

CSR MATERIAL SAFETY DATA SHEET

FBS-1 Rockwool Insulation Products

SECTION 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

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| Product Name: | FBS -1 Rockwool Insulation |
| Other Names: | Bradford Building Batts and Blankets, Ductliner, FBS-1 Rockwool Batts, Fibertex, Fibermesh 350 - 450 - 650 - 125, Fibretex 350 - 450 - 650 - HD, Acoustic Baffle, Growool, Insulation Wool, Mineral Fibre, Mineral Wool, Partition Batts, R4, R6, Rockwool, SoundScreen, Spanseal, Spanseal 80, Sectional Pipe Insulation, SPI, Optimo Sub-Floor |
| Product Codes/Trade Names: | Fibertex, Fibermesh, SoundScreen, Optimo |
| Recommended Use: | Thermal and acoustic insulation, including fire protection and energy conservation. Used in homes, public and commercial buildings, warehouses, industrial and petrochemical plants, motor vehicles, ships, public transport, marine, power station and whitegoods. Also used as a hydroponic growing medium. |
| Applicable In: | Australia and New Zealand |
| Supplier: | CSR Building Products Limited ABN 55 008 631 356 |
| Address: | 9 Help Street, Chatswood NSW, 2067, AUSTRALIA |
| Telephone: | +61 2 9235 8000 |
| Email Address: | bradfordwebenq@csr.com.au |
| Facsimile: | +61 2 9235 8044 |
| Emergency Phone Number: | 000 Fire Brigade and Police (available in Australia only) |
| Poisons Information Centre: | 13 11 26 (available in Australia only) |

Because FBS-1 Rockwool Insulation products manufactured or sold in Australia and New Zealand by CSR Bradford are classified as **NON-HAZARDOUS**, a Material Safety Data Sheet (MSDS) is not strictly required under Australian Regulations. This model MSDS is issued by CSR Bradford for the information of users, installers and the community. It has been formatted in accordance with the Code on Preparation of a Material Safety Data Sheet 2003 Safe Work Australia (SWA – formerly ASCC/NOHSC).

The information in this MSDS must not be altered, deleted or added to. The Supplier will not accept any responsibility for any changes made to its MSDS by any other person or organization. The Supplier will issue a new MSDS when there is a change in product specifications and/or ASCC standards, codes, guidelines, or Regulations.

SECTION 2: HAZARD IDENTIFICATION

STATEMENT OF HAZARDOUS NATURE:

Classified as **Non-Hazardous** according to the criteria of the Australian Safety and Compensation Council ASCC (formerly NOHSC) Approved Criteria For Classifying Hazardous Substances [NOHSC: 1008] 3rd Edition. FBS-1 Rockwool Insulation is classified as **Non-Dangerous Goods** according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

| Chemical Name: | Synonyms | Proportion: | CAS Number: |
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| Mineral rockwool fibre (amorphous, non-crystalline, bio-soluble – Note Q applicable) | | >85% | - |
| Heat-cured resin (fibre binding agent) | | <15% | 25104-55-6 |
| Mineral oil (solvent-refined dust suppression agent) | | <2% | 8012-95-1 |

Note: Traces (<0.1%) of volatile original components of resin may remain in recently manufactured product.

SECTION 4: FIRST AID MEASURES

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| Swallowed: | Rinse lips and mouth with water. |
| Eyes: | Flush with clean water. If discomfort persists, seek medical attention. |
| Skin: | Flush off with water, preferably running. If itch or discomfort persists, seek medical attention. |
| Inhaled: | Remove to fresh air. If symptoms persist, seek medical attention. |
| Advice to Doctor: | Any symptoms and signs of ill-health are likely to be due to other causes. Can be slightly itchy on prolonged contact with skin. Does not produce any acute or chronic health effects. Treatment should be directed toward cleansing the skin and symptomatic treatment as necessary. |

SECTION 5: FIRE FIGHTING MEASURES

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| Flammability: | Non flammable, will not burn. |
| Suitable extinguishing media: | As needed for surrounding fire conditions. Any extinguishing media may be used as required. Waterfog may be used to cool intact containers and nearby storage areas. |
| Hazards from combustion products: | FBS-1 Rockwool Insulation is non-flammable, but the plastic wrapping, resin binder, and some facings may decompose, smoulder or burn in a fire or when heated above 300°C. If product is present in a fire, toxic gases or smoke may be evolved depending on surrounding fire conditions. |
| Fire Fighting Procedures: | As needed for surrounding fire conditions. If required, evacuate area and contact emergency services; remain upwind and notify those downwind of fire hazard; and wear protective equipment including Self-Contained Breathing Apparatus (SCBA). |
| HAZCHEM Code: | None allocated. |

SECTION 6: ACCIDENTAL RELEASE MEASURES

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| Containment Procedure: | If product is torn or loose, cover or reseal to minimise fibre release. Reuse where possible or place in a sealable plastic bag for disposal according to local authority guidelines. |
| Clean Up Procedure: | Personnel directly involved in clean-up of loose material should wear personal protective equipment as described in Section 8. Clean area so as to avoid dispersion of loose material or fibres using wet sweep methods or vacuum cleaner. |

