

**1. Identification of Substance & Company**

**Product**

<b>Product name</b>	Flexible F.A.S.T Adhesive Dual Cartridge
<b>Other names</b>	not assigned
<b>Product code</b>	STP900B
<b>HSNO approval</b>	HSR002679 for Part A HSR002670 for Part B
<b>Approval description</b>	Part A: Surface Coatings and Colourants (Carcinogenic) Group Standard 2020 Part B: Surface Coatings and Colourants (Subsidiary Hazard) Group Standard 2020
<b>UN number</b>	NA
<b>DG class</b>	NA
<b>Proper Shipping Name</b>	NA
<b>Packaging group</b>	NA
<b>Hazchem code</b>	NA
<b>Uses</b>	Two part adhesive for roofing systems

**Company Details**

<b>Company</b>	<b>Viking Roofspec</b>	
<b>Physical Address</b>	80 Alexander Crescent O tara Auckland New Zealand	PO Box 14 451 Panmure Auckland 1741 New Zealand
<b>Telephone</b>	0800 729 799	
<b>Fax</b>	0800 729 788	
<b>Website</b>	www.vikingroofspec.co.nz	

**Emergency Telephone Number: 0800 764 766**

**2. Hazard Identification**

**NZ Approval**

This product is an approved substance under the Hazardous Substances and New Organisms Act (HSNO, Approval HSR002679 and HSR002670, Surface Coatings and Colourants (Carcinogenic) Group Standard 2020 and Surface Coatings and Colourants (Subsidiary Hazard) Group Standard 2020). The substance has been classified as hazardous according to the criteria in the Hazardous Substances (Hazard Classification) Notice 2020.

**GHS 7 Classes**

**Hazard Statements**

<b>PART A:</b>	
Acute toxicity category 4 (inhalation)	H332 - Harmful if inhaled.
STOT* single exposure category 3	H335 - May cause respiratory irritation.
Skin irritant category 2	H315 - Causes skin irritation.
Eye irritant category 2	H319 - Causes serious eye irritation.
Respiratory sensitiser category 1	H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitiser category 1	H317 - May cause an allergic skin reaction.
Carcinogen category 2	H341 - Suspected of causing cancer.
STOT* repeated exposure category 1	H372 - Causes damage to organs through prolonged or repeated exposure.

\*STOT – System target organ toxicity

**SYMBOLS**

**DANGER**



**Classes**

PART B:  
 Skin irritant category 2  
 Eye irritant category 2

**Hazard Statements**

H315 - Causes skin irritation.  
 H319 - Causes serious eye irritation.

**SYMBOLS**

**WARNING**



**Other Classifications**

There are no other classifications that are known to apply.

**Precautionary Statements for both parts**

<b>Prevention</b>	P102 - Keep out of reach of children. P103 - Read label before use. P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P260 - Do not breathe vapours. P264 - Wash hands thoroughly after handling. P270 - Do not eat, drink or smoke when using this product. P271 - Use only outdoors or in a well-ventilated area. P272 - Contaminated work clothing should not be allowed out of the workplace. P280 - Wear protective gloves/protective clothing. P280 - Wear protective gloves/eye protection.
<b>Response</b>	P101 - If medical advice is needed, have product container or label at hand. P285 - In case of inadequate ventilation wear respiratory protection. 302+P352 - IF ON SKIN: Wash with plenty of soap and water. P333+P313 - If skin irritation or rash occurs: Get medical advice/attention. P363 - Wash contaminated clothing before reuse. P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+P313 - If eye irritation persists: Get medical advice/attention P304+P341 - IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. P342+P311 - If experiencing respiratory symptoms: Call a POISON CENTRE or doctor/physician. P308+P313 - IF exposed or concerned: Get medical advice/ attention.
<b>Storage</b>	P403+P233 - Store in a well-ventilated place. Keep container tightly closed. P405 - Store locked up.
<b>Disposal</b>	P501 - Dispose of contents/container in accordance with local/regional/national/international regulation.

