

# GLASSWOOL & ROCKWOOL

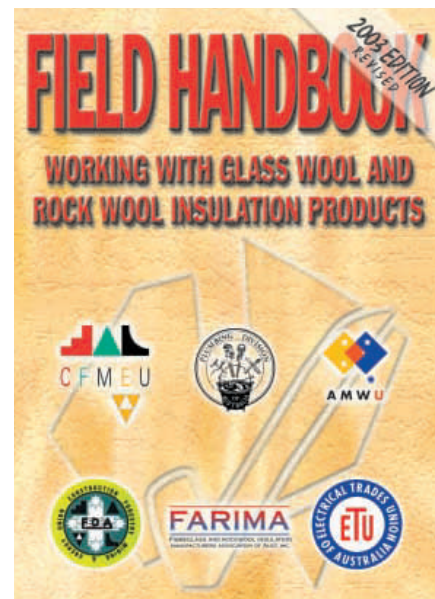
## Occupational Health & Safety Profile

## THE FACTS

Glasswool and rockwool insulation products are excellent insulation materials and are fully safe to use under all conditions. Both insulation materials have been in world wide use for over 70 years, and during that time their manufacture and use have been extensively monitored and researched.

**It is clear from this monitoring and research that no serious health effects have ever occurred in those manufacturing, using or otherwise exposed to glasswool or rockwool insulation.**

- None of the products that compete with glasswool and rockwool in the marketplace have been subjected to the same amount of research to establish their safe credentials.
- The handling of glasswool and rockwool may result in temporary itching and sensible work practices to minimise this are recommended. Dusts released during installation are not classified as hazardous.
- Glasswool and rockwool are the most widely used insulation materials in Australia and New Zealand, and worldwide.
- New bio-soluble fibre formulations were introduced locally from 2000 and, in collaboration with the key Australian building unions, agreed work practices have been developed for their use on building sites in all applications.
- Glasswool and rockwool insulation can be specified and installed with absolute confidence and the significant advantages of thermal, acoustic and fire protective insulation fully utilised.



## BENEFITS OF GLASSWOOL & ROCKWOOL

Glasswool and rockwool make a significant contribution to ensuring safe workplaces by providing:

- Efficient thermal insulation, reducing energy consumption, protecting personnel from hot surfaces, and by reducing fluctuations of temperature in buildings, creating a safer work environment, whilst improving personal comfort and efficiency.
- Excellent acoustic insulation, reducing noise pollution and providing a safer workplace environment in areas where noise could cause hearing damage, whilst improving personal comfort and privacy in the work or home environment.
- Firesafe - 4 zeros rating to AS1530.3. Rockwool is incombustible and can be used as a fire barrier in certain applications, protecting personnel or the public in case of fire. Some glasswool products may also pass this more stringent AS1530.1 non-combustibility test, but petrochemical or paper based products fail.
- No absorption of moisture from the atmosphere and a neutral pH, no risk of harmful chemicals leaching from the product or corrosion.
- Light weight, easy to install and won't settle over time.
- Proven long term insulation performance - and the most cost effective.
- Safe use based on extensive medical research.



## THE BACKGROUND

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Glasswool and rockwool insulation have a long and successful history of use in a wide range of insulation applications. Early versions of rockwool were first produced in the mid 1800's and glasswool has been in use as insulation for 70 years.

Although the results of animal testing and epidemiology studies prior to the 1970s did not indicate any health problems, concerns arising from research into other building materials led to questions being raised about potential health affects of all synthetic mineral fibre products including the most widely used glasswool and rockwool insulation.

Additional research studies began in the 1970's, and include investigations of potential health effects in experimental animals and in workers exposed during manufacture and use, as well as major research of manufacturing methods and product formulations.

In 1987 the International Agency for Research into Cancer (IARC) classified synthetic (man-made) mineral fibres, including glasswool and rockwool as Category 2B 'possibly carcinogenic to humans' based on some early research findings.

Further extensive medical and scientific research continued through the 1990's including studies of Australian workers.

In response to continuing concerns, in the late 1990's European manufacturers introduced new 'Biosoluble' fibre formulations, developed after exhaustive animal testing.

In October 2001, after a comprehensive review by an international expert panel of international research findings, including long term health assessments on more than 60,000 workers, the IARC removed glasswool and rockwool from its list of possible carcinogens, and reclassified all glasswool and rockwool insulation as 'Category 3 - not classifiable as carcinogenic to humans'.

Concerns, first raised 30 years previously, are now resolved.

The IARC specifically noted that:

“Epidemiological studies published during the 15 years since the previous IARC Monographs review of these fibres in 1988 provide no evidence of increased risks of lung cancer or mesothelioma (cancer of the lining of the body cavities) from occupational exposures during manufacture of these materials, and inadequate evidence overall of any cancer risk.

The IARC position is consistent with the U.S. Academy of Sciences, which in 2000 found no significant association between fibre exposure and lung cancer or non-malignant respiratory disease in the MVF (man-made vitreous fibre) manufacturing environment”.

Refractory Ceramic Fibre, a high temperature industrial insulation product, remained classified at category 2B 'possibly carcinogenic to humans' after the IARC review process in 2001.

In 2004 the IARC also reclassified formaldehyde, a minor constituent chemical of the resin polymerised in the insulation manufacturing process, amongst many other uses. Testing of bonded glasswool and rockwool insulation products typically used in residential and commercial buildings has indicated that the final product contains only trace amounts of formaldehyde and poses no known health risk.

## SUPPORTING RESEARCH

### MEDICAL RESEARCH

Internationally, over \$100 million has been spent in the last 25 years with 60,000 workers included in long term health research programs. This included two major research studies on Australian workers conducted by the Institute of Respiratory Medicine, Sydney University. The studies were focussed on workplace continuous exposure.