SECTION 7: HANDLING AND STORAGE

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| Handling: | <p>These products are safe in use. Once installed, the product does not release dust or fibres.</p> <p>Handling, installing or removing the product may result in some dust and airborne fibre.</p> <p>Minimise eye or skin contact and inhalation during handling, installation and removal (see Section 8). Observe good personal hygiene, including washing hands before eating. Remove personal protective equipment before entering eating areas.</p> |
| Storage: | <p>Store in sealed container in cool, dry area, removed from foodstuffs. Ensure packages are adequately labelled, protected from physical damage, and sealed when not in use. Avoid packaging being stored under UV light (direct sunlight) for long periods.</p> |
| Incompatibilities: | None |

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

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| National Exposure Standards: | <p>None allocated for FBS-1 Rockwool Insulation products, which may be regarded as nuisance dusts.</p> <p>CSR recommends following the National Occupational Exposure Standard (NES) Australian Safety and Compensation Council, ASCC (formerly NOHSC) general guide to keep all occupational exposures to dust and other atmospheric contaminants to as low a level as is workable (practicable).</p> <p>For non-hazardous nuisance dusts: 2.0 mg/m³ TWA for inspirable dusts and/or 10 mg/m³ TWA for total dust (of any type, or particle size) is recommended.</p> |
| Notes on Exposure Standards | <p>Exposure Standard (TWA) is the time-weighted average airborne concentration over an eight-hour working day, for a five-day working week over an entire working life. According to current knowledge this concentration should not impair the health or cause undue discomfort to nearly all workers.</p> |
| Biological Limit Values: | Not applicable |
| ENGINEERING CONTROLS | |
| Ventilation: | <p>During most applications and installation no special ventilation will be required. However, if installing in dusty or poorly-ventilated areas, or during the first heat-up cycle in high-temperature industrial applications, local exhaust ventilation should be considered. Work practices should aim to minimise the release of, and exposure to, fibres and/or dust. Hand tools generate the least amount of dust and fibres. If power tools are used directly on the product appropriate dust collection systems are recommended.</p> |
| Special Consideration for Repair &/or Maintenance of Contaminated Equipment: | <p>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.</p> |
| PERSONAL PROTECTION EQUIPMENT | |
| Personal Hygiene | <p>Washing of exposed skin with soap and water at the end of a shift or as required is recommended as a comfort measure.</p> |
| Skin Protection: | <p>Direct skin contact can be minimised by wearing long-sleeved shirts and long trousers, a cap or hat, and standard duty gloves conforming to Australian Standard AS 2161. Work clothes should be washed regularly and separately from other clothes. Bradford Comfortsleeve™ gloves are recommended for improved comfort when handling and installing Rockwool Insulation.</p> |
| Eye Protection: | <p>When handling these products, particularly overhead or in enclosed or poorly-ventilated areas such as ceiling spaces or risers, eye contact with dust or fibre can be avoided by wearing ventilated non-fogging dust resistant goggles conforming to Australian and New Zealand Standards AS/NZS 1336.</p> |

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| Respiratory Protection: | None normally required. If dust is generated in enclosed or poorly-ventilated areas, an approved particulate respirator conforming to Australian and New Zealand Standards AS/NZS 1715 and 1716 is recommended. P1, P2 or N95 type respirators are appropriate. Use only respirators that bear the Australian Standards mark and are fitted and maintained correctly, and kept in clean storage when not in use. |
| Smoking & Other Dusts: | Inhalation of airborne particles from other sources, including those from cigarette smoke, may increase the risk of lung disease. CSR recommends that all storage and work areas should be non-smoking zones, and other airborne contaminants be kept to a minimum. |

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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| Appearance: | A matt of brown or greyish fibrous material resembling wool. It is supplied in different shapes and sizes wrapped in plastic. It may be rigid or flexible. Facings such as aluminium foil, calico, wire, and synthetic tissues are applied to meet specific purposes. |
| Odour: | Usually odourless but may have faint amine odour |
| pH, at stated concentration: | Not applicable |
| Vapour Pressure/Density: | Not applicable |
| Boiling Point/range (°C): | Not applicable |
| Melting Point (°C): | >1000°C |
| Solubility in water: | Negligible |
| Specific Gravity (H₂O = 1): | Generally low, but variable depending on facings |
| Decomposition Temperature | Up to 820°C (Dependent on product) – contact your local Bradford office or refer operating temperatures on data sheets for further information (Binder decomposition at 150°C) |
| Volatile Organic Compounds (VOC) content/Percent Volatiles: | Very low; <1% (Actual recorded value below detection limit for test method) |
| FLAMMABLE MATERIALS | |
| Flash Point: | Not applicable |
| Flash Point Method: | Not applicable |
| Flammable (Explosive) Limit - Upper: | Not applicable |
| Flammable (Explosive) Limit - Lower: | Not applicable |
| Auto-ignition Temperature: | Not applicable |

SECTION 10: STABILITY AND REACTIVITY

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| Chemical Stability: | Stable. The cured resin is stable and will remain intact for the life of the product under normal atmospheric conditions. |
| Incompatible Materials: | No reported incompatibilities. Acids, alkalis or organic solvents may cause degradation of resin binder. |

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| Hazardous Reactions/Decomposition Products: | None known |
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SECTION 11: TOXICOLOGICAL INFORMATION

Toxicology data: The fibre component of these products is classified by Safe Work Australia (formerly ASCC/NOHSC) as Mineral Wool (Not Elsewhere Specified).

