1. Identification of Substance & Company

Product	
Product name	James Hardie Fibre Cement Sheet Products
Other names	James Hardie™ Weatherboards, Linea™ Weatherboard, Linea™ Oblique™ Weatherboard, Axent™ Trim, Axent™, Fascia, Axon™ Panel, Titan™ Façade Panel, EasyLap™ Panel, ExoTec™ Façade Panel, CLD™ Structural Cavity Batten, HomeRAB™ PreCladding, RAB™ Board, HardieFlex™ Sheet, Stria™ Cladding, Monotek™ Sheet, Hardie Soffit™ Lining, Villaboard™ Lining, HardieGroove™ Lining, HardiePanel™ Compressed Sheet, Tile and Slate Underlay, Secura™ Interior/Exterior Flooring.
HSNO approval	Not applicable – Fibre Cement Sheet is a manufactured Article. The product is exempt under HSNO. Fibre Cement Sheet Products contain crystalline silica, which is an approved substance under HSNO as Construction Products (Toxic [6.7A]) Group Standard 2017, HSR002545.
Approval description	Manufactured Article
UN number	NA
Proper Shipping Name	NA
Packaging group	NA
Hazchem code	NA
Uses	Fibre Cement Sheet products are used as internal/external wall and ceiling cladding, flooring, roofing or fencing.
Precautions:	Fibre Cement Sheet products listed are not classified as hazardous substances under HSNO. However these products contain crystalline silica, which may be released on cutting, grinding or drilling. For safe use of this product refer to the current Safe Working Practices provided by James Hardie, which detail recommended Best Practice guidelines.

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 is a manufactured Article. The products is exempt under HSNO.

The following classification applies to any respirable crystalline silica dust potentially released from James Hardie Fibre Cement products, e.g. during cutting, drilling, grinding or rebating in the course of installation and handling of this product. The intact fibre cement products are not expected to result in any adverse toxic effects.

Hazard Classes	Hazard Statements
6.7A	H350 - May cause cancer through inhalation of dust.
6.9A	H372 - Causes damage to lungs and respiratory system through prolonged or repeated exposure by inhalation of dusts.

SYMBOLS

DANGER

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

The following precautionary statements apply to handling and installation of this product and if respirable dust is created during processing/handling and installation. For details of personal protective equipment refer to section 8.

Prevention

P201	Obtain special instruction before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust.
P264	Wash hands and face thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P281	Use personal protective equipment as required.

Response

P308+P313	IF exposed or concerned: get medical advice
P314	Get medical advice if you feel unwell.

Disposal

P501	Dispose of products in accordance with local/regional/national/international regulations.

3. Composition / Information on Ingredients

Component	CAS/ Identification	Class for ingredient(s)	Conc (%)
Calcium Silicate (Hydrate)	1344-95-2	non hazardous	10-60%
Crystalline Silica (Quartz)	14808-60-7	6.7A, 6.9A	10-30%
Cellulose	9004-34-6	6.9B	<10%
Non hazardous ingredients (pigments, fillers and surface coatings)	Proprietary	non hazardous	<10%

The exact ratio of components will vary between specific products. Trace quantities of impurities are also likely.

4. First Aid

General Information

You should call the National Poisons Centre if you feel that you may have been harmed or irritated by the dust of this product. The number is 0800 764 766 (0800 POISON) (24 hr emergency service).
If shortness of breath or other health concerns develop after exposure to dust from the product, seek medical attention.
If medical advice is needed, have this SDS or label at hand.

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

Exposure

Swallowed Due to the nature of the product, this route of exposure is not expected under normal conditions. Give a glass of water to drink. If a substantial quantity has been swallowed, call the Poison Centre.

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. Get medical advice if irritation occurs or persists.

Inhaled IF INHALED: Dusts may cause irritation. If experiencing irritation, remove to fresh air. Drink water to clear throat. If shortness of breath or wheezing develops, seek medical attention. 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 not classed as flammable.
Suitable extinguishing substances:	Carbon dioxide, extinguishing powder, foam, fog sprays, water jets.
Unsuitable extinguishing substances:	Unknown.
Products of combustion:	Fibre Cement boards are non flammable. The packaging 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

Fibre cement products in their intact state do not present a fire, health or environmental hazard. The following precautions apply to spills and releases of dust generated during cutting, rebating, drilling, routing, sawing or abrading fibre cement.

Containment	There is no current legal requirement for secondary containment of this product. Prevent dust formed from the product from entering environment as it may clogg drains and cause excess sediment in waterways.
Emergency procedures	This product is not considered flammable or ecotoxic. If a significant spill occurs: Wear protective equipment to prevent skin, eye and respiratory exposure to dusts. Clear area of any unprotected personnel. Avoid creating dust. If appropriate, use a gentle water spray to wet material to minimise dust generation.
Clean-up method	If possible to wet the dust, wet and sweep up the solid. Dry sweeping should not be attempted. Vaccuming with an M-class industrial vacuum. Do not wash material down stormwater drains.
Disposal	Collect recoverable material into labelled containers for recycling or salvage. This material may be suitable for approved landfill. Dispose of only in accord with all regulations. See section 14.
Precautions	Wear protective equipment to prevent eye contamination and the inhalation of dusts. Work up wind or increase ventilation.

