

Ardex ST Silicone

Ardex (Ardex Australia)

Chemwatch: **16-4547** Version No: **4.1.1.1**

Safety Data Sheet according to WHS and ADG requirements

Chemwatch Hazard Alert Code:

Issue Date: 05/04/2016 Print Date: 06/04/2016 Initial Date: Not Available S.GHS.AUS.EN

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

Product Identifier

Product name	Ardex ST Silicone
Synonyms	Not Available
Other means of identification	Not Available

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

Relevant identified uses Neutral cure silicone for natural stone.

Details of the supplier of the safety data sheet

Registered company name	Ardex (Ardex Australia)	Ardex (Ardex NZ)		
Address	20 Powers Road NSW Seven Hills 2147 Australia 32 Lane Street Christchurch Woolston New Zealand			
Telephone	1800 224 070	+64 3373 6928		
Fax	1300 780 102	+64 3384 9779		
Website	Not Available	Not Available		
Email	Not Available	Not Available		

Emergency telephone number

Association / Organisation	Not Available	Not Available
Emergency telephone numbers	1800 224 070 (Mon-Fri, 9am-5pm)	+64 3373 6900
Other emergency telephone numbers	Not Available	Not Available

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

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

CHEMWATCH HAZARD RATINGS

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

Poisons Schedule	Not Applicable		
Classification	Not Applicable		
Label elements			

Laber elements	
GHS label elements	Not Applicable
SIGNAL WORD	NOT APPLICABLE

Hazard statement(s)

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Not Applicable

Precautionary statement(s) Prevention

Not Applicable

Precautionary statement(s) Response

Not Applicable

Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

Not Applicable

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
2224-33-1	<5	vinyltris(methylethylketoxime)silane
2768-02-7	<2.5	trimethoxyvinylsilane
128446-60-6	<2.5	silsesquioxanes, 3-aminopropyl Me, ethoxy terminated

SECTION 4 FIRST AID MEASURES

Description of first aid measures

Eye Contact	If this product comes in contact with eyes: ► Wash out immediately with water. ► If irritation continues, seek medical attention. ► Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
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	 If fumes, aerosols or combustion products are inhaled remove from contaminated area. Other measures are usually unnecessary.
Ingestion	 Immediately give a glass of water. First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 FIREFIGHTING MEASURES

Extinguishing media

- ▶ There is no restriction on the type of extinguisher which may be used.
- Use extinguishing media suitable for surrounding area.

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	 Alert Fire Brigade and tell them location and nature of hazard. Wear breathing apparatus plus protective gloves in the event of a fire. Prevent, by any means available, spillage from entering drains or water courses. Use fire fighting procedures suitable for surrounding area. 		
	carbon dioxide (CO2) silicon dioxide (SiO2) other pyrolysis products typical of burning organic materialMay emit poisonous fumes. May emit corrosive fumes. Non combustible.		

Fire/Explosion Hazard

Not considered to be a significant fire risk

- ▶ Expansion or decomposition on heating may lead to violent rupture of containers.
- ▶ Decomposes on heating and may produce toxic fumes of carbon monoxide (CO).

Other decomposition products include:

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Minor Spills

- ► Clean up all spills immediately.
- Avoid breathing vapours and contact with skin and eyes.
- Control personal contact with the substance, by using protective equipment.
- ▶ Contain and absorb spill with sand, earth, inert material or vermiculite.

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Major Spills

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

Safe handling

- DO NOT allow clothing wet with material to stay in contact with skin
- Avoid all personal contact, including inhalation.
- ▶ Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- Avoid contact with moisture.

Other information

- ► Store in original containers.
- ▶ Keep containers securely sealed.
- Store in a cool, dry, well-ventilated area.
- ▶ Store away from incompatible materials and foodstuff containers.

Conditions for safe storage, including any incompatibilities

Suitable container

- ▶ Polyethylene or polypropylene container.
- Packing as recommended by manufacturer.
- Check all containers are clearly labelled and free from leaks.

