

KBS PANEL SEAL

Chemwatch Independent Material Safety Data Sheet

Issue Date: 1-Mar-2010

NC317ECP

CHEMWATCH 4918-5

Version No:5

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Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

KBS PANEL SEAL

PRODUCT USE

Fire-rated penetration seals for grouped electrical cable and combustible and non-combustible pipes.

SUPPLIER

Company: Antec Engineering

Address:

9 Chicago Avenue

Blacktown

NSW, 2148

AUS

Telephone: +61 2 9622 9622

Fax: +61 2 9622 9199

Section 2 - HAZARDS IDENTIFICATION

STATEMENT OF HAZARDOUS NATURE

HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS. According to NOHSC Criteria, and ADG Code.

POISONS SCHEDULE

None

RISK

Risk Codes

R48/20

Risk Phrases

■ Harmful: danger of serious damage to health by prolonged exposure through inhalation.

SAFETY

Safety Codes

S36

S401

Safety Phrases

■ Wear suitable protective clothing.

■ To clean the floor and all objects contaminated by this material use water and detergent.

S13

■ Keep away from food drink and animal feeding stuffs.

S46

■ If swallowed IMMEDIATELY contact Doctor or Poisons Information Centre (show this container or label).

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
coated panel containing resin- bound rockwool fibres	Not avail.	>60

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Section 4 - FIRST AID MEASURES

SWALLOWED

- - If swallowed do NOT induce vomiting.
- If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.
- Observe the patient carefully.
- Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.
- Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.
- Seek medical advice.

EYE

- If this product comes in contact with the eyes:
- Wash out immediately with fresh running water.
- Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
- Seek medical attention without delay; if pain persists or recurs seek medical attention.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

SKIN

- - Gently brush or vacuum off adherent fibres.
- Wash affected areas thoroughly with water (and soap if available).
- Seek medical attention if irritation exists and persists.

INHALED

- - If dust is inhaled, remove from contaminated area.
- Encourage patient to blow nose to ensure clear passage of breathing.
- If irritation or discomfort persists seek medical attention.

NOTES TO PHYSICIAN

- Treat symptomatically.

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

- - There is no restriction on the type of extinguisher which may be used.

FIRE FIGHTING

- - Alert Fire Brigade and tell them location and nature of hazard.
- Wear breathing apparatus plus protective gloves for fire only.
- Prevent, by any means available, spillage from entering drains or water courses.
- Use fire fighting procedures suitable for surrounding area.
- DO NOT approach containers suspected to be hot.
- Cool fire exposed containers with water spray from a protected location.
- If safe to do so, remove containers from path of fire.
- Equipment should be thoroughly decontaminated after use.

FIRE/EXPLOSION HAZARD

- - Non combustible.
- Not considered to be a significant fire risk. However, it will break down under fire conditions and the binder may burn and produce toxic fumes of carbon monoxide (CO) and carbon dioxide (CO₂).
- Containers/packaging may burn.

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Section 5 - FIRE FIGHTING MEASURES

FIRE INCOMPATIBILITY

- None known.

HAZCHEM

None

PERSONAL PROTECTION

Glasses:

Safety Glasses.

Gloves:

When handling larger quantities:

Section 6 - ACCIDENTAL RELEASE MEASURES

MINOR SPILLS

- - Clean up all spills immediately.
- Secure load if safe to do so.
- Bundle/collect recoverable product.
- Collect remaining material in containers with covers for disposal.

MAJOR SPILLS

- - Clean up all spills immediately.
- Secure load if safe to do so.
- Bundle/collect recoverable product.
- Collect remaining material in containers with covers for disposal.

Personal Protective Equipment advice is contained in Section 8 of the MSDS.

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

- - Limit all unnecessary personal contact.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- When handling DO NOT eat, drink or smoke.
- Always wash hands with soap and water after handling.
- Avoid physical damage to containers.
- Use good occupational work practice.
- Observe manufacturer's storing and handling recommendations.

SUITABLE CONTAINER

- Store flat in load designed racking.

STORAGE INCOMPATIBILITY

- None known.

STORAGE REQUIREMENTS

- - Keep dry.
- Store under cover.
- Protect containers against physical damage.
- Observe manufacturer's storing and handling recommendations.

