Silcoat Silicone roof coating White
Safety Data Sheet

1. Identification of Substance & Company

Product

Product name	Silcoat Silicone roof coating White
Other names	GacoFlex S2000 White
Product code	VSC100
HSNO approval	HSR002657
Approval description	Surface Coatings and Colourants (Combustible) Group Standard 2017
UN number	NA
DG class	NA
Proper Shipping Name	NA
Packaging group	NA
Hazchem code	NA
Uses	Silicone coating

Company Details

Company	**Viking Roofspec**	
Physical Address	80 Alexander Crescent	PO Box 14 451
	Otara	Panmure
	Auckland	Auckland 1741
	New Zealand	New Zealand
Telephone	0800 729 799	
Fax	0800 729 788	
Website	www.vikingroofspec.co.nz	

Emergency Telephone Number: 0800 764 766

2. Hazard Identification

Approval

This product is an approved substance under the Hazardous Substances and New Organisms Act (HSNO, Approval HSR002657, Surface Coatings and Colourants (Combustible) Group Standard 2017). The substance has been classified as hazardous according to the criteria in the Hazardous substances (Minimum Degrees of Hazard) Notice 2017.

Classes	Hazard Statements
3.1D	H227 - Combustible liquid.
6.5B	H317 - May cause an allergic skin reaction.
6.4A	H319 - Causes serious eye irritation.
6.8B	H361 - Suspected of damaging fertility or the unborn child.
6.9B	H371 - May cause damage to organs through prolonged or repeated exposure.
9.4A	H441 - Very toxic to terrestrial invertebrates.

SYMBOLS

WARNING

Other Classifications

This substance does contain silica (quartz) which is classed as a carcinogen (6.7A) if in an inhalable form (e.g. fine dust).
Titanium dioxide as ultrafine to fine particle sizes: 50 nm to 1.5 µm has been found to be a suspected carcinogen in animal studies (IARC 2B).
This substance is a liquid and is not considered carcinogenic.

Precautionary Statements

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.
P272 - Contaminated work clothing should not be allowed out of the workplace.
P273 - Avoid release to the environment.
P280 - Wear protective gloves/eye protection/face protection.
P302+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.
P308+P313 - IF exposed or concerned: Get medical advice/ attention.
P391 - Collect spillage.
P405 - Store locked up.

3. Composition / Information on Ingredients

Component	CAS/ Identification	Conc (%)
Dimethylsiloxane, hydroxyl terminated	70131-67-8	30-60%
Quartz (SiO2)	14808-60-7	15-40%
Titanium dioxide	13463-67-7	5-10%
Methyl-O,O',O''-butan-2-on-trioximo-silane	22984-54-9	1-5%
Octamethylcyclotetrasiloxane	556-67-2	1-5%
3-Aminopropyltriethoxysilane	919-30-2	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 harmed or irritated by this product. The number is 0800 764 766 (0800 POISON) (24 hr emergency service). IF exposed or concerned: Get medical advice/ attention.

Recommended first aid facilities Ready access to running water is required. Accessible eyewash is required.

Exposure

Swallowed Do NOT induce vomiting. Give a glass of water to drink. Contact a doctor.

Eye contact IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

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 Generally, inhalation of fumes is unlikely to result in adverse health effects. If coughing, dizziness or shortness of breath is experienced, remove the patient to fresh air immediately. If patient is unconscious, place in the recovery position (on the side) for transport and contact a doctor.

Advice to Doctor

Treat symptomatically

5. Firefighting Measures

Fire and explosion hazards: This product is:a combustible liquid, flashpoint 76.1°C. This product has the potential to cause fire or to create an additional hazard during fire.

Suitable extinguishing substances: Carbon dioxide, extinguishing powder or water jet. Fight larger fires with water jet or alcohol resistant foam.

Unsuitable extinguishing substances: Unknown.

Products of combustion: Carbon dioxide, and if combustion is incomplete, carbon monoxide 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

Containment	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.
Emergency procedures	In the event of spillage alert the fire brigade to location and give brief description of hazard. Stop the source of the leak, if safe to do so. Shut off all possible sources of ignition. Wear protective equipment to prevent skin, eye and respiratory exposure. Clear area of any unprotected personnel. Contain using sand, earth or vermiculite. Do not use sawdust. Prevent by whatever means possible any spillage from entering drains, sewers, or water courses. (If this occurs contact your regional council immediately).
Clean-up method	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.
Disposal	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.
Precautions	Wear protective equipment to prevent skin and eye contamination and the inhalation of vapours. Work up wind or increase ventilation.

