1. Identification of Substance & Company

Product	
Product name	James Hardie Mineral Insulation
Product code	Size: 800x600x90mm, Code - 304904
HSNO approval	HSR002544
Approval description	Construction Products (Subsidiary Hazard) Group Standard 2017
UN number	NA
Proper Shipping Name	NA
Packaging group	NA
Hazchem code	NA
Uses	Used for acoustic panels and thermal insulation;
Company Details	
Company	**James Hardie New Zealand Limited**
Address	50 O'Rorke Road, Penrose, Auckland New Zealand / PO Box 12-070, Penrose Auckland New Zealand
Telephone	0800 808 868 (CustomerLink)

Emergency Telephone Number: 0800 764 766 (24 Hours)

2. Hazard Identification

Approval

This product is an approved substance under the Hazardous Substances and New Organisms Act (HSNO, Approval HSR002544, Construction Products (Subsidiary Hazard) Group Standard 2017). The substance has been classified as hazardous according to the criteria in the Hazardous substances (Minimum Degrees of Hazard) Notice 2017.

Hazard Classes	Hazard Statements
6.4A	H320 - Causes eye irritation.

SYMBOLS

WARNING

Other Classifications

The dust and fibres of this substance may be irritating to the skin and respiratory tract as a result of physical (mechanical) reaction (i.e. scratch). The irritation is not a result of a chemical reaction and therefore does not trigger these classifications under HSNO.

Precautionary Statements

P103 - Read label before use.
P264 - Wash hands thoroughly after handling.
P280 - Wear eye protection.
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.

3. Composition / Information on Ingredients

Component	CAS/ Identification	Class for ingredient(s)	Conc (%)
Rock wool	e.g. 65997-17-3	6.4A	>95%
Cured binder	25104-55-6	non hazardous	1-5%

This is a commercial product whose exact ratio of components may vary. Trace quantities of impurities are also likely. Traces of Formaldehyde may be released from the substance (<0.1%).

4. First Aid

General Information

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 medical advice is needed, have this SDS, product container or label at hand.

Recommended first aid facilities	Ready access to running water is recommended.

Exposure

Swallowed	Do NOT induce vomiting. Give a glass of water to drink. If any symptoms occur, contact a doctor.
Eye contact	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.
Inhaled	IF INHALED: Dusts may cause irritation but are not likely to be harmful by inhalation. However, call a POISON CENTER or doctor/physician if you feel unwell.

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 non-flammable.
Suitable extinguishing substances:	Carbon dioxide, extinguishing powder, foam, fog sprays, water jets.
Unsuitable extinguishing substances:	Unknown.
Products of combustion:	Fibres are non-flammable. The packaging and the resin binder may decompose in a fire resulting in 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:	No special measures are required.
Hazchem code:	1T (recommended, no signage required)

6. Accidental Release Measures

Containment	There is no current legal requirement for secondary containment of this product. Prevent product from entering environment as it may clogg drains and cause excess sediment in waterways.
Emergency procedures	If a significant spill occurs: If there is any loose material, cover with packaging material, e.g. plastic and reseal. Recycle or transfer to container for disposal. Dispose of according to guidelines below (Section 13).
Clean-up method	This product is not considered flammable or ecotoxic. Small spills do not require any special clean up method. Larger spills should be collected. Avoid dust formation. Do not wash material down stormwater drains.
Disposal	Collect recoverable material into labelled containers for recycling or salvage. Recycle packaging wherever possible. This material may be suitable for approved landfill. Dispose of only in accord with all regulations.
Precautions	Use gloves and eye protection. See Section 8.

7. Storage & Handling

Storage	Avoid storage of harmful substances with food. Keep from extreme heat, open flames and direct sunlight. 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.

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
	Rock wool*	1 Respirable fibre per mL air 5mg/m^3 Inhalable dust	no data
	Formaldehyde	0.5ppm (8hr), 0.33ppm (12hr)	no data
	Formaldehyde (ceiling)	Ceiling: 1ppm	

Rock wool does not have a WES, but falls under the group “Synthetic Mineral Fibres”.

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. Follow the Health and Safety Guidelines for the Selection and Safe Handling of Synthetic Mineral Fibres, published by the WorkSafe.

Personal Protective Equipment

Eyes

Avoid contact with eyes. Use safety glasses or goggles if irritant levels of fibres and dusts are present.

Skin

Protective gloves and clothing should be worn when handling mineral insulation.

To prevent irritation which occurs by contact of the loose fibres with the skin, it is advisable to wear either disposable or single-use overalls or light weight nylon overalls complete with hoods when handling the insulation material. The overalls should be close fitting at the neck wrists and ankles to prevent problems of skin irritation. Where overalls are to be laundered, they should be laundered in separate laundry facilities and not in the home.

Respiratory

In general use, a respirator is not likely to be required. A respirator should be used when airborne concentrations approach the WES (section 8), if there is airborn dust or fibres. It is recommended to use an half face air purifying respirator with a minimum of a P1 particulate filter. If using a respirator, ensure that the cartridges are correct for the potential air contamination and are in good working order.

WES Additional Information

Formaldehyde is included in the above information, as traces of formaldehyde may be emitted from the product, especially immediately after removing the plastic packaging. The concentration of formaldehyde emissions has been tested by James Hardie New Zealand and was found to be below the 8 hour workplace exposure standard.