### 3. Composition / Information on Ingredients

Component of Part A	CAS/ Identification	Conc (%)
Diphenylmethane-4,4-diisocyanate	101-68-8	25-60%
Diphenylmethane Diisocyanate (MDI) Mixed Isomers	26447-40-5	10-30%
Isocyanates, reaction product of polyol with methylenediphenyl diisocyanate	39420-98-9	10-30%
Benzene, 1,1'-methylenebis[isocyanato-, homopolymer	39310-05-9	10-30%
Diphenylmethane-2,4-diisocyanate	5873-54-1	10-30%
Diphenylmethanediisocyanate, isomers and homologues	9016-87-9	7-13%
4,4'-Methylenediphenyl-4,4'-diisocyanate, oligomers	25686-28-6	3-7%

Component of Part B	CAS/ Identification	Conc (%)
Dipropylene glycol	110-98-5	5-10%
Tris (1-chloro-2-propyl) phosphate	13674-84-5	10-20%
Triethylene diamine	280-57-9	0.1-1%
Ethanol, 2-(dimethylamino)-	108-01-0	0.1-1%

This is a commercial product whose exact ratio of components may vary. Trace quantities of impurities are also likely.

### 4. First Aid

#### General Information

If medical advice is needed, have product container or label at hand. You should call the National Poisons Centre if you feel that you may have been poisoned, burned or irritated by this product. The number is 0800 764 766 (0800 POISON) (24 hr emergency service).

#### Recommended first aid facilities

Ready access to running water is required. Accessible eyewash is required.

#### Exposure

#### Swallowed Eye contact

Do NOT induce vomiting. Give a glass of water to drink. Contact a doctor.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Apply continuous irrigation with water for at least 15 minutes holding eyelids apart. If eye irritation persists: Get medical advice.

#### Skin contact

IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

#### Inhaled

IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTRE or doctor/physician.

#### Advice to Doctor

Treat symptomatically

### 5. Firefighting Measures

#### Fire and explosion hazards:

There are no specific risks for fire/explosion for this chemical. It is not classed as flammable. Excessive pressure or temperatures may cause explosive rupture of containers.

#### Suitable extinguishing substances:

Carbon dioxide, extinguishing powder, foam, fog sprays, water jets.

#### Unsuitable extinguishing substances:

If using water use very large quantities of cold water. The reaction between water and hot isocyanates may be vigorous.

#### Products of combustion:

Carbon dioxide, and if combustion is incomplete, carbon monoxide, oxides of nitrogen and smoke. Water. May form toxic mixtures in air and may accumulate in sumps, pits and other low-lying spaces, forming potentially explosive mixtures.

#### Protective equipment:

Self-contained breathing apparatus. Safety boots, non-flammable overalls, gloves, hat and eye protection.

#### Hazchem code:

NA

### 6. Accidental Release Measures

<b>Containment</b>	If greater than 1000L is stored, secondary containment and emergency plans to manage any potential spills must be in place. In all cases design storage to prevent discharge to storm water.
<b>Emergency procedures</b>	If a significant spill occurs: Stop leak if safe/necessary; Isolate area. Collect spill – see below; Transfer to container for disposal. Dispose of according to guidelines below (Section 13).
<b>Clean-up method</b>	Use absorbent (soil, sand or other inert material). Rags are not recommended for the clean-up of spills, as they may create fire or environmental hazard. Collect and seal in properly labelled containers or drums for disposal. If contamination of crops, sewers or waterways has occurred advise local emergency services.
<b>Disposal</b>	Mop up and collect recoverable material into labelled containers for recycling or salvage. Recycle containers wherever possible. This material may be suitable for approved landfill. Dispose of only in accord with all regulations.
<b>Precautions</b>	No special protective clothing is normally necessary.

### 7. Storage & Handling

<b>Storage</b>	Avoid storage of harmful substances with food. Store out of reach of children. Store in original container only protected from direct sunlight in a dry, cool well ventilated area. Containers should be kept closed in order to minimise contamination. Keep from extreme heat and open flames. Do not store above 25°C. Avoid contact with incompatible substances as listed in Section 10.
<b>Handling</b>	Keep exposure to a minimum, and minimise the quantities kept in work areas. Wash hands after use. See section 8 with regard to personal protective equipment requirements. Avoid skin and eye contact and inhalation of vapour, mist or aerosols. Do not eat, drink or smoke in work area. Remove contaminated clothing or protective equipment before entering eating area.