7. Storage & Handling

Storage	Avoid storage near food and beverages. Avoid contact with incompatible substances as listed in Section 10. Store all James Hardie building products in a dry location. Avoid mechanical damage to the product, such as chipping of the edges and corners of the sheets. The product must be laid flat under cover on a smooth surface clear of the ground to avoid exposure to water or moisture.
Handling	Keep exposure to crystalline silica dust to a minimum, and minimise the quantities of dust in work areas. During installation and handling of this product: Wherever possible, practices likely to generate dust should be carried out in well-ventilated areas (e.g.outdoors). Minimise dust creation by using the recommended tooling and cutting methods. (refer the technical data sheet and James Hardie Best Practice Guide for tips on the safe handling of these products). Work area should be cleaned regularly by wet sweeping or vacuuming. Keep away from incompatible substances (section 10).

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
	Calcium Silicate	10mg/m^3 (as inspirable dust)	No data
	Crystalline silica:		
	Quartz	0.1mg/m^3 (as respirable dust)	No data
	Cristobalite	0.1 mg/m^3 (as respirable dust)	No data
	Cellulose (paper fibre)	10mg/m^3 (as inspirable dust)	No data

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 airborne concentrations of dusts are high, you are advised to modify processes or increase ventilation.
Personal protection when handling products in a manner that may generate silica dust: 1) Refer to current James Hardie instruction and best practice guidelines to reduce or limit the release of dust. 2) Warn others in the area to avoid the dust. 3) When using mechanical saws or high speed cutting tools, work out doors and use dust collection equipment. 4) If no other dust controls are available, wear an approved dust mask or respirator (see below).
During clean-up, use a well-maintained vacuum and filter appropriate for capturing fine respirable dust or use wet clean-up methods, never dry sweep.

Specific Handling instructions

Cutting Outdoors	Position cutting station so that wind will blow dust away from user or others in working area and allow for ample dust dissipation Use one of the following methods based on the required cutting rate and job-site conditions: BEST • Score and snap using carbide-tipped scoring knife or utility knife • Fibre-cement shears (electric or pneumatic) BETTER • Dust reducing circular saw equipped with Hardieblade™ saw blade and M-class vacuum.
Cutting Indoors	Cut only using score and snap method or with fibre-cement shears (manual, electric or pneumatic) Position cutting station in well-ventilated area to allow for dust dissipation
Sanding / Rebating / Drilling / Other Machining	If sanding, rebating, drilling or other machining is necessary, you should always wear an approved dust mask or respirator and warn others in the immediate area
Clean-Up	During clean-up of dust and debris, NEVER dry sweep as it may excite silica dust particles into the user's breathing area. Instead, wet debris down with a fine mist to suppress dust during sweeping, or use a M-class vacuum to collect particles.
Important Notes	For maximum protection (lowest respirable dust production), James Hardie recommends always using "Best"-level cutting methods where feasible. NEVER use a power saw indoors. NEVER use a circular saw blade that does not carry the Hardieblade™ saw blade trademark, or is of equal or better performance at reducing risk of dust exposure. NEVER dry sweep – use wet suppression methods or M-class vacuum. NEVER use a grinder or continuous rim diamond blade for cutting. ALWAYS follow tool manufacturer's safety recommendations.

Personal Protective Equipment

Eyes

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

Skin

Avoid repeated or prolonged skin contact. Wear overalls, rubber boots and impervious gloves if concerned about irritation or dryness of the skin.

Respiratory

Use Australian/New Zealand Standard 1715:2009 Selection, Use and Maintenance of Respiratory Protective Equipment for more extensive guidance and more options on selecting respirators for the workplace. Select respirators based on the level of exposure to crystalline silica as measured by dust sampling. Use respirators that offer protection to the highest concentrations of crystalline silica if the actual concentrations are unknown. Put in place a respiratory protection and monitoring program. Monitoring for exposure to hazardous chemicals.

WES Additional Information

Not applicable.

9. Physical & Chemical Properties

Appearance	Solid usually grey sheets or planks with various dimensions according to the product profiles.
Odour	no odour
pH	no pH data
Vapour pressure	not applicable
Boiling point	no data
Volatile materials	no data
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	Product is non reactive and stable.
Conditions to be avoided	Avoid the creation of dust during processing, handling and installation.
Incompatible groups	Hydrofluoric acid will dissolve silica and can generate silicon tetrafluoride, a corrosive gas. Contact with strong oxidizing agents such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride or oxygen difluoride may cause fires and /or explosions. Furthermore, limestone is incompatible with acids and ammonium salts.
Substance Specific Incompatibility	May react with hydrofluoric acid to form toxic silicon tetra-fluoride gas.
Hazardous decomposition products	None known
Hazardous reactions	Product is non reactive and stable.