9. Physical & Chemical Properties

Appearance	solid odourless amorphous fibres
Odour	no odour
pH	no pH data
Vapour pressure	not applicable
Viscocity	no data
Boiling point	no data
Volatile materials	no data
Freezing / melting point	>1090°C
Solubility	not applicable
Specific gravity / density	no data
Flash point	not flammable
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	Packaging should be kept in tact in order to avoid contamination. Keep from extreme heat, open flames and direct sunlight.
Incompatible groups	None
Substance Specific Incompatibility	Acids, alkalis or organic solvents.
Hazardous decomposition products	none known
Hazardous reactions	none known

11. Toxicological Information

Summary

IF SWALLOWED: Unlikely that any effects will occur, due to the physical form of the product. Swallowing of the dust of this product may result in abdominal discomfort or irritation.
IF ON SKIN: Insulation wools can cause acute symptoms such as irritation and itching of the skin. Skin reactions are generally transient and superficial; the rash is an irritant response to mechanical microtrauma, arising from the relatively large (non-respirable) fibre fraction (over 4 to 5 microns in diameter).
IF IN EYES: Insulation wools can cause acute symptoms such as irritation and itching of the eyes.
IF INHALED: Irritation of the throat and respiratory tract may occur if dust is inhaled.

Supporting Data

Acute	**Oral**	The substance is not considered acutely toxic if ingested. Using LD_{50}'s for ingredients, the calculated LD_{50} (oral, rat) for the mixture is >5,000 mg/kg. Data considered includes: synthetic mineral fibres >5000mg/kg, Cured binder 7000mg/kg, Formaldehyde: 0 260 mg/kg (Guinea pig).
	Dermal	The substance is not considered acutely toxic by dermal contact. Using LD_{50}'s for ingredients, the calculated LD_{50} (dermal, rat) for the mixture is >2,000 mg/kg. Data considered includes: Synthetic mineral fibres >5000mg/kg, Cured binder no data, Formaldehyde 270 mg/kg (rabbit).
	Inhaled	The substance is not considered acutely toxic if inhaled, however there may be irritation of the respiratory tract if dust is inhaled.
	Eye	The mixture is considered to be an eye irritant. The dust of the mineral fibres (rock wool) may cause eye irritation.
	Skin	The mixture is not considered to be a skin irritant under HSNO.
Chronic	**Sensitisation**	No evidence of skin sensitisation or respiratory sensitisation.
	Mutagenicity	No ingredient present at concentrations > 0.1% is considered a mutagen.
	Carcinogenicity	IARC concluded its re-evaluation (October 2001) of the carcinogenic risk of mineral wool fibres. The result was a reclassification of the fibres from Group 2B (possibly carcinogenic to humans) to Group 3 (not classifiable as to the carcinogenicity to humans). Epidemiological studies published during the 15 years prior to the 2001 IARC review provide no evidence of increased risk of cancer from occupational exposure during manufacture or use of mineral wool fibre. Carcinogenicity classification not triggered.
	Reproductive / Developmental	No ingredient present at concentrations > 0.1% is considered a reproductive or developmental toxicant or have any effects on or via lactation.
	Systemic	The most relevant evidence points to an absence of risk for developing serious long-term respiratory disease from typical uses of glass wool fibre. There may be some irritation of the respiratory tract.
	Aggravation of existing conditions	None known.

12. Ecological Data

Summary

This product is not considered ecotoxic.

Supporting Data

Aquatic	The mixture is not considered to be toxic in the aqueous environment.
Bioaccumulation	Mineral fibres are not considered biopersistent.
Degradability	No data
Soil	The mixture is not considered to be toxic in the soil environment.
Terrestrial vertebrate	This product is not considered harmful to terrestrial vertebrates. No LC_{50} (diet) data for ingredients are available and the classification is based on the LD_{50} (oral) – see section 11 – oral toxicity.
Terrestrial invertebrate	The mixture is not considered harmful to terrestrial invertebrates.
Biocidal	Not designed as a biocide.

13. Disposal Considerations

Restrictions	There are no product-specific restrictions, however, local council and resource consent conditions may apply.
Disposal method	Disposal of this product must comply with the requirements of the Resource Management Act for which approval should be sought from the Regional Authority. Place in sealable plastic bags and label as construction waste.
Contaminated packaging	Preferably re-cycle packaging, otherwise send to landfill or similar.

14. Transport Information

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:	Not applicable.	**Hazchem code:**	NA

15. Regulatory Information

This product is an approved substance under the Hazardous Substances and New Organisms Act (HSNO). Approval code: HSR002544, Construction Products (Subsidiary Hazard) Group Standard 2017.
All ingredients appear on the NZIoC.

Specific Workplace Controls (as per HSNO approval referenced to Controls Matrix)

Key workplace requirements are:	
SDS	To be available within 10 minutes in workplaces.
Labelling	Hazard Information must be available.
Emergency plan	Not required
Certified handler	Not required
Tracking	Not required
Bunding and secondary containment	Not required
Signage	Not required
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

Approval Code	Approval HSR002544, Construction Products (Subsidiary Hazard) 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	Lower 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 Chemical
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)
UEL	Upper Explosive Limit
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

Review

Date	Reason
March 2011	NZ – new SDS
February 2015	Name changes of products, OHS to WorkSafe. Review of toxicological section
December 2017	HSE to HSAW, update of section 1, Hazard and Precautionary Statements
April 2019	Logo change, name change.

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 HSNO classifications, are based on our experience, ERMA Guidelines and international classifications. 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 or phone: ***+64 9 940 30 80.***

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