

**SAFETY DATA SHEET**

Version: 01 Mar 2016\_Amd 11

**Products based on stone wool****Statement of hazardous nature****This product is NOT classified as hazardous<sup>[1]</sup>.****1 IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY**

<b>Manufacturer's name</b>	<b>ROCKWOOL Malaysia Sdn Bhd</b> (part of the ROCKWOOL International Group) 175 A & B Kawasan Perindustrian Ayer Keroh Jalan Lingkungan Usaha 75450 Melaka MALAYSIA	
<b>Australian agent</b>	<b>Australasian Insulation Supplies Pty Ltd (AIS)</b> 56 Cutler Road Jandakot WA 6164 Telephone +61 (0)8 9417 9494 Facsimile +61 (0)8 9417 9595 Email <a href="mailto:sales@ais-group.com.au">sales@ais-group.com.au</a>	
<b>Trade and synonyms</b>	Generic Name	Stone wool, Rock(stone)wool
	Trade Name	ROCKWOOL®, ROCKWOOL™, PROROX®, SEAROX®
<b>Manufacturer's product codes / other names</b>	See Annex A (at the end of this document)	
<b>Recommended use</b>	Thermal and acoustic insulation, including fire protection and energy conservation. Use in industrial (petrochemical and other plants, power stations), marine (ships, off-shore), commercial (public, commercial, warehouses) and residential (homes, apartments).	
<b>Applicable in</b>	Australia and New Zealand.	
<b>Emergency phone no.</b>	000 Fire brigade and Police (Australia only).	
<b>Poisons information</b>	13 11 26 (Australia only).	

Stone wool insulation products manufactured by ROCKWOOL International Group factories and sold in Australia and New Zealand by AIS are classified as NON-HAZARDOUS<sup>[1]</sup>.

A Safety Data Sheet (SDS) is not strictly required under Australian Regulations. This SDS is issued by AIS for the information of users, installers and the community. It has been formatted in accordance with the SWA 2012 Fact Sheet "Australia Safety Data Sheets for Hazardous Chemicals".

The product shall be used in accordance with the technical guidance published by AIS.

The information in this SDS must not be altered, deleted or added to. The manufacturer and their agent will not accept any responsibility for any changes made to its SDS by another person or organisation. The manufacturer and their agent will issue a new SDS when there is a change in product specification and/or SWA standards, codes, guidelines, or Regulations.

**2 HAZARD IDENTIFICATION**

<b>Statement of hazardous nature</b>	Rock(stone)wool is are classified as NON-HAZARDOUS [1] and as NON-DANGEROUS GOODS according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.
<b>Other hazards</b>	Use of high speed cutting tools can generate dust.
	When heated to approximately 200°C for the first time, release of binder components and binder decomposition products can occur which, in high concentrations, may irritate the eyes and respiratory system.
	Further information can be found in Section 8.

**3 COMPOSITION/ INFORMATION ON INGREDIENTS**

Components	CAS number	Proportion (by weight)
Man-made amorphous, non-crystalline vitreous silicate fiberised bio-soluble rock <sup>[2]</sup> with alkaline oxide and alkali earth oxide (Na <sub>2</sub> O, K <sub>2</sub> O, CaO, MgO, BaO) content greater than 18% by weight.	RN 65997-17-3	>95-99%
Bakelite, a synthetic thermosetting resin binder <sup>[3]</sup>	25104-55-6	≤5%
Refined mineral oil (for water repellency), or	8012-95-1	≤0.3%
Optional additional water repellency using silicone oil or silicon emulsion to meet BP specification requirements.	n/a	≤0.5%

4 FIRST AID MEASURES	
<b>Swallowed</b>	Rinse the lips and mouth with water, give water to drink and seek medical attention.
<b>Inhalation</b>	If irritation occurs, clean throat by rinsing with cold potable water. Leave dusty area for fresh air. Consult a doctor if irritation persists.
<b>Skin</b>	If irritation occurs, wash off under cold running water prior to washing with mild soap. Do not rub or scratch. Consult a doctor if irritation persists.
<b>Eye</b>	If irritation occurs, check for and remove any contact lenses, flush eyes with potable cold water. Do not rub eyes. Seek medical attention.
<b>Ingestion</b>	If ingested, may cause transient irritation to the digestive tract. Seek medical attention.
<b>Advise to doctor</b>	Any symptoms and signs of ill-health are likely to be due to other causes. Can be slightly or temporarily itchy with prolonged contact with skin, throat or eyes due to mechanical irritation from fibre contact. Does not produce acute or chronic health effects. Treatment should be directed towards cleansing the skin, throat or eyes and symptomatic treatment as necessary.