7. Storage & Handling

Storage	Avoid storage of harmful substances with food. Store out of reach of children. Containers should be kept closed in order to minimise contamination. Keep from extreme heat and open flames. Avoid contact with incompatible substances as listed in Section 10.
Handling	Keep exposure to a minimum, and minimise the quantities kept in work areas. See section 8 with regard to personal protective equipment requirements. Avoid skin and eye contact and inhalation of vapour, mist or aerosols. Launder contaminated clothing before reuse. Wash hands before eating, drinking or smoking.

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^3 for respirable particulates and 10mg/m^3 for inhalable particulates when limits have not otherwise been established.

NZ Workplace Exposure Stds	Ingredient	WES-TWA*	WES-STEL
	Quartz (SiO2) (respirable crystalline silica)	0.1mg/m^3	data unavailable
	Titanium dioxide	10mg/m^3	data unavailable

* These workplace exposure standards are also Prescribed Exposure Standards (PES) under the Health and Safety at Work (General Risk and Workplace Management) Regulations 2016.

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

Eyes

Avoid contact with eyes. Use safety glasses and or chemical splash goggles if splashes are possible.

Skin

Avoid repeated or prolonged skin contact. Wear overalls, rubber boots and impervious gloves. Replace gloves frequently. Gloves should be checked for tears or holes before

use. Remove protective clothing and wash exposed areas with soap and water prior to eating, drinking or smoking. Wash hands after handling.

Respiratory	A respirator when airborne concentrations approach the WES (section 8). Use a respirator with an organic vapour cartridge and a particulate filter. 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.

WES Additional Information

Not applicable

9. Physical & Chemical Properties

Appearance	viscous white liquid
Odour	sweet mild odour
pH	no data
Vapour pressure	no data
Viscosity	5500cP @ 25°C
Boiling point	no data
Volatile materials	50g/L
Freezing / melting point	no data
Solubility	not soluble in water
Specific gravity / density	1.37g/cm3
Flash point	76°C
Danger of explosion	no data
Auto-ignition temperature	no data
Upper & lower flammable limits	no data
Corrosiveness	non corrosive

10. Stability & Reactivity

Stability	Stable
Conditions to be avoided	Containers should be kept closed in order to avoid contamination. Keep from extreme heat and open flames.
Incompatible groups	Heat, oxidisers
Substance Specific Incompatibility	None known
Hazardous decomposition products	Oxides of carbon.
Hazardous reactions	None known

11. Toxicological Information

Summary

IF SWALLOWED: may cause gastrointestinal irritation.
IF IN EYES: causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production with marked redness and swelling of the conjunctiva.
IF ON SKIN: may cause mild skin irritation. Symptoms may include redness, edema, drying, defatting and cracking of the skin. May cause allergic skin reactions.
IF INHALED: may cause respiratory irritation.
CHRONIC TOXICITY: Prolonged or repeated ingestion exposure may cause blood damage. Exposure is suspected of causing damage to fertility

Supporting Data

Acute	**Oral**	Using LD_{50}'s for ingredients, the calculated LD_{50} (oral, rat) for the mixture is >5,000 mg/kg. Data considered includes: Methyl-O,O',O''-butan-2-on-trioximo-silane 2463 mg/kg (rat), titanium dioxide >20000mg/kg (rat), 3-aminopropyltriethoxysilane 3.65mL/kg/bw (oral, rat), Dimethylsiloxane, hydroxyl terminated: 15400mg/kg (rat), Octamethylcyclotetrasiloxane: 1540mg/kg (rat). .
	Dermal	Using LD_{50}'s for ingredients, the calculated LD_{50} (dermal, rat) for the mixture is >5000 mg/kg. Data considered includes: Methyl-O,O',O''-butan-2-on-trioximo-silane > 2000 mg/kg bw (rat), titanium dioxide >10000mg/kg (hamster).