### 8. Exposure Controls / Personal Protective Equipment

#### Workplace Exposure Standards

A workplace exposure standard (WES) has not been established by WorkSafe NZ for this product. There is a general limit of 3mg/m<sup>3</sup> for respirable particulates and 10mg/m<sup>3</sup> for inhalable particulates when limits have not otherwise been established.

NZ Workplace Exposure Stds	Ingredient	WES-TWA	WES-STEL
	Dipropylene glycol	-	-
	Tris (1-chloro-2-propyl) phosphate	-	-
	triethylene diamine	-	-
	Ethanol, 2-(dimethylamino)-	2ppm, 7.4mg/m <sup>3</sup>	6ppm, 22mg/m <sup>3</sup>
	Diphenylmethane-4,4-diisocyanate	0.02mg/m <sup>3</sup> (for isocyanates)	0.07mg/m <sup>3</sup> (for Isocyanates)
	Diphenylmethane Diisocyanate (MDI)	0.02mg/m <sup>3</sup> (for isocyanates)	0.07mg/m <sup>3</sup> (for Isocyanates)
	Mixed Isomers		

#### Engineering Controls

In industrial situations, it is expected that employee exposure to hazardous substances will be controlled to a level as far below the WES as practicable by applying the hierarchy of control required by the Health and Safety at Work Act (2015) and the Health and Safety at Work (General Risk and Workplace Management) Regulations 2016. Exposure can be reduced by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods. If you believe air borne concentrations of mists, dusts or vapours are high, you are advised to modify processes or increase ventilation.

#### Personal Protective Equipment

**General** Personal Protective Equipment (PPE) should not be used as the primary means of exposure protection, except in the event of an accident or emergency situation or where all other means of protection have proven to inadequate. Clean PPE after use or dispose of as appropriate. Store PPE for re-use in a clean place. Regular training on the correct use of PPE should be provided. In particular the correct fitting and use of respirators and where applicable the cleaning of respirators should be undertaken.

**Eyes**



Avoid contact with eyes. Use safety glasses and or chemical splash goggles if splashes are possible. Select eye protection in accordance with AS/NZS 1337.

**Skin**



Avoid any skin contact. Wear overalls, rubber boots and impervious gloves. Neoprene, Nitrile, Latex or butyl rubber gloves are recommended. Protective gloves or suitably resistant material must comply with AS 2161. Replace frequently. Gloves should be checked for tears or holes before use. Protective clothing must comply with AS 2919, AS3765.1 or AS3765.2. PVC or rubber boots must comply with AS/NZS 2210.2 and selected and maintained in accordance with AS/NS2210.1. Remove protective clothing and wash exposed areas with soap and water prior to eating, drinking or smoking.

**Respiratory**



A respirator when airborne concentrations approach the WES (section 8). Respirators must have filters appropriate to the duty and comply with AS/NZS1716 and selected, used and maintained in accordance with AS/NS 1715. Use a 'ENTER RESPIRATOR TYPE'. If using a respirator, ensure that the cartridges are correct for the potential air contamination and are in good working order. Fit testing and clear guidelines and training for use and maintenance of PPE are necessary. It is important to note that odour cannot be used to indicate whether a respirator should be used or cartridges be replaced (the odour threshold for isocyanate is lower than the level at which toxic effects could occur).