5 FIRE-FIGHTING MEASURES	
<b>Flammability</b>	Stone wool in its plain form is non-combustible as required by the NCC . It is non-flammable and does not pose a fire hazard.
<b>Extinguishing Suitable</b>	Water, foam, carbon dioxide or dry powder as needed for the surrounding conditions.
<b>Unsuitable</b>	None.
<b>Special hazards arising from substance/mixture</b>	Some facing and packaging materials may burn, decompose or smoulder in a fire.
<b>Advise to fire fighters</b>	Observe normal fire fighting procedures.

6 ACCIDENTAL RELEASE MEASURES	
<b>Personal precautions, personal equipment, emergency procedures</b>	No special requirements. It is recommended for comfort that long-legged, long-sleeved clothing and gloves are worn. Safety goggles may be worn if a lot of dust has been generated.
<b>Environment</b>	No precautions required.
<b>Containment, clean-up</b>	Spray with water before sweeping or use vacuum equipment.
<b>Other relevant sections</b>	Recommended personal protection equipment and waste disposal considerations are covered in Sections 8 and 13.

7 HANDLING AND STORAGE	
<b>Handling</b>	Products are safe in use. Once installed, products do not release dust or fibres. Unpack materials at site of use to avoid unnecessary handling of product. Dispose of scrap material and debris in suitable containers. Keep work areas clean. Do not eat, drink or smoke in work areas. Remove personal protective equipment before entering eating areas. Wash hands after use rinsing under cold water before using soap. Change clothes and wash on completing work.
<b>Safe storage</b>	Keep material in original packaging until it is to be used. Store materials to protect against damage and exposure to the weather. Avoid packaging being stored under UV light (direct sunlight) for long periods.
<b>Incompatibilities</b>	None.
<b>Specific end use(s)</b>	None required.

8 EXPOSURE CONTROLS AND PERSONAL PROTECTION	
<b>Control parameters</b>	Stone wool insulation products may be regarded as nuisance dusts. AIS recommends following the National Occupational Exposure Standard (NEW) ASCC general guide to keep all occupational exposures to dust and other atmospheric contaminants to as low a level as is workable (practicable). For non-hazardous nuisance dusts: 2.0 mg/m <sup>3</sup> TWA[4] for inspirable dusts and/or 10 mg/m <sup>3</sup> TWA for total dust (of any type, or particulate size) is recommended.
<b>Biological limit values</b>	Not applicable.
<b>Engineering controls</b>	Work practices should minimise the release of, and exposure to, fibres and/or dust. Hand tools that generate the least amount of dust should be used. If power tools are used, they should be equipped with appropriate dust collection systems. Work areas, if dusty, should be cleaned by simple hand vacuuming.
<b>Maintenance and repair of used equipment</b>	Work areas should be cleaned regularly and vacuuming or wet sweeping is suggested. Use of personal protective equipment as outlined below is recommended during work in areas or on equipment where this product has been installed.