Storage incompatibility

▶ Avoid reaction with oxidising agents

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

Not Available

EMERGENCY LIMITS

Ingredient	Material name		TEEL-1	TEEL-2	TEEL-3
trimethoxyvinylsilane	Trimethoxyvinylsilane; (Vinyltrimethoxysilane; Silane, trimethoxyvinyl-)		1.7 ppm	19 ppm	120 ppm
Ingredient	Original IDLH Revised IDLH				
vinyltris(methylethylketoxime)silane	Not Available	Not Available			
trimethoxyvinylsilane	Not Available	Not Available			
silsesquioxanes, 3-aminopropyl Me, ethoxy terminated	Not Available	Not Available			

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

- ▶ Wear chemical protective gloves, e.g. PVC.
- Wear safety footwear or safety gumboots, e.g. Rubber

NOTE:

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.

Hands/feet protection

► 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 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

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

Suitability and durability of glove type is dependent on usage.

Body protection

See Other protection below

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Other protection

- Overalls.
- ▶ P.V.C. apron.
- Barrier cream.

Thermal hazards Not Available

Respiratory protection

Type A 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	A-AUS	-	A-PAPR-AUS / Class 1
up to 50 x ES	-	A-AUS / Class 1	-
up to 100 x ES	-	A-2	A-PAPR-2 ^

^{^ -} 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)

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Transparent or tinted paste with an intense odour; does not mix with water.		
Physical state	Liquid	Relative density (Water = 1)	1.03 approx.
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	430 approx.
pH (as supplied)	7	Decomposition temperature	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 Applicable	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Applicable	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Applicable	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Applicable	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water (g/L)	Immiscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	 Unstable in the presence of incompatible materials. Product is considered stable. Hazardous polymerisation will not occur.
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	The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting. The major toxic effects of MEKO, regardless of the route of administration, are anaemia with breakdown of red blood cells, rapid breathing and reversible reduction in spontaneous activity, motor coordination and muscle tone. At extremely high concentrations it may cause unconsciousness and failure of breathing.
Ingestion	The material has NOT been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence.

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The liquid may be miscible with fats or oils and may degrease the skin, producing a skin reaction described as non-allergic contact dermatitis. The material is unlikely to produce an irritant dermatitis as described in EC Directives. Skin application with methyl ethyl ketoxime under an occlusive dressing produced mild irritation with redness, swelling and wheals. 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. Although the liquid is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn). 0.1 ml of methyl ethyl ketoxime can be corrosive to the eye. Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.

Chronic

population

Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.

Methyl ethyl ketoxime causes an immediate but transient central nervous system depression, dose-related decreases in red blood cell counts accompanied by a compensatory marked increase in number of immature red cells, suggesting rapid red cell breakdown. Other effects include dose-related increase in spleen, liver and kidney weights. Deposits of iron have been reported in the liver and spleen at repeated high doses. This may increase risk of liver tumours. There has been some concern that this material can cause cancer or mutations but there is not enough data to make an assessment.

There is limited evidence that, skin contact with this product is more likely to cause a sensitisation reaction in some persons compared to the general

Ardex ST Silicone	TOXICITY	IRRITATION	
	Not Available	Not Available	
vinyltris(methylethylketoxime)silane	TOXICITY	IRRITATION	
	Not Available	Not Available	
	TOXICITY	IRRITATION	
	Dermal (rabbit) LD50: 3.25 mg/kg ^[1]	[OSI]	
trimethoxyvinylsilane	Inhalation (rat) LC50: 2773 ppm/4h ^[2]	Eye (rabbit): 500 mg/24h - mild	
umemoxyvmyishare		Eye (rabbit): 500 mg/24h mild	
		Skin (rabbit): 500 mg/24h - mild	
		Skin (rabbit): 500 mg/24h mild	
silsesquioxanes, 3-aminopropyl Me, ethoxy terminated	TOXICITY	IRRITATION	
	Not Available	Not Available	

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

VINYLTRIS(METHYLETHYLKETOXIME)SILANE

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 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.

No significant acute toxicological data identified in literature search.

TRIMETHOXYVINYLSILANE

Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS.

Low molecular weight alkoxysilane can cause irreversible lung damage when inhaled at low dose. It is not an obvious skin irritant.

Low molecular weight alkoxysilane can cause irreversible lung damage when inhaled at low dose. It is not an obvious skin irritant. However, studies suggest with repeated occupational exposure, methoxysilane may cause damage to the eye and skin as well as cancer. 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 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.