In accord with EU ATP 31 (2009) these fibres are not classified as irritant, and being bio-soluble they are not regarded as carcinogenic. FBS-1 Rockwool Insulation fibres manufactured in Australia and New Zealand (since 2001) are bio-soluble, which means that any fibres inhaled into the lungs dissolve in body fluids and are then cleared from the lungs. They are certified as having low biopersistence, e.g. after inhalation, as specified under Note Q as listed in the Australian Hazardous Substances Information System and in the Australian Approved Criteria documentation. Fibres of these products comply with the short-term bio-persistence test and fulfil the requirements of Australian and international authorities on bio-solubility. SWA (formerly ASCC/NOHSC) and international authorities do not classify mineral wool fibres with high bio-solubility as carcinogenic or as capable of causing fibrosis.

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 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.

Health Effects: Acute (short-term)

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| Swallowed: | Unlikely in normal use, but may result in temporary itching of the lips, mouth and throat. Attempting to swallow large amounts would be expected to cause gagging and possibly vomiting. |
| Eyes: | May cause eye discomfort resulting in watering and redness. |
| Skin: | Handling repeatedly during installation may cause temporary itching of exposed skin. This is not an allergy and usually disappears quickly. |
| Inhaled: | Unprotected exposure to high levels of dust of these products (during installation or removal) may cause discomfort of the nose, throat, and upper and lower respiratory tract, especially in persons suffering from upper respiratory or chest complaints such as hay fever, asthma or bronchitis. |

Note: Products used in high temperature applications (above 177°C) may release fumes from the resin bonding during initial heat-up. In these applications and where suitable protective equipment is not worn (see Section 8), then some irritation to the eyes, nose, throat and respiratory tract may occur. In confined or poorly ventilated areas, use air-supplied respirators during the first heat-up cycle.

Health Effects: Chronic (long-term)

There are no known long-term health effects.

SECTION 12: ECOLOGICAL INFORMATION

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| Eco-toxicity: | This product is not classified as a hazardous air pollutant. No specific data is available on ecotoxicity, 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. |
| Persistence and Degradability: | FBS-1 Rockwool Insulation is bio-soluble and in most ecosystems it would be expected to solubilise over a period of weeks to months. Binder-coated insulation wool is hydrophobic, and no adverse environmental effects would be expected if accidentally released in water or soil. |
| Ozone Depleting Potential | As referenced in the US EPA list of Ozone Depleting Substances (Class 1 and Class 2), no Ozone Depleting Substances are involved in either the manufacture or composition of this product & therefore has an ozone depletion potential of zero. |

SECTION 13: DISPOSAL CONSIDERATIONS

Place in plastic bags or containers and close or seal for disposal 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 NSW classifies rockwool insulation as General Solid Waste (non-putrescible), and local authorities will usually advise any local handling arrangements at their disposal sites.

SECTION 14: TRANSPORT INFORMATION

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| Transport Requirements: | FBS-1 Rockwool Insulation products are not classified as Dangerous Goods and have no special transport requirements. | | |
| UN number: | None allocated | Subsidiary Risk 1: | None allocated |
| DG Class: | None allocated | Packaging Group: | None allocated |
| HAZCHEM code: | None allocated | | |

SECTION 15: REGULATORY INFORMATION

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| Poisons Schedule: | Not scheduled. No specific regulatory requirements are applicable regarding occupational health and safety, consumer protection or environmental protection measures. |
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SECTION 16: OTHER INFORMATION

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| <p>For further information on this product, please contact: CSR Building Products Ltd, 9 Help Street, Chatswood NSW, 2067, AUSTRALIA Phone: 1800 354 044 (available in Australia only)</p> |
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ADDITIONAL INFORMATION

The following references are intended as guides to good industrial practice applicable to building and construction products.

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| AS/NZS 1336 | Recommended Practices for Occupational Eye Protection |
| AS/NZS 1715, 1716 | Selection, Use and Maintenance of Respiratory Protective Devices |
| AS 2161 | Industrial Safety Gloves and Mittens (excluding electrical and medical gloves) |

AUTHORISATION

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| Reason for Issue: | Updated with address & ODP statement – supersedes issue date 17 th June 2009 |
| Authorised by: | Warren Stewart |
| Date of Issue: | 18 th February 2011 |

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END OF MSDS