<b>Ventilation</b>	<p>During most applications and installation of this product, no special ventilation is required. However, if a very dusty work environment exists (normally due to other construction material dusts) or if in confined spaces, then local exhaust ventilation should be provided if the general dust level is in excess of 2 mg/m<sup>3</sup> (TWA)[4] of inspirable non-hazardous nuisance dust.</p> <p>When stone wool is heated to approximately 200°C for the first time(s), release of binder components and binder decomposition products occurs. The fumes can be detected by their acid odour and high concentrations of these gases may irritate the eyes and respiratory system. In general, decomposition products from pyrolysis or burning of organic material can cause respiratory sensitisation. There are no recorded incidents of respiratory sensitisation from gases released from stone wool products. However, general dilution ventilation and/or local exhaust ventilation should be provided as necessary to control exposure to fumes when high temperature appliances are first put into service.</p>
<b>Personal protection</b>	<p><b>Eye protection</b> Ventilated, non-fogging dust resistant goggles conforming to AS/NZS 1336 should be worn when handling stone wool in enclosed or poorly ventilated areas and particularly when installing overhead.</p> <p><b>Skin protection</b> Loose comfortable clothing should be worn. It is desirable to avoid direct skin contact by wearing long sleeved shirts and long trousers, a cap or hat, and standard duty gloves conforming to AS 2161. People working with this product should wash their skin with cold water and soap at the end of the work shift and at all work breaks.</p> <p><b>Respiratory protection</b> None normally required. An approved particulate respirator conforming to AS/NZS 1715 and AS/NZS 1716 should be worn whenever personally desired or where it is suspected that dust levels may exceed the levels stated. P1, P2 or N95 type respirators are appropriate.</p> <p><b>Personal hygiene</b> Washing facilities should be available on site to wash the skin and to treat any dust in the eyes.</p> <p><b>Smoking and other dusts</b> Inhalation of airborne particulates from other sources, including those from cigarette smoke, may increase the risk of lung disease. AIS recommends that all storage and work areas should be non-smoking zones, and other airborne contaminants be kept to a minimum.</p>
<b>Packaging text and/or pictograms (that may be shown)</b>	<p><b>The mechanical effect of fibres in contact with skin may cause temporary itching</b></p> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;">  <p>Ventilate working area if possible</p> </div> <div style="text-align: center;">  <p>Waste should be disposed of according to local regulations</p> </div> <div style="text-align: center;">  <p>Cover exposed skin. When working in unventilated area wear disposable mask</p> </div> <div style="text-align: center;">  <p>Clean area using vacuum equipment.</p> </div> <div style="text-align: center;">  <p>Wear goggles when working overhead.</p> </div> <div style="text-align: center;">  <p>Rinse in cold water before washing.</p> </div> </div>

**9 PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	An inert grey-green/brown mineral wool mat of compressed fibres resembling wool. It is supplied in different shapes and sizes wrapped in plastic, may be rigid or flexible, and may have facings such as aluminium foil, calico, wire, and/or synthetic tissues applied to meet specific purposes.
<b>Odour</b>	Odourless.
<b>pH (1000g/H<sub>2</sub>O, 25°C)</b>	Neutral or slightly alkaline (pH 7-9)
<b>Melting point</b>	Above 1000°C. The limiting temperature applicable for use is dependent upon specific product type and intended application and must be taken from the appropriate stone wool PDS.
<b>Initial boiling point/range</b>	Solid material therefore not applicable.
<b>Flash point</b>	Non-combustible (as required by the NCC).
<b>Evaporation rate</b>	Solid material therefore not applicable.
<b>Flammability</b>	Non-combustible (as required by the NCC).
<b>Upper/lower flammability or explosive limits</b>	See above. Non-combustible therefore not applicable.
<b>Vapour pressure</b>	Solid material therefore not applicable.
<b>Vapour density</b>	Solid material therefore not applicable.
<b>Relative density</b>	Solid material therefore not applicable.
<b>Solubility(ies)</b>	Generally chemically inert and insoluble in water.
<b>Partition coefficient</b>	See above. Insoluble therefore not applicable.
<b>Auto-ignition temp</b>	Non-combustible (as required by the NCC).
<b>Decomposition temp</b>	When stone wool insulation is heated to approximately 200°C for the first time(s), release of binder components and binder decomposition products occurs.
<b>Viscosity</b>	Solid material therefore not applicable.
<b>Explosive properties</b>	Non-combustible (as required by the NCC).