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

Source	Material	TWA mg/m ³	TWA F/CC	Notes
Australia Exposure Standards	rockwool fibres (Glasswool)	0.5	0.5	(see Chapter 14, see also Synthetic mineral fibres)
Australia Exposure Standards	rockwool fibres (Synthetic mineral fibres (SMF))	0.5	0.5	(see Chapter 14)
Australia Exposure Standards	rockwool fibres (Rockwool)	0.5	0.5	(see Chapter 14, see also Synthetic mineral fibres)
Australia Exposure Standards	rockwool fibres (Synthetic mineral fibres (SMF) Rockwool)	0.5	0.5	(see Chapter 14)
Australia Exposure Standards	rockwool fibres (Synthetic mineral fibres (SMF) Glasswool (including superfine glassfibre))	0.5	0.5	(see Chapter 14)

MATERIAL DATA

KBS PANEL SEAL:

- None assigned. Refer to individual constituents.

ROCKWOOL FIBRES:

- for glass wool fibres, rock wool fibres, slag wool fibres, and special purpose glass fibres

Respirable fibres:

TLV TWA: 1 fibre/cc, A3 (respirable fibres, length >5 µm, aspect ratio ≥ 3:1 as determined by the membrane filter method at 400-450X magnification (4 mm objective) phase contrast illumination).

CAUTION: This substance has been classified by the ACGIH as A3; Animal Carcinogen (at relatively high doses).

ES TWA: 0.5 fibres/ml [NOHSC, Australia]

Exposure Levels to be determined in accordance with NOHSC: 3006; Guidance Note on Membrane Filter Method for Estimating Airborne SMF

Earlier FARIMA/ACTU action plan recommends the following:

Action level 0.2 fibre/ml (respirable dust)

<0.2 fibres/ml: Basic OH&S hygiene procedures

0.2-0.5 fibres/ml: Control strategies implemented and personal protection provided.

>0.5 fibres/ml: Immediate steps should be taken to reduce this level.

Extensive monitoring history indicates that airborne respirable fibre levels will rarely exceed 0.2 fibres/ml in most user applications, provided the handling and storage of fibres conforms with the recommendations made elsewhere in this document.

Inspirable dusts:

ES TWA: 2 mg/m³ inspirable dust (non-respirable fibres) (ASCC proposal as a second level standard); mineral wool fibre, containing no asbestos and < 1% free silica

TLV TWA: 10 mg/m³, total dust [ACGIH]

In a criteria document on fibrous glass NIOSH established a REL-TWA of 3 fibres/cc (fibres less than or equal to 3.5 µm in diameter and greater than or equal to 10 µm in length) and 5 mg/m³ (total mineral wool). It also stated that an exposure limit of 10 mg/m³ is highly unlikely to be protective for exposed employees.

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NOTE: exposure standards described here do not apply continuous filament glass fibres and refractory ceramic fibres.

No exposure standards currently exists for biosoluble respirable fibres; in their absence it would be prudent to adopt the standards cited here.

The concentration of dust, for application of respirable dust limits, is to be determined from the fraction that penetrates a separator whose size collection efficiency is described by a cumulative log-normal function with a median aerodynamic diameter of 4.0 μm (+-) 0.3 μm and with a geometric standard deviation of 1.5 μm (+-) 0.1 μm , i.e..generally less than 5 μm .

Synthetic vitreous fibres are composed largely of aluminium and calcium silicates derived from rock, clay, slag or glass. For the purpose of classification they are divided into two broad classes: filaments and wools. Filaments contain continuous glass filaments, while wools contain glass wool, rock (stone) wool, slag wool, refractory ceramic fibres and other newly engineered biosoluble fibres. Generally wool fibres tend to be shorter and finer than continuous filament fibres and their diameters more variable.

All fibrous glass products consist of silicon and aluminium oxides. The final properties of the glass are dictated by the percent composition of other oxides including alkali metal oxides (e.g. Na₂O, K₂O), alkaline earth oxides (e.g. CaO, MgO) and metal oxides (e.g. ZrO₂ Fe₂O₃). The term " mineral wool" is used to describe rock wool and slag wool and occasionally glass wool. Refractory ceramic fibres (RCFs) are a specialised type of synthetic vitreous fibre that are highly heat resistant and contain a much higher concentration of alumina (Al₂O₃) than other fibres. Although RCFs are amorphous at low temperatures, they undergo partial crystallisation (devitrification) to quartz, cristobolite, or tridymite at the elevated temperatures for which they were designed.