### IWRAB IN AUSTRALIA

The Insulation Wool Research Advisory Board (IWRAB) was established in 1991 as an independent body consisting of union representatives, medical experts and industry. Industry funded its activities. IWRAB's charter was to monitor the international scientific and worker research and make available information on the health and safety aspects on insulation wools and other fibrous materials. An Update Bulletin has been regularly published with the assistance of Deakin University to ensure widespread community understanding of the results of this research.

### MEASURED SITE EXPOSURES

Comprehensive site monitoring has been undertaken to establish fibre and dust exposure levels under various application conditions. Insulation dust is often more noticeable than other dusts during installation due to light reflecting off the glassy surface and this raises concerns in workplaces. Data gathered over many years has revealed fibre levels to be very low and consistently 10 times less than the accepted exposure limits.

### SAFE WORK PRACTICES

A Worksafe Australia SMF - Synthetic Mineral Fibres Code of Practice - which included glasswool and rockwool as well as refractory ceramic fibre, was established in 1990 and extensive training provided in its use. This was one of the most stringent codes in the world.

In 2001 an Industry Code of Practice for the Safe Use of Glasswool and Rockwool Insulation Products was jointly developed with key Australian building unions and industry to reflect the latest medical and scientific facts and the introduction of biosoluble fibre formulations in Australian manufactured products. Unions included the Construction, Forestry, Mining and Energy Union; Communications, Electrical and Plumbers Union; and the Australian Manufacturing Workers Union.

This Code was upgraded in 2003 to reflect the new IARC classification.

### FULL DISCLOSURE

An approach of wide spread public communication of the health and safety facts was adopted by the industry from an early stage following the IARC classification.

### FBS-1 BIOSOLUBLE

Years of scientific and medical research had determined that respirable fibre bio-persistence was a key factor in determining relative insulation product safety.

In 1995 European manufacturers perfected the technology to make glasswool and rockwool fibres more biosoluble without impacting on product performance. The biosoluble products were launched after rigorous testing and peer review. Bio-persistence of these new products is now less than 10 days, well below the typical 20 days bio-persistence of everyday dusts encountered walking down urban streets.

In 1997 European regulators recognised that biosoluble fibre insulation was not a likely cancer risk to humans. This significant development was reported in the IWRAB Update Bulletin.

In 1999 Australian Hazardous Substances Standards similarly recognised biosoluble glasswool and rockwool insulation.

By 2001 Australian and New Zealand manufacturers were producing biosoluble glasswool and rockwool insulation after obtaining the technology rights.

In 2001 key building unions and industry agreed on a new Industry Code of Practice which recognised the biosoluble developments.

In 2003 the Australian Union Code of practice was modified to include the IARC revised classification of glasswool and rockwool insulation. This IARC classification applies to all glasswool and rockwool insulation products whether biosoluble formulation or not.

Australian manufacturers of glasswool and rockwool have assessed and labelled their biosoluble products (FBS-1) according to the criteria of the National Occupational Health and Safety Commission (NOHSC): NOHSC:1008 (1999) and NOHSC:10005 (1999) and have assessed that their products are not classified as hazardous.



## RECOMMENDED HANDLING AND INSTALLATION

- Always read the label before opening packaging and commencing work. Detailed information and helpful hints are set out on the label both in words and pictograms.
- Handling glasswool and rockwool insulation can result in temporary itching discomfort. Wear gloves and loose fitting long sleeve clothing to minimise direct skin contact where this is of concern.
- It is good work practice to avoid exposure to any dust when working in poorly ventilated, or enclosed spaces. In these instances, wear a dust mask, as directed on the pack.
- When working overhead, there is always the possibility of free falling fibres, particles and dust. Wear suitable eye protection. See packaging for details.
- Should any of the above exposures occur, follow the first aid procedures clearly listed on the packaging and in the product's Material Safety Data Sheets (MSDS).
- Waste cut offs should be disposed responsibly according to local requirements.

## TERMINOLOGY

### BIOSOLUBLE

The term 'Biosoluble', as it relates to glasswool and rockwool, means the product dissolves in bodily fluids and is quickly cleared from the lungs. Biosoluble products can be identified in Australia by the FBS-1 logo on the packaging.

### SMF - SYNTHETIC MINERAL FIBRES

Term developed to include glasswool and rockwool insulation fibres, Refractory Ceramic Fibres and other specialty man-made mineral fibres. The term was generally used in Australia.

### MMM - MAN-MADE MINERAL FIBRES

Term generally used in Europe covering glasswool and rockwool similar to SMF

### MVF - MAN-MADE VITREOUS FIBRES

Term generally used in USA and Europe covering glasswool and rockwool similar to SMF

### SLAGWOOL

Another name for rockwool - early production, including Australia, used waste blast furnace slag as a major raw material. Its use is now only 20-25% in Australian made rockwool and the term is now not commonly in use.

### STONEWOOL

Another name for rockwool used mostly in Europe.

### FIBREGLASS

Glasswool insulation is still commonly referred to as fibreglass however this term has not been used by the industry for more than 10 years in order to distinguish insulation products from fibreglass rovings used in boatbuilding, surfboards and other industrial applications when bonded with special resins.

### FARIMA

Fibreglass and Rockwool Insulation Manufacturers Association: The industry body representing glasswool and rockwool insulation manufacturers in Australia since 1972.

### ICANZ

Formed in 2004 to replace FARIMA as the Australian industry body and expanded to include New Zealand, reflecting the trend towards common insulation product standards, closer ties in research, testing and other Trans-tasman building industry initiatives.

Note that OH&S Standards vary between Australia, New Zealand and local state requirements.



ICANZ - Insulation Council of Australia and New Zealand  
For more information about ICANZ or member companies:

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