	Inhaled	Using LC_{50}'s for ingredients, the estimated LC_{50} (inhalation, rat) for the mixture is 20mg/L ppm. Data considered includes: Methyl-O,O',O''-butan-2-on-trioximo-silane 3.43-6.82mg/l air (4h, rat), titanium dioxide >20000mg/kg (rat), 3-aminopropyltriethoxysilane 3.65mL/kg/bw (oral, rat), Dimethylsiloxane, hydroxyl terminated: 8750mg/m^3 (7h, rat), Octamethylcyclotetrasiloxane: 8.67mg/L (rat).
	Eye	The mixture is considered to be an eye irritant. Methyl-O,O',O''-butan-2-on-trioximo-silane and Dimethylsiloxane, hydroxyl terminated are eye irritants.
	Skin	The mixture is not considered to be a skin irritant.
Chronic	**Sensitisation**	The mixture is considered to be a contact sensitizer. Methyl-O,O',O''-butan-2-on-trioximo-silane is a skin sensitiser.
	Mutagenicity	No ingredient present at concentrations > 0.1% is considered a mutagen.
	Carcinogenicity	This mixture does contain crystalline silica, however it is not in an inhalable form. Crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (IARC Group 1). The mixture is a paste and does not trigger this classification, however if sanding the cured mixture, respirable dust may result. Titanium dioxide as ultrafine to fine particle sizes: 50 nm to 1.5 µm has been found to be a suspected carcinogen in animal studies (IARC 2B).
	Reproductive / Developmental	Octamethylcyclotetrasiloxane is suspected of damaging fertility.
	Systemic	Prolonged or repeated ingestion exposure to Methyl-O,O',O''-butan-2-on-trioximo-silane may cause blood damage. This mixture also contains crystalline silica. This substance is in the form of a liquid. Crystalline silica triggers 6.9A classification if it is in the form of a fine respirable dust in an occupational (chronic exposure) setting. This is due to the development of acute silicosis which can occur following exposure to extremely high levels of fine silica dust. Silicosis is a type of pneumoconiosis – a disease of the lung that causes inflammation, scar tissue, lesions and fibrosis in the lung (alveolar). Symptoms include shortness of breath, cough, fever, loss of appetite and cyanosis (bluish skin). Silicosis can occur following prolonged exposure (e.g., 10 years) to relatively high levels of fine crystalline silica dust.
	Aggravation of existing conditions	None known.

12. Ecological Data

Summary

No evidence of ecotoxicity. In all cases prevent run-off to sewers, drains and waterways.

Supporting Data

Aquatic	Using EC_{50}'s for ingredients, the estimated EC_{50} for the mixture is > 100 mg/L. Data considered includes: Methyl-O,O',O''-butan-2-on-trioximo-silane >100mg/L.
Bioaccumulation	No data
Degradability	No data
Soil	No evidence of soil toxicity.
Terrestrial vertebrate	This mixture is not considered ecotoxic towards terrestrial vertebrates.
Terrestrial invertebrate	Dimethylsiloxane, hydroxyl terminated is classed by EPA as 9.4A.
Biocidal	no data
Environmental effect levels	No EELs are available for this mixture or ingredients

13. Disposal Considerations

Restrictions	There are no product-specific restrictions, however, local council and resource consent conditions may apply, including requirements of trade waste consents.
Disposal method	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.
Contaminated packaging	Disposal of contaminated packaging must comply with the Hazardous Substances (Disposal) Notice 2017 clause 12. Ensure that the package is renedered 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).

UN number:	NA	**Proper shipping name:**	NA
Class(es)	NA	**Packing group:**	NA
Precautions:	NA	**Hazchem code:**	NA

15. Regulatory Information

This product is an approved substance under the Hazardous Substances and New Organisms Act (HSNO). Approval code: HSR002657, Surface Coatings and Colourants (Combustible) Group Standard 2017.
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 have been decanted, transferred or 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	Required if > 500L is stored.

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

Approval Code	Approval HSR002657, Surface Coatings and Colourants (Combustible) Group Standard 2017 Controls, EPA. www.epa.govt.nz
CAS Number	Unique Chemical Abstracts Service Registry Number
Ceiling	Ceiling Exposure Value: The maximum airborne concentration of a biological or chemical agent to which a worker may be exposed at any time.
Controls Matrix	List of default controls linking regulation numbers to Matrix code (e.g. T1, I16).
EC_{50}	Ecotoxic Concentration 50% – concentration in water which is fatal to 50% of a test population (e.g. daphnia, fish species)
EPA	Environmental Protection Authority (New Zealand)
HAZCHEM Code	Emergency action code of numbers and letters that provide information to emergency services, especially fire fighters
HSNO	Hazardous Substances and New Organisms (Act and Regulations)
IARC	International Agency for Research on Cancer
LEL/UEL	Lower Explosive Limit/ Upper Explosive Limit
LD_{50}	Lethal Dose 50% – dose which is fatal to 50% of a test population (usually rats).
LC_{50}	Lethal Concentration 50% – concentration in air which is fatal to 50% of a test population (usually rats)
MSDS (SDS)	Material Safety Data Sheet (or Safety Data Sheet)
NZIoC	New Zealand Inventory of Chemicals.
PES	Prescribed Exposure Standard means a WES or a biological exposure standard that is prescribed in a regulation, a safe work instrument or an approval under HSNO (including group standards).
STEL	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
TWA	Time Weighted Average – generally referred to WES averaged over typical work day (usually 8 hours)
UN Number	United Nations Number
WES	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

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

Review

Date	**Reason for review**
July 2018	Not applicable – new SDS

Disclaimer

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