The diameter of airborne fibres are an important physical property from a biological standpoint because thin fibres are considered respirable and may be deposited in the peripheral lung airway. Airborne fibres with diameters < 3 μm are generally considered respirable in humans. There is a strong correlation between fibre diameter and airborne fibre levels found in the work place. Generally the smaller the fibre diameter, the lower the airborne fibre concentration. Rock wool and slag wool typically possess fibre diameters in the range of about 3-7 μm . Glass wool possesses fibre diameters typically of 3-15 μm . The smaller diameters of these fibres in comparison to continuous filament fibres allows for the possibility that a small fraction of these fibres may become respirable when they become airborne. Special purpose glass fibres typically have fibre diameters of <3 μm and often < 1 μm . RCFs typically have fibre diameters of 1-5 μm

Exposure standards for man-made vitreous (silicate) fibres (also known as MMMF, SMF or MMVF) are currently based on a combination of chemical and physical properties.

In general they fall into one of two groups:

- Those with random orientation with alkaline oxide and alkaline earth oxide (Na₂O+K₂O +CaO+MgO+BaO) content:
- greater than 18% by weight (generally the mineral wools)
 - less than 18% weight: this group (Refractory Ceramic Fibres (RCF) and special purpose fibres).

Members of both groups may produce cancer but certain fibre properties must be considered before assigning this classification These are described in Notes Q, and R of Annex 1 of the European Directive 67/548/EEC.

Note Q - this applies to the first group (the mineral wools) only:

The classification as a carcinogen need not apply if it can be shown that the substance fulfils one of the following conditions:

- a short term biopersistence test by inhalation has shown that the fibres longer than 20 μm have a weighted half-life less than 10 days (the so-called biosoluble fibres) , or
- a short term biopersistence test by intratracheal instillation has shown that the fibres longer than 20 μm have a weighted half-life less than 40 days (biosoluble fibres), or
- an appropriate intra-peritoneal test has shown no evidence of excess carcinogenicity, or
- absence of relevant pathogenicity or neoplastic changes in a suitable long term inhalation test.

Note R- this applies to both groups (the mineral wools and RCFs)

The classification as a carcinogen need not apply to fibres with a length weighted geometric mean diameter less two standard geometric errors greater than 6 μm .

The ACGIH has created exposure standards for each group:

For mineral wools (glass wool, rock wool and slag wool) a TWA of 1 f/cc pertains

For RCFs (and special purpose fibres) a TWA of 0.2 f/cc pertains

Biosoluble fibres(described in Note Q) have not yet been assigned a value - because they may create irritation, however, a " Nuisance Particulate" value cannot apply. Although not actually soluble in water the

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term dissolution is often used to describe the durability of synthetic vitreous fibres, especially as it pertains to biological fluid. Dissolution produces degradation. Under alkaline and acidic conditions, the silicate network of synthetic vitreous fibres can be attacked, resulting in leaching of individual ions and the eventual disruption of the entire fibre network.

PERSONAL PROTECTION

EYE

- No special equipment needed when handling small quantities.
- Safety glasses with side shields.
- Chemical goggles.

HANDS/FEET

- Wear physical protective gloves, eg. leather.

OTHER

Loose fitting protective clothing, e.g. overalls/ long sleeve shirts.
When working above head height, use head covering, dust mask and goggles.
Minimise dust generation by using sharp handcutting tools where possible.
Powered tools (e.g. saws etc.) should only be used if fitted with dust extraction or other effective local exhaust ventilation supplied.
Vacuum or wet clean up equipment should be available for fibre/dust removal.

The local concentration of material, quantity and conditions of use determine the type of personal protective equipment required. For further information consult site specific CHEMWATCH data (if available), or your Occupational Health and Safety Advisor.

ENGINEERING CONTROLS

- Use in a well-ventilated area.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Khaki coloured panel consisting of a resin coating (dry film thickness of 1.6mm) and a rockwool panel at 50mm thick. Total thickness of the complete panel is 51.6mm.

PHYSICAL PROPERTIES

Does not mix with water.

State	Manufactured	Molecular Weight	Not Applicable
Melting Range (°C)	Not Applicable	Viscosity	Not Applicable
Boiling Range (°C)	Not Applicable	Solubility in water (g/L)	Immiscible
Flash Point (°C)	Not Applicable	pH (1% solution)	Not Applicable
Decomposition Temp (°C)	Not Available	pH (as supplied)	Not Applicable
Autoignition Temp (°C)	Not Applicable	Vapour Pressure (kPa)	Not Applicable
Upper Explosive Limit (%)	Not Applicable	Specific Gravity (water=1)	Not Applicable
Lower Explosive Limit (%)	Not Applicable	Relative Vapour Density (air=1)	Not Applicable
Volatile Component (%vol)	Not Applicable	Evaporation Rate	Not Applicable

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Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

- Product is considered stable and hazardous polymerisation will not occur.

For incompatible materials - refer to Section 7 - Handling and Storage.