<b>Oxidising properties</b>	Non-oxidising material therefore not applicable.
<b>Volatile organic compounds (VOC)</b>	Very low, <1% (Actual recorded value below detection limit for test method)[3].
<b>Partition coefficient</b>	Solid material therefore not applicable.
<b>Other data</b>	ROCKWOOL <sup>®</sup> , ROCKWOOL <sup>™</sup> , PROROX <sup>®</sup> and SEAROX <sup>®</sup> stone wool consists of greater than 85% fibres and less than 15% unfiberised particles (shot) when measured to ASTM C612-93. Fibres are made to a target diameter of 5 microns, being non-respirable fibres. However a small percentage of fibres may fall outside this range.  The fibres and particles are amorphous (non-crystalline). The resin and refined mineral oils bond the fibres and particles together and minimise the release of dusts. The cured resin is stable and will remain intact for the life of the product under normal atmospheric conditions.

**10 STABILITY AND REACTIVITY**

<b>Reactivity</b>	Not reactive
<b>Chemical stability</b>	Stable. The cured resin is stable and will remain intact for the life of the product under normal atmospheric conditions.
<b>Positivity of hazardous reactions</b>	Not reactive – none known.
<b>Conditions to avoid</b>	None specified.
<b>Incompatible materials</b>	No reported. Acids, alkalis or organic solvents may cause degradation of resin binder.
<b>Hazardous decomposition materials</b>	When stone wool is heated to approximately 200°C for the first time(s), release of binder components and binder decomposition products occurs.

**11 TOXICOLOGICAL INFORMATION**

<b>Acute toxicity</b>	No acute toxicity.
<b>Irritation</b>	In the case of coarser fibres there can be physical effects on skin, upper respiratory system (mucous membranes) and eyes that can cause temporary, self-fading effects (itching). No chemical effects ensue.
<b>Corrosivity</b>	No corrosivity.
<b>Sensitisation</b>	No sensitisation.
<b>Repeat dose toxicity</b>	No repeat dose toxicity.
<b>Carcinogenicity</b>	Owing to their bio-solubility[2], the fibre types of ROCKWOOL <sup>®</sup> , ROCKWOOL <sup>™</sup> , PROROX <sup>®</sup> and SEAROX <sup>®</sup> rock(stone)wool insulation materials were assessed as free from suspicion of possible carcinogenic effects in October 2001 by the IARC and classified as Group 3 (not classifiable as to its carcinogenicity in humans). That is, not classified as possibly carcinogenic to humans (refer to Section 7 and IARC Working Group in Man-Made Vitreous Fibres – Volume 81 of the IARC Monographs, Lyon 9-16, October 2001 ).
<b>Mutagenicity</b>	No mutagenicity.
<b>Toxicity for reproduction</b>	No toxicity for reproduction.
<b>Toxicology data</b>	The fibre component of these rock(stone)wool products is classified by SWA as Mineral Wool (Not Elsewhere Specified). According to the requirement of NICNAS for formaldehyde issued on November 2006, rock(stone)wool meets the requirements recommended of 0.3ppm 8 hour TWA and 0.6ppm STEL. Fibres are generally clumped by the binder or resin coating and single strand respirable fibre is present only in trace amounts when any dust is formed in the workplace during installation. Bound fibre is not of respirable size. Extensive research over the past 50 years on workers handling these fibres and products in many countries has shown that the inspirable and respirable size of fibres are not harmful, having no long term health effects or respiratory effects. Toxicology test data is generally not available on the products, but acute toxicity estimated as being very low with LD50>5000 mg/kg.

**12 ECOLOGICAL INFORMATION**

<b>Eco-toxicity</b>	This product is not classified as a hazardous air pollutant. No specific data is available on eco-toxicity, but estimations based on toxicity information suggest that the materials in these products are not toxic to fish, birds, insects or organisms in the environment. No harm to fish or wildlife would be caused by this product.
<b>Persistence and degradability</b>	None.
<b>Bioaccumulation potential</b>	None.
<b>Mobility in soil</b>	None.

**Results of PBT and vPvB assessment**

No assessment required.

**Ozone Depleting Potential**

Relying on trapped air for its thermal properties, stone wool does not and never has used blowing agents with Global Warming Potential or other adverse effects and therefore has an ozone depletion potential of zero.

**13 DISPOSAL CONSIDERATIONS****Waste treatment**

Place in plastic bags or containers and close or seal in accordance with local authority guidelines. Label as NON-HAZARDOUS insulation wool or as general building waste (non-hazardous), as appropriate to assist local authorities waste disposal sites.