**WES Additional Information**

Not applicable

### 9. Physical & Chemical Properties

<b>Appearance</b>	light yellow to amber liquid
<b>Odour</b>	faint aromatic
<b>Odour Threshold</b>	no data
<b>pH</b>	no data
<b>Freezing/melting point</b>	<-20°C
<b>Boiling Point</b>	200°C (@5mmHg)
<b>Flashpoint</b>	200°C
<b>Flammability</b>	no data
<b>Upper &amp; lower flammable limits</b>	no data
<b>Vapour pressure</b>	0.00001mmHg
<b>Vapour density</b>	no data
<b>Specific gravity/density</b>	1.16g/cm <sup>3</sup>
<b>Solubility</b>	reacts with water
<b>Partition coefficient</b>	no data
<b>Auto-ignition temperature</b>	no data
<b>Decomposition temperature</b>	no data
<b>Viscosity</b>	270mPa.s
<b>Particle Characteristics</b>	no data

### 10. Stability & Reactivity

<b>Stability</b>	Stable at room temperatures and in dry conditions. Substance reacts with water to produce carbon dioxide gas in an exothermic reaction (i.e. releases heat).
<b>Conditions to be avoided</b>	Keep away from sources of ignition at all times. Containers should be kept closed in order to avoid contamination.
<b>Incompatible groups</b>	May react with alcohols, ammonia, amines, aqueous acids and alkalis (exothermic). With water/moisture: carbon dioxide is produced; pressure may build up inside closed containers (danger of bursting). High humidity may harden contents of container or cause valve blockage.
<b>Substance Specific Incompatibility</b>	As above.
<b>Hazardous decomposition products</b>	Carbon monoxide, traces of hydrogen cyanide, oxides of nitrogen.
<b>Hazardous reactions</b>	This substance reacts with water. The reaction may become progressively vigorous and can be violent at high temperatures depending on the solvents present and how well it is mixed with water.

### 11. Toxicological Information

#### Summary

##### Part A:

IF SWALLOWED: Low oral toxicity, but will irritate mouth, throat and stomach.

IF IN EYES: causes serious eye irritation resulting in pain, watering, redness.

IF ON SKIN: causes skin irritation. May cause an allergic skin reaction, possible effects included dermatitis (skin swelling, reddening and blistering), Effects may re-occur upon exposure to extremely low levels of isocyanate and related chemicals. Effects may be delayed after initial exposure.

IF INHALED: may be toxic if inhaled. May irritate respiratory tract. May cause an allergic response which can include hyperactive airway, bronchitis (wheezing, gasping, unconsciousness), neurological effects (e.g., headache, euphoria, depression). Effects may re-occur upon exposure to extremely low levels of isocyanate and related chemicals (e.g., exposure to vehicle exhaust). High vapour concentration may cause central nervous system depression causing drowsiness and dizziness.

CHRONIC TOXICITY: Diphenylmethane-4,4-diisocyanate is suspected of causing cancer if inhaled (EU ECHA). Sensitisation is considered a long term (chronic) effect. Chronic overexposure to isocyanates may cause lung damage including decrease in lung function, which may be permanent.

##### PART B:

IF IN EYES: may be irritating to eyes.

IF ON SKIN: may causes mild skin irritation.

