

**1. IDENTIFICATION**

<b>Product Identifier</b>	HardieFire™ Insulation
<b>Other means of identification</b>	None
<b>Recommended use of the chemical and restrictions on use</b>	Used as acoustic, thermal and fire insulation with HardieSmart™ fire rated wall systems.
<b>Suppliers Name and Address</b>	James Hardie Australia Pty Limited 10 Colquhoun Street Rosehill NSW 2142 Australia
<b>Emergency phone number</b>	13 11 03 (General Information and Emergency)

**2. HAZARD IDENTIFICATION**

<b>Classification of the Hazardous Chemical</b>	Classified as non-hazardous
<b>Label Elements, including precautionary Statements</b>	None
<b>Other hazards which do not result in classification</b>	None

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

<b>Identity of chemical ingredients</b>	<b>CAS number</b>	<b>Concentration of ingredients (%)</b>
Rock wool	65997-17-3	>95
Cured binder	25104-55-6	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 MEASURES**

<b>Swallowed</b>	Do not induce vomiting. Give a glass of water to drink. If any symptoms occur seek medical advice.
<b>Eye Contact</b>	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, seek medical advice.
<b>Skin Contact</b>	If on skin: Wash with plenty of soap and water.
<b>Inhaled</b>	If Inhaled: Dust may cause irritation but not likely to be harmful by inhalation. Call a Poisons Centre or a doctor/physician if you feel unwell.
<b>Advice to Doctor</b>	Treat symptomatically

**5. FIRE FIGHTING MEASURES**

<b>Suitable extinguishing media</b>	Carbon dioxide, extinguishing powder, foam, fog sprays, water jets.
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<b>Specific hazards arising from the chemical</b>	Mineral wool is 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. The packaging may form toxic mixtures in air and may accumulate in sumps, pits and other low-lying spaces, forming potentially explosive mixtures
<b>Special protective equipment and precautions for fire fighters</b>	No special measures are required.

## 6. ACCIDENTAL RELEASE MEASURES

<b>Containment</b>	Containment of product is not required. Prevent product from entering environment as it may block drains and cause excess sediment in waterways.
<b>Emergency Procedures</b>	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 14).
<b>Clean-up method</b>	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. Use a HEPA vacuum or wet clean up methods. Do not wash material down stormwater drains.
<b>Disposal</b>	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 local regulations.
<b>Precautions</b>	Use gloves and eye protection. See Section 8

## 7. HANDLING AND STORAGE

<b>Storage</b>	Avoid storage of harmful substances with food. Keep from extreme heat, open flames and direct sunlight.
<b>Handling</b>	Avoid contact with incompatible substances as listed in Section 11. 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 PROTECTION**

A Workplace Exposure Standard (WES) has not been established by Safe work Australia for this product. There is a general limit of 10mg/m<sup>3</sup> for inhalable dusts when limits have not otherwise been established.

<b>Ingredient</b>	<b>WES-TWA</b>	<b>WES-STEL</b>
Rock Wool	2 mg/m <sup>3</sup> (Inhalable dust)	Not Applicable
Cured Binder	Not Applicable	Not applicable
Formaldehyde	1 ppm	2 ppm

**Appropriate engineering controls**

In industrial situations, it is expected that employee exposure to hazardous chemical will be controlled to a level as far below the WES as practicable by applying the hierarchy of control. 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 dusts are high, you are advised to modify processes or increase ventilation.

**Personal protective equipment (PPE)**

**Eyes**

Avoid contact with eyes. Use safety glasses or goggles if irritant levels of fibres and dust are present. AS/NZS1336 "Recommended Practices for Eye Protection in the Industrial Environment" provides further guidance.

**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 air born 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.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	solid odourless amorphous fibres
<b>Odour</b>	No odour
<b>pH</b>	No pH data
<b>Melting point/freezing point</b>	Not applicable
<b>Boiling point and boiling range</b>	>1090°C
<b>Flash point</b>	Not flammable



<b>Evaporation rate</b>	No data
<b>Flammability</b>	Non-combustible according to AS 1530.1
<b>Upper/lower flammability or explosive limits</b>	No data
<b>Vapour pressure</b>	No data
<b>Vapour density</b>	No data
<b>Relative density</b>	80kg/m <sup>3</sup>
<b>Solubility</b>	Not applicable
<b>Partition coefficient: n-octanol/water</b>	No data
<b>Auto-ignition temperature</b>	No data
<b>Decomposition temperature</b>	No data
<b>Viscosity</b>	No data
<b>Specific heat value</b>	No data
<b>Particle size</b>	No data
<b>Volatile organic compounds content</b>	No data
<b>% volatile</b>	No data
<b>Saturated vapour concentration</b>	No data
<b>Release of invisible flammable vapours and gases</b>	36 µg/m <sup>3</sup> /hr