Department of Environment and Climate Change NWS classifies rock(stone)wool insulation as General Solid Waste (non-putrescible), and local authorities will usually advise on local handling arrangements at their disposal sites. Under EU landfill regulations rock(stone)wool insulation waste is categorised as "waste accepted at landfills for non-hazardous waste" in accordance with EC Decision 2003/33/EC (landfill acceptable criteria).

**14 TRANSPORT INFORMATION****Transport requirements**

Stone wool insulation products are not classified as Dangerous Goods and have no special transport requirements.

**UN number**

Not applicable.

**UN proper shipping name**

Not applicable.

**Transport hazard class**

Not applicable.

**Packing group**

Not applicable.

**Environmental hazard**

Not applicable.

**Special user precautions**

None specified.

**Dangerous goods class and subsidiary risk**

None allocated.

**HAZCHEM code**

None allocated.

**Poisons schedule number**

None allocated.

**15 REGULATORY INFORMATION****Safety, health and environmental regulations/legislation specific to material**

The overall conclusion is that there are no hazardous classifications associated with rock(stone)wool fibres in respect to physical, health and environmental considerations. In October 2001, the IARC, part of the World Health Organisation, reviewed its 1987 classification of mineral wool fibres and removed them from the list of possible carcinogens.

**Chemical safety assessment**

No assessment required.

**Poisons schedule**

Not scheduled. No specific regulatory requirements are applicable regarding occupational health and safety, consumer protection or environmental protection.

**16 ANY OTHER RELEVANT INFORMATION****Generally**

This SDS has been prepared in accordance with SWA guidelines.  
This SDS does not constitute a workplace assessment.  
The information provided represents the state of our knowledge regarding this material at the date of its publication.  
The information provided does not constitute a product specification and no warranty expressed or implied is hereby made.  
The information relates only to the specific material designated when used in applications it has been designed for. This information may not be valid for such materials used in combination with any other material or in any other processes, unless specified in the text.

**References**

The following references are intended as a guide to good industrial practice applicable to building and construction:

AS/NZS 1336	Recommended practices for occupational eye protection
AS/NZS 1715	Selection, use and maintenance of respiratory protective devices
AS/NZS 1716	Respiratory protective devices
AS 2161	Industrial safety gloves and mittens (excluding electrical and medical gloves)

<b>Notes</b>	The following notes where shown in the text as [number] apply:		
	[1] Based on new evidence from years of epidemiological studies and extensive animal inhalation experiments, in October 2001 the IARC, part of the World Health Organisation, reviewed and changed its previous 1987 classification of mineral wool fibres. Accordingly, the IARC has classified and now lists rock(stone)wool as Group 3 – “is not classifiable as to its carcinogenicity to humans”, effectively making it a NON-HAZORDOUS respirable fibre (see Section 11 – Carcinogenicity).		
	[2] Does not cause tumours in long term animal inhalation studies (McConnell, E.E. Kamstrup, O., Musselman, R., Hesterberg, T.W., Chevalier, J., Miller, W.C., and Thevenaz, P. 1994. Chronic inhalation study of size-separated rock and slag wool insulation fibers in Fischer 344/N Rats Inhal. Toxicol. 6:571-614).		
	[3] Traces (<0.1% by weight) of volatile original components of resin may remain in recently manufactured products.		
	[4] TWA is the average airborne concentration of a particular substance over a normal eight-hour working day, for a five-day working week. According to current knowledge this concentration should not impair the health or cause undue discomfort to nearly all workers.		
	<b>Abbreviations, acronyms, terms used</b>	ASCC	Australian Safety and Compensation Council (formerly NOHSC).
		EU/EC	European Union, European Community
		IARC	International Agency for Research on Cancer
		NICNAS	National Industrial Chemicals Notification and Assessment Scheme
		NCC	National Construction Code (Volume One and Two Building Code of Australia)
PDS		Product Data Sheet	
SDS		Safety Data Sheet (formerly an MSDS, Material Safety Data Sheet).	
SWA		Safe Work Australia (formerly ASCC/NOHSC).	
TWA		Time-weighted average	
UK		United Kingdom	
<b>Original</b>	29 Nov 2004		
Amd 9	21 January 2015	General amendment in line with SDS guidelines and current knowledge, addition of new product names, removal of old product names.	
Amd 10	01 April 2015	Inclusion of IRAC Group 3 category in the non-hazardous statement.	
Amd 11	01 March 2016	Inclusion of ProRox product range for southeast Asian factories.	
<b>Authorised by</b>	B A Carson		
<b>Reviewed by</b>	Dr Ole Kamstrup – Rockwool International Group (up to Amd 10)		