#### Supporting Data for Part A

<b>Acute</b>	<b>Oral</b>	Using LD <sub>50</sub> 's for ingredients, the calculated LD <sub>50</sub> (oral, rat) for the mixture is >5,000 mg/kg. Data considered includes: Diphenylmethane-4,4-diisocyanate 2200 mg/kg (mouse), Diphenylmethane Diisocyanate (MDI) Mixed Isomers >5000mg/kg (rat), Isocyanates, Diphenylmethanediisocyanate, isomers and homologues >5000mg/kg (rat), 4,4'-Methylenediphenyl-4,4'-diisocyanate, oligomers >2000mg/kg (rat).
	<b>Aspiration</b>	This mixture is not considered an aspiration hazard.
	<b>Dermal</b>	Using LD <sub>50</sub> 's for ingredients, the calculated LD <sub>50</sub> (dermal, rat) for the mixture is >5000 mg/kg. Data considered includes: Diphenylmethane-4,4-diisocyanate 9400mg/kg (rabbit)
	<b>Inhaled</b>	Using LC <sub>50</sub> 's for ingredients, the calculated LC <sub>50</sub> (inhalation, rat) for the mixture is between 1 and 5mg/L. Data considered includes: Diphenylmethane-4,4-diisocyanate 0.369 mg/l (rat, inhalation), Diphenylmethane Diisocyanate (MDI) Mixed Isomers 0.49mg/L (rat), isomers and homologues 0.49mg/L (rat), 4,4'-Methylenediphenyl-4,4'-diisocyanate, oligomers 0.49mg/L rat, (air).
	<b>Eye</b>	The mixture is considered to be an eye irritant, because some of the ingredients present are considered eye irritants in more concentrated form.
	<b>Skin</b>	The mixture is considered to be a skin irritant, because some of the ingredients present are considered skin irritants in more concentrated form.
<b>Chronic</b>	<b>Sensitisation</b>	The mixture is considered to be a contact and respiratory sensitizer. Isocyanates are considered sensitisers if inhaled and by dermal contact.
	<b>Mutagenicity</b>	No ingredient present at concentrations > 0.1% is considered a mutagen.
	<b>Carcinogenicity</b>	The mixture is considered to be a suspected carcinogen. IARC have evaluated diphenylmethan-4,4-diisocyanate as not classifiable as to its carcinogenicity to humans (Group 3). However in the EU diphenylmethan-4,4-diisocyanate is classed as a suspected carcinogen.
	<b>Reproductive / Developmental Systemic</b>	No ingredient present at concentrations > 0.1% is considered a reproductive or developmental toxicant or have any effects on or via lactation. The mixture is considered to be a known or presumed target organ toxicant, because MDI analogues present in greater than 1% is known or presumed to be a target organ toxicant. This product may cause respiratory irritation if inhaled.
	<b>Aggravation of existing conditions</b>	Individuals with impaired lung function or existing allergies (including dermatitis) should not work with this chemical – they are at increased risk of becoming sensitised with further potential health effects.

#### Supporting Data for Part B

<b>Acute</b>	<b>Oral</b>	Using LD <sub>50</sub> 's for ingredients, the calculated LD <sub>50</sub> (oral, rat) for the mixture is between 2000 and 5000 mg/kg. Data considered includes: Tris (1-chloro-2-propyl) phosphate 1017mg/kg (female rat), triethylene diamine 1700 mg/kg (rat), Ethanol, 2-(dimethylamino)- 1830mg/kg (rat).
	<b>Aspiration</b>	This mixture is not considered an aspiration hazard.



<b>Dermal</b>	Using LD <sub>50</sub> 's for ingredients, the calculated LD <sub>50</sub> (dermal, rat) for the mixture is >5000 mg/kg. Data considered includes: Tris (1-chloro-2-propyl) phosphate >5000, triethylene diamine 3200 mg/kg, Ethanol, 2-(dimethylamino)- 1220mg/kg (rabbit).
<b>Inhaled</b>	Using LC <sub>50</sub> 's for ingredients, the calculated LC <sub>50</sub> (inhalation, rat) for the mixture is >5mg/l. Data considered includes: Tris (1-chloro-2-propyl) phosphate >4.6mg/lL (4 hours, rat,aerosol),Ethanol, 2-(dimethylamino)- 1641ppm (rat, vapour) = 5.98mg/L (rat, vapour).
<b>Eye</b>	The mixture is considered to be an eye irritant, because some of the ingredients present are considered eye irritants in more concentrated form.
<b>Skin</b>	The mixture is considered to be a skin irritant, because some of the ingredients present are considered skin irritants in more concentrated form.
<b>Chronic</b>	
<b>Sensitisation</b>	No ingredient present at concentrations > 0.1% is considered a sensitizer.
<b>Mutagenicity</b>	No ingredient present at concentrations > 0.1% is considered a mutagen.
<b>Carcinogenicity</b>	No ingredient present at concentrations > 0.1% is considered a carcinogen.
<b>Reproductive / Developmental</b>	No ingredient present at concentrations > 0.1% is considered a reproductive or developmental toxicant or have any effects on or via lactation.
<b>Systemic</b>	No ingredient present at concentrations > 1% is considered a target organ toxicant.
<b>Aggravation of existing conditions</b>	None known.

