking Requirements**

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Not Applicable

#### **National Inventory Status**

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National Inventory	Status		
Australia - AICS	Yes		
Canada - DSL	No (fatty acids, C14-18 and C16-18-unsaturated, maleated)		
Canada - NDSL	No (bisphenol A/ diglycidyl ether resin, liquid; (C12-14)alkylglycidyl ether; bisphenol F diglycidyl ether copolymer; xylene)		
China - IECSC	Yes		
Europe - EINEC / ELINCS / NLP	Yes		
Japan - ENCS	No ((C12-14)alkylglycidyl ether; bisphenol F diglycidyl ether copolymer; hydrocarbons, C9-unsaturated, polymers with phenol; fatty acids, C14-18 and C16-18-unsaturated, maleated)		
Korea - KECI	No (fatty acids, C14-18 and C16-18-unsaturated, maleated)		
New Zealand - NZIoC	Yes		
Philippines - PICCS	Yes		
USA - TSCA	Yes		
Taiwan - TCSI	Yes		
Mexico - INSQ	No ((C12-14)alkylglycidyl ether; hydrocarbons, C9-unsaturated, polymers with phenol; fatty acids, C14-18 and C16-18-unsaturated, maleated)		
Vietnam - NCI	Yes		
Russia - ARIPS	No (hydrocarbons, C9-unsaturated, polymers with phenol; fatty acids, C14-18 and C16-18-unsaturated, maleated)		
Legend:	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)		

### **SECTION 16 OTHER INFORMATION**

Revision Date	07/03/2020
Initial Date	22/08/2019

### **SDS Version Summary**

Version	Issue Date	Sections Updated
3.1.1.1	01/11/2019	One-off system update. NOTE: This may or may not change the GHS classification
4.1.1.1	07/03/2020	Classification change due to full database hazard calculation/update.

### 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.

#### **Definitions and abbreviations**

PC-TWA: Permissible Concentration-Time Weighted Average

PC-STEL: Permissible Concentration-Short Term Exposure Limit

IARC: International Agency for Research on Cancer

ACGIH: American Conference of Governmental Industrial Hygienists

STEL: Short Term Exposure Limit

TEEL: Temporary Emergency Exposure Limit $_{\! \circ}$ 

IDLH: Immediately Dangerous to Life or Health Concentrations

OSF: Odour Safety Factor

NOAEL :No Observed Adverse Effect Level

LOAEL: Lowest Observed Adverse Effect Level

TLV: Threshold Limit Value LOD: Limit Of Detection OTV: Odour Threshold Value

BCF: BioConcentration Factors

BEI: Biological Exposure Index

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TEL (+61 3) 9572 4700.