**Disclaimer:** Whilst the information contained in this document is based on data which, to the best of our knowledge, was accurate and reliable at the time of preparation, no responsibility can be accepted by us for errors and omissions. The provision of this information should not be construed as a recommendation to use any of our products in violation of any patent rights or in breach of any statute or regulation. Users are advised to make their own determination as to the suitability of this information in relation to their particular purposes and specific circumstances. Since the information contained in this document may be applied under conditions beyond our control, no responsibility can be accepted by us for any loss or damage caused by any person acting or refraining from action as a result of this information.

## Annexure A

### Product names and codes for ROCKWOOL<sup>®</sup>, ROCKWOOL<sup>™</sup>, PROROX<sup>®</sup> and SEAROX<sup>®</sup> materials marketed in Australia

ROCKWOOL <sup>™</sup>	
Acoustic barrier slab	
Fire stop damper strip	
Party wall fire stop	
SWP Fire strip	
Privacy system	
RockPipe	105, 232.120D, 650
Loose fill	000
ROCKWOOL <sup>®</sup>	
ConRock	L10, L12, L15
	S10, S12, S15
	Q3, Q5, Q7
Firepro	
HardRock	60, 80
Industrial pipe section	850, 851
	HD 865
	SPI 120, SPI 150
Loose fill	EnergySaver, GR 903, RockPrime
Pipe block	090.100, 090.120
	120.115
RockTech	(Blanket) B 100, B 100 FF, B 200, B 200 FF, B 300, B 300 FF, B 350, B 400, B 400 FF, B 450, B 500, B 500 FF, B 600, B 650
	(Slab) S 100, S 100 BMF, S 200, S 200 BMF, S 300, S 300 BMF, S 350, S 400, S 400 BMF, S 450, S 500, S 500 BMF, S 620, S 620 BMF, S 650, S 700, S 700 BMF, S 850
	(Wired mattress) WM 159, WM 159 FF, WM 159 SS, WM 159 SS FF, WM 160, WM 160 FF, WM 160 SS, WM 160 SS FF, WM 164, WM 164 SS, WM 164 SS FF, WM 168, WM 164 FF, WM 168 FF, WM 168 SS, WM 168 SS FF, WM 450, WM 650, WM 650 HD
Soffit slab	
PROROX <sup>®</sup>	
	GR 903, LF 970
	MA 520 AL
	PS 960, PS 960 ALU, PS 700
	SL 540, SL 580, SL 920, SL 940, SL 950, SL 960, SL 970, SL 980
	WM 940 <sup>NL</sup> , WM 950 <sup>NL</sup> , WM 960 <sup>NL</sup> , WM 970 <sup>NL</sup>
PROROX <sup>®</sup> (Southeast Asia)	
	PS 960 <sup>SA</sup> , PS 970 <sup>SA</sup>
	WM 950 <sup>SA</sup> , WM 960 <sup>SA</sup> , WM 970 <sup>SA</sup>
	SL 540 <sup>SA</sup> , SL 930 <sup>SA</sup> , SL 950 <sup>SA</sup> , SL 960 <sup>SA</sup> , SL 970 <sup>SA</sup> , SL 978 <sup>SA</sup>
	BL 938 <sup>SA</sup> , BL 958 <sup>SA</sup> , BL 960 <sup>SA</sup>
SEAROX <sup>®</sup>	
	LM 900 ALU
	MA 700 ALU, MA 700 GS, MA 720 ALU, MA 740 ALU
	PS 620 ALU SC
	SL 320, SL 340, SL 340 TB, SL 436, SL 440, SL 470, SL 480, SL 620, SL 640, SL 720, SL 940
	WM 620, WM 640, WM 660, WM 950