Manufacturers Data:

Acute Toxicity	0	Carcinogenicity	0
Skin Irritation/Corrosion	0	Reproductivity	0
Serious Eye Damage/Irritation	0	STOT - Single Exposure	0
Respiratory or Skin sensitisation	0	STOT - Repeated Exposure	0
Mutagenicity	0	Aspiration Hazard	0

Legend:

🗶 – Data available but does not fill the criteria for classification

— Data required to make classification available

Data Not Available to make classification

SECTION 12 ECOLOGICAL INFORMATION

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Ingredient	Endpoint	Test Duration (hr)	Species	Value	Source
vinyltris(methylethylketoxime)silane	LC50	96	Fish	48mg/L	2
vinyltris(methylethylketoxime)silane	EC50	48	Crustacea	>120mg/L	2
vinyltris(methylethylketoxime)silane	EC50	72	Algae or other aquatic plants	11.8mg/L	2
vinyltris(methylethylketoxime)silane	EC50	72	Algae or other aquatic plants	6.1mg/L	2
vinyltris(methylethylketoxime)silane	NOEC	72	Algae or other aquatic plants	1mg/L	2
trimethoxyvinylsilane	EC50	96	Algae or other aquatic plants	<1.000mg/L	3
trimethoxyvinylsilane	LC50	96	Fish	>92mg/L	2
trimethoxyvinylsilane	EC50	48	Crustacea	>100mg/L	2
trimethoxyvinylsilane	NOEC	48	Crustacea	1mg/L	2
trimethoxyvinylsilane	EC50	72	Algae or other aquatic plants	>89mg/L	2
Legend:	Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 - 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				

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
trimethoxyvinylsilane	HIGH	HIGH

Bioaccumulative potential

Ingredient	Bioaccumulation
trimethoxyvinylsilane	LOW (LogKOW = -0.3169)

Mobility in soil

Ingredient	Mobility
trimethoxyvinylsilane	LOW (KOC = 757.6)

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.

A Hierarchy of Controls seems to be common - the user should investigate:

- ► Reduction
- ▶ Reuse
- ▶ Recycling
- ► Disposal (if all else fails)

This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. ▶ DO NOT allow wash water from cleaning or process equipment to enter drains.

- Product / Packaging disposal
- ▶ 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.
- Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility
- Dispose of by: burial in a land-fill specifically licenced to accept chemical and / or pharmaceutical wastes or incineration in a licenced apparatus (after admixture with suitable combustible material).
- ► Decontaminate empty containers

SECTION 14 TRANSPORT INFORMATION

Labels Required

Marine Pollutant	NO
HAZCHEM	Not Applicable

Land transport (ADG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

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

Not Applicable

SECTION 15 REGULATORY INFORMATION

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VINYLTRIS(METHYLETHYLKETOXIME)SILANE(2224-33-1) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Inventory of Chemical Substances (AICS)

TRIMETHOXYVINYLSILANE(2768-02-7) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Inventory of Chemical Substances (AICS)

SILSESQUIOXANES, 3-AMINOPROPYL ME, ETHOXY TERMINATED(128446-60-6) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Inventory of Chemical Substances (AICS)

National Inventory	Status	
Australia - AICS	Υ	
Canada - DSL	N (silsesquioxanes, 3-aminopropyl Me, ethoxy terminated)	
Canada - NDSL	N (silsesquioxanes, 3-aminopropyl Me, ethoxy terminated; vinyltris(methylethylketoxime)silane; trimethoxyvinylsilane)	
China - IECSC	Υ	
Europe - EINEC / ELINCS / NLP	N (silsesquioxanes, 3-aminopropyl Me, ethoxy terminated)	
Japan - ENCS	N (silsesquioxanes, 3-aminopropyl Me, ethoxy terminated; trimethoxyvinylsilane)	
Korea - KECI	Y	
New Zealand - NZIoC	Υ	
Philippines - PICCS	Υ	
USA - TSCA	Υ	
Legend:	Y = All ingredients are on the inventory N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)	

SECTION 16 OTHER INFORMATION

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.

A list of reference resources used to assist the committee may be found at: www.chemwatch.net

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

 ${\sf PC-STEL} : {\sf Permissible Concentration-Short Term Exposure Limit}$

IARC: International Agency for Research on Cancer

ACGIH: American Conference of Governmental Industrial Hygienists

STEL: Short Term Exposure Limit

TEEL: Temporary Emergency Exposure Limit。

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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