## 12. Ecological Data

### Summary

This mixture is not considered ecotoxic

### Supporting Data

<b>Aquatic</b>	Using EC <sub>50</sub> 's for ingredients, the calculated EC <sub>50</sub> for the mixture is > 100 mg/L. Data considered includes: Tris (1-chloro-2-propyl) phosphate 54.2mg/L (48hr, Fish), 30mg/L (96hr, fresh water fish), 63mg/L (48hr, Daphnia magna), 41mg/L (96hr, Selenastrum capricornutum (algae)), triethylene diamine EC <sub>50</sub> =92 mg/L - Daphnia, Ethanol, 2-(dimethylamino)- 81mg/L (96h, Pimephales promelas (Fish, fresh water)), 98.37mg/L (48h, Daphnia magna Straus), 35mg/L (72h, Scenedesmus sp. (Algae)). The substance will react with water to form carbon dioxide and a non hazardous polymer.
<b>Bioaccumulation</b>	No data
<b>Degradability</b>	No data
<b>Soil</b>	No evidence of soil toxicity.
<b>Terrestrial vertebrate</b>	This mixture is not considered toxic towards terrestrial vertebrates.
<b>Terrestrial invertebrate</b>	No evidence of toxicity towards terrestrial invertebrates.

## 13. Disposal Considerations

<b>Restrictions</b>	There are no product-specific restrictions, however, local council and resource consent conditions may apply, including requirements of trade waste consents.
<b>Disposal method</b>	Disposal of this product must comply with the Hazardous Substances (Disposal) Notice 2017 and the requirements of the Resource Management Act for which approval should be sought from the Regional Authority. The substance must be treated and therefore rendered non-hazardous before discharge to the environment.
<b>Contaminated packaging</b>	Disposal of contaminated packaging must comply with the Hazardous Substances (Disposal) Notice 2017 clause 12. Ensure that the package is rendered incapable of containing any substance and is disposed in a manner that is consistent with the requirements of the substance it contained and the material of the package. If possible reuse or recycle packaging.

## 14. Transport Information

### Land Transport Rule: Dangerous Goods 2005 - NZS 5433:2007

There are no specific restrictions for this product (not a dangerous good).

<b>UN number:</b>	NA	<b>Proper shipping name:</b>	NA
<b>Class(es)</b>	NA	<b>Packing group:</b>	NA
<b>Precautions:</b>	NA	<b>Hazchem code:</b>	NA

### IMDG

<b>UN number:</b>	NA	<b>Proper shipping name:</b>	NA
<b>Class(es)</b>	NA	<b>Packing group:</b>	NA
<b>Precautions:</b>	NA	<b>EmS</b>	NA

**IATA**

<b>UN number:</b>	NA	<b>Proper shipping name:</b>	NA
<b>Class(es)</b>	NA	<b>Packing group:</b>	NA
<b>Precautions:</b>	NA	<b>ERG Guide</b>	NA

**15. Regulatory Information**

This product is an approved substance under the Hazardous Substances and New Organisms Act (HSNO). Approval code: HSR002670, Surface Coatings and Colourants (Subsidiary Hazard) Group Standard 2020. All Ingredients appear on the NZIoC.

**Specific Controls**

Key workplace requirements are:

SDS	To be available within 10 minutes in workplaces storing any quantity.
Inventory	An inventory of all hazardous substances must be prepared and maintained.
Packaging	All hazardous substances should be appropriately packaged including substances that h manufactured for own use or have been supplied
Labelling	Must comply with the Hazardous Substances (Labelling) Notice 2017.
Emergency plan	Required if > 1000L is stored.
Certified handler	Not required.
Tracking	Not required.
Bunding & secondary containment	Required if > 1000L is stored.
Signage	Required if > 10000L is stored.
Location compliance certificate	Not required.
Flammable zone	Not required.
Fire extinguisher	Not required.

Note: The above workplace requirements apply if only this particular substance is present. The complete set of controls for a location will depend on the classification and total quantities of other substances present in that location.