11. Toxicological Information

Summary

Fibre cement is non-toxic in its intact form. The following applies to respirable dust that may be generated during cutting, rebating, drilling, routing, sawing, crushing or otherwise abrading fibre cement.

IF SWALLOWED: No adverse effects expected.
IF IN EYES: Dust may be irritating to eyes (mechanical irritation).
IF ON SKIN: This product is not absorbed through the skin. Dust may dry out the skin.
IF INHALED: Dusts may cause upper respiratory tract irritation, resulting in coughing and sneezing. Certain susceptible individuals may experience wheezing (spasms of the bronchial airways) upon inhaling dust during cutting, rebating, drilling, routing, sawing, crushing or otherwise abrading fibre cement, and when cleaning up, disposing of or moving the dust.
CHRONIC EFFECTS: Long term exposure to high levels of fine nuisance dust may cause injury to lungs and the respiratory system. This product contains crystalline silica (quartz and cristabolite). Inhaling crystalline silica containing dusts can aggravate respiratory conditions such as asthma or emphysema. Long term exposure to crystalline silica dust can lead to silicosis, and there is limited evidence of carcinogenicity for crystalline silica dust. Acute silicosis may occur as a result of extremely high exposure to respirable crystalline silica over a short period (<5years). Accelerated silicosis can develop over 5-10 years of exposure to high levels of respirable crystalline silica. Chronic silicosis may develop as a result of lower levels of exposure to respirable crystalline silica over >10 years. In addition to silicosis there is some evidence that exposure to respirable crystalline silica may be linked to sclerodEPA and an increased risk of kidney disease.

Supporting Data

Acute	**Oral**	The estimated LD_{50} (oral, rat) for the mixture is > 5,000 mg/kg. Calcium Silicate: 3400mg/kg (rat).
	DEPAI	The estimated LD_{50} (dEPAI, rat) for the mixture is > 5,000 mg/kg.
	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 dust may cause eye irritation (mechanical).
	Skin	The mixture is not considered to be a skin irritant.
Chronic	**Sensitisation**	No evidence of skin sensitisation or respiratory sensitisation.
	Mutagenicity	No ingredient present at concentrations > 0.1% is considered a mutagen.
	Carcinogenicity	This product contains crystalline silica. Crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (IARC Group 1). The carcinogenicity of silica is related to long term (e.g., 10 years) inhalation of very fine particulate (e.g., from sand blasting or dry cutting of concrete). Carcinogenicity of silica appears linked to development of silicosis (see systematic below) followed by complications and, eventually lung cancer.
	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	There may be some irritation of the respiratory tract. This product contains crystalline silica which if it is in the form of a fine respirable dust may cause silicosis in an occupational setting. Exposure to respirable crystalline silica may also affect the immune system and the kidneys.
	Aggravation of existing conditions	disease such as, but not limited to bronchitis, emphysema and asthma. Some studies suggest that cigarette smoking increases the risk of silicosis, bronchitis and lung cancer in persons also exposed to crystalline silica.

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	Fibre Cement is 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 must comply with Hazardous Substances (Disposal) Notice 2017.
Disposal method	Disposal of the dust of this product must comply with the requirements of the Resource Management Act for which approval should be sought from the Regional Authority. Place dust 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:	NA	**Hazchem code:**	NA

15. Regulatory Information

These products are Manufactured Articles. The products are exempt under HSNO.
Fibre Cement products are not classified as hazardous substances under HSNO. However these products contain crystalline silica, which may be released on cutting, grinding or drilling. Crystalline silica is an approved substance under the HSNO act as Construction Products (Toxic [6.7A]) Group Standard 2017, HSR002545.
All ingredients appear on the NZIoC.

Specific Workplace Controls (as per HSNO approval referenced to Controls Matrix) for crystalline silica:

Key workplace requirements are:

SDS	Required if storing any quantity
Emergency plan	Required if storing >1000kg (dust).
Certified handler*	Not required.
Tracking	Not required
Bunding and secondary containment	Required if storing >1000kg (dust)
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	Crystalline silica dust: Approval HSR002545, Construction Products (Toxic 6.7) 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 workers 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 for review**
April 2011	NA – new SDS
July 2012	Changes in product names and to “Note” on page 1.
February 2015	Name changes of products, OHS to WorkSafe. Review of toxicological section
December 2017	Update of section 2, 8, 11 and 15. HSE to HSAW
April 2019	Logo change, name change.

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