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

- Not normally a hazard due to the physical form of product. The material is a physical irritant to the gastro-intestinal tract.

EYE

- The dust may produce eye discomfort causing smarting, pain and redness.

SKIN

- The material is mildly abrasive and may produce discomfort which results in a temporary skin rash. Discomfort is accentuated by fibre adhering to sweaty skin at higher temperatures.

INHALED

- The dust may produce upper respiratory tract discomfort. Nose and throat discomfort may be transitory. Cutting and trimming may result in fibre dislodgement and dust production.

CHRONIC HEALTH EFFECTS

The principal routes of exposure are via skin contact and inhalation of loose fibres. Repeated exposure may result in an immune response (toughening of skin) so that irritation (rash to MMMF) often subsides in 2-3 weeks. The irritation and response recurs if exposure is intermittent. If irritation persists, worker exposure must be terminated and medical opinion sought.

The presence of binding agents significantly reduces fibre release during handling.

TOXICITY AND IRRITATION

- Not available. Refer to individual constituents.

ROCKWOOL FIBRES:

- unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

- The substance is classified by IARC as Group 3: NOT classifiable as to its carcinogenicity to humans. For fibre glass wool: In October 2001, IARC classified fiber glass wool as Group 3, "not classifiable as to its carcinogenicity to humans." The 2001 decision was based on current human and animal research that shows no association between inhalation exposure to dust from fibre glass wool and the development of respiratory disease. This is a reversal of the IARC finding in 1987 of a Group 2B designation (possibly carcinogenic to humans) based on earlier studies in which animals were injected with large quantities of fiber glass. NTP and ACGIH have not yet reviewed the IARC reclassification or the most current fibre glass health research; at this time, both agencies continue to classify glass wool based on the earlier animal injection studies.

There is little evidence for acute toxicity after inhalation of rockwool/ slagwool/ glasswool mineral fibres (MMMF). Rockwool/glasswool administered by inhalation produced little pulmonary fibrosis in experimental animals. [IARC Monograph 43]

Animal studies with amorphous silica show that surviving rats rapidly recovered on removal from dust, the

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Section 11 - TOXICOLOGICAL INFORMATION

silica was largely eliminated and cellular nodules, perivascular infiltrations and emphysema were almost completely resolved [Patty's].

The dust has been associated with skin irritation due to the mechanical action of the fibres [CHEMINFO, Sax, ILO ENCYCLOPEDIA].

MMMF are manufactured to definite diameters and cannot split along their length rather they break across and form small particles not needles [FARIMA].

Section 12 - ECOLOGICAL INFORMATION

Refer to data for ingredients, which follows:

ROCKWOOL FIBRES:

KBS PANEL SEAL:

- DO NOT discharge into sewer or waterways.

KBS PANEL SEAL:

ROCKWOOL FIBRES:

■ Synthetic vitreous fibers are nonvolatile and generally insoluble, so their natural tendency is to settle out of air and water, and deposit in soil or sediment. Synthetic vitreous fibers are not known to undergo any significant transformation or degradation in air, sediment or soil, or water.

The silicate network of all synthetic vitreous fibers can be attacked by acids or alkaline solutions, but this does not occur to any significant extent under environmentally relevant conditions.

Using in vitro tests at 37 C with simulated extracellular fluid (pH 7.4), the dissolution rates of glass, rock, and slag wools with diameters of 1 um were reported as 0.4, 1.2, and 2.0 years, respectively. Lifetimes for refractory ceramic fibers were about 5 years. Because of their larger surface area, fine fibers will undergo dissolution more readily than coarse fibers

Binder-coated mineral wools are hydrophobic, therefore, no adverse environmental effects would be expected if this product was accidentally released in the water or soil. No harm to fish or wildlife would be caused by coated mineral wools.

Section 13 - DISPOSAL CONSIDERATIONS

- - Recycle wherever possible or consult manufacturer for recycling options.
- Consult State Land Waste Management Authority for disposal.
- Bury residue in an authorised landfill.
- Recycle containers if possible, or dispose of in an authorised landfill.

Section 14 - TRANSPORTATION INFORMATION

HAZCHEM:

- None (ADG7)

NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS: ADG7, UN, IATA, IMDG

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Section 15 - REGULATORY INFORMATION

POISONS SCHEDULE

None

REGULATIONS

Regulations for ingredients

No data for KBS Panel Seal (CW: 4918-5)

No data for rockwool fibres (CAS: , Not avail)

Section 16 - OTHER INFORMATION

■ Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:
www.chemwatch.net/references.

■ The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

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This is the end of the MSDS.