**Other Legislation**

In New Zealand, the use of this product may come under the Resource Management Act and Regulations, the Health and Safety at Work Act 2015 and the Health and Safety at Work (General Risk and Workplace Management) Regulations 2016, local Council Rules and Regional Council Plans.

**16. Other Information**

**Abbreviations**

<b>Approval Code</b>	Part A: Approval HSR002679, Surface Coatings and Colourants (Toxic [6.7]) Group Standard 2017, Part B: Approval HSR002670, Surface Coatings and Colourants (Subsidiary Hazard) Group Standard 2017 Controls, EPA. <a href="http://www.epa.govt.nz">www.epa.govt.nz</a>
<b>CAS Number</b>	Unique Chemical Abstracts Service Registry Number
<b>EC<sub>50</sub></b>	Ecotoxic Concentration 50% – concentration in water which is fatal to 50% of a test population (e.g. daphnia, fish species)
<b>EPA</b>	Environmental Protection Authority (New Zealand)
<b>GHS</b>	Globally Harmonised System of Classification and Labelling of Chemicals, 7 <sup>th</sup> revised edition, 2017, published by the United Nations.
<b>HAZCHEM Code</b>	Emergency action code of numbers and letters that provide information to emergency services, especially fire fighters
<b>HSNO</b>	Hazardous Substances and New Organisms (Act and Regulations)
<b>IARC</b>	International Agency for Research on Cancer
<b>LEL</b>	Lower Explosive Limit
<b>LD<sub>50</sub></b>	Lethal Dose 50% – dose which is fatal to 50% of a test population (usually rats).
<b>LC<sub>50</sub></b>	Lethal Concentration 50% – concentration in air which is fatal to 50% of a test population (usually rats)
<b>NZIoC</b>	New Zealand Inventory of Chemicals
<b>STEL</b>	Short Term Exposure Limit - The maximum airborne concentration of a chemical or biological agent to which a worker may be exposed in any 15 minute period, provided the TWA is not exceeded
<b>STOT RE</b>	System Target Organ Toxicity – Repeated Exposure
<b>STOT SE</b>	System Target Organ Toxicity – Single Exposure
<b>TWA</b>	Time Weighted Average – generally referred to WES averaged over typical work day



<b>UEL</b>	(usually 8 hours)
<b>UN Number</b>	Upper Explosive Limit
<b>WES</b>	United Nations Number
	Workplace Exposure Standard - The airborne concentration of a biological or chemical agent to which a worker may be exposed during work hours (usually 8 hours, 5 days a week). The WES relates to exposure that has been measured by personal monitoring using procedures that gather air samples in the worker's breathing zone.

### References

<b>Data</b>	Unless otherwise stated comes from the EPA HSNO chemical classification information database (CCID).
<b>Controls</b>	EPA notices, <a href="http://www.epa.govt.nz">www.epa.govt.nz</a> , Health and Safety at Work (Hazardous Substances) Regulations 2017, <a href="http://www.legislation.govt.nz">www.legislation.govt.nz</a>
<b>WES</b>	The latest NZ Workplace Exposure Standards, published by WorkSafe NZ and available on their web site – <a href="http://www.worksafe.govt.nz">www.worksafe.govt.nz</a> .
<b>Other References:</b>	Suppliers SDS, EU ECHA, ingredients SDS's, ChemIDplus

### Review

Date	Reason for review
July 2018	Not applicable – new SDS
May 2023	5 yearly update, HSNO to GHS 7

### Disclaimer

This SDS was prepared by Datachem LTD and is based on our current state of knowledge, including information obtained from suppliers. The SDS is given in good faith and constitutes a guideline (not a guarantee of safety). The level of risk each substance poses is relevant to its properties (as summarised in the SDS) AND HOW THE SUBSTANCE IS USED. While guidelines are given for personal protective equipment, such precautions must be relevant to the use. The likely GHS 7 classifications for this SDS have been estimated based on general information from the supplier (e.g., hazard, toxicological). This SDS is copyright Datachem and must not be copied, edited or used for other than intended purpose. To contact the SDS author, email [info@datachem.co.nz](mailto:info@datachem.co.nz) or phone: +64 21 1040951.