**10. STABILITY AND REACTIVITY**

<b>Reactivity</b>	Stable
<b>Chemical stability</b>	Stable
<b>Conditions to avoid</b>	Packaging should be kept intact in order to avoid contamination. Keep from extreme heat, open flames and direct sunlight.
<b>Incompatible materials and possible hazardous reactions</b>	Acids, alkalis or organic solvents.
<b>Hazardous decomposition products</b>	None Known

**11. TOXICOLOGICAL INFORMATION**

**Summary**

No specific data is available for this product. Where available, toxicological data has been researched and data for the mixture calculated. The results of these calculations are presented below.

<b>Acute</b>	<b>Oral</b>	The substance is not considered acutely toxic if ingested. Using LD50's for ingredients, the calculated LD50 (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).
	<b>Dermal</b>	The substance is not considered acutely toxic by dermal contact. Using LD50's for ingredients, the calculated LD50 (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).
	<b>Inhaled</b>	The substance is not considered acutely toxic if inhaled, however there may be irritation of the respiratory tract if dust is inhaled.



	<b>Eye</b>	The mixture is considered to be an eye irritant. The dust of the mineral fibres (rock wool) may cause eye irritation.
	<b>Skin</b>	Insulation wools can cause acute symptoms such as irritation and itching of the eyes, nose, respiratory tract and 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).
<b>Chronic</b>	<b>Sensitisation</b>	No evidence of skin sensitisation or respiratory sensitisation.
	<b>Mutagenicity</b>	No ingredient present at concentrations > 0.1% is considered a mutagen.
	<b>Carcinogenicity</b>	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.
	<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>	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.
	<b>Aggravation of existing conditions</b>	None known

**12. ECOLOGICAL INFORMATION**

**Summary**

No specific data is available for this product. Where available, ecotoxicological data has been researched and data for the mixture calculated. The results of these calculations are presented below.

<b>Ecotoxicity</b>	The mixture is not considered to be toxic in the aqueous environment.
<b>Persistence and degradability</b>	Mineral fibres area not considered biopersistent.
<b>Bioaccumulative potential</b>	No data
<b>Mobility in soil</b>	No data
<b>Other adverse effects</b>	None

**13. DISPOSAL CONSIDERATIONS**

<b>Safe handling and disposal methods</b>	There are no product-specific restrictions, however, local environmental legislative requirements may apply
<b>Disposal of any contaminated packaging</b>	Preferably re-cycle packaging, otherwise send to landfill or similar.
<b>Environmental regulations</b>	Dispose of in accordance with local regulations.



**14. TRANSPORT INFORMATION**

Not classified as a Dangerous Good by the Australian Code for the Transport of Dangerous Goods by Road and Rail

<b>UN number</b>	Not Applicable
<b>Proper shipping name</b>	Not Applicable
<b>Transport hazard class(es)</b>	Not Applicable
<b>Packing group</b>	Not Applicable
<b>Environmental hazards</b>	Not Applicable
<b>Special precautions during transport</b>	Not Applicable
<b>Hazchem Code</b>	1T (recommended, no signage required)

**15. REGULATORY INFORMATION**

<b>Safety, health and environmental regulations specific for the product in question</b>	None
<b>Poisons Schedule number</b>	Not Applicable

**16. OTHER INFORMATION**

<b>Date of preparation</b>	25/09/2014
<b>Key abbreviations or acronyms used</b>	
<b>AS 1530.1</b>	AS 1530.1-1994 Methods for fire tests on building materials, components and structures - Combustibility test for materials
<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>HAZCHEM Code</b>	Emergency action code of numbers and letters that provide information to emergency services, especially fire fighters
<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>MSDS/SDS</b>	Material Safety Data Sheet (or Safety Data Sheet)
<b>ppm</b>	parts per million
<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>TWA</b>	Time Weighted Average – generally referred to WES averaged over typical work day (usually 8 hours)
<b>UEL</b>	Upper Explosive Limit
<b>UN</b>	Number United Nations Number
<b>WES</b>	Workplace Exposure Standard - The airborne concentration of a biological or chemical agent to which a worker may be exposed in a work day.