1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: **SUPERWOOL 607 HT PAPER**

Other Names: None

Recommended Use: Application as thermal insulation, heat shields, heat containment, gaskets and expansion joints in industrial furnaces, ovens, kilns, boilers and other process equipment and in the aerospace, automotive and appliance industries, and as passive fire protection systems and fire stops. (Please refer to specific technical data sheet for more information).

Supplier Name: Thermal Ceramics, A Division of Morganite Australia Pty. Ltd.
Address: 10 – 14 Toogood Ave, Beverley South Australia, 5009 Australia
Telephone: 1800 467 858
Fax: 1800 467 850

Emergency Contact: (08) 8243 5300
(Monday to Friday, 8:00a.m – 4:00p.m)

2. HAZARDS IDENTIFICATION

Not classified as hazardous according to the criteria of Australian Safety & Compensation Council (ASCC)
Not classified as dangerous goods according to the criteria of the ADG Code.

2.1 RISK PHRASE

R36/37/38 – Irritating to eyes, respiratory system and skin.

2.2 SAFETY PHRASES

S3/9/14 – Keep in a cool place, well ventilated place and away from foodstuffs
S20/21 – when using do not eat, drink or smoke
S22 - Do not breathe dust
S24/25 – Avoid contact with skin and eyes
S26 – In case of contact with eye, rinse immediately with plenty of water
S36/37/39 - Wear Suitable protective clothing, gloves and eye/face protection

3. COMPOSITION / INFORMATION ON INGREDIENTS

Description
This product is a paper made from acrylic bound high temperature insulation wool.

Composition

Chemical Name	CAS Number	Proportion
Alkaline-earth silicate wool	436083-99-7	100%
Acrylic Binder	Not Available	2-15%
Inert Inorganic Material	Not Available	0-10%

4. FIRST AID MEASURES

4.1 ROUTES OF EXPOSURE

Swallowed
If ingested in sufficient quantity may cause temporary gastric irritation.
Eyes
Physical irritation; Abrasive action may cause damage to outer surface of the eye.

Skin
May cause irritation and inflammation due to mechanical action of fibre ends

Inhalation
Irritation to nose, throat and upper respiratory tract

4.2 FIRST AID MEASURES

Swallowed
Drink water; do not induce vomiting.

Eyes
Flush continuously with water for 15 minutes. Eyelids to be held open do not rub eyes

Skin
If skin becomes irritated remove clothing wash areas of contact with soap and water. Using a skin cream or lotion may be helpful in reducing irritation

Inhalation
Remove exposed person to fresh air

ADVICE TO DOCTOR
Treat symptomatically

5. FIRE FIGHTING MEASURES

Flammability
Non flammable, No fire or explosion hazard exists. However, virgin product binder may burn and produce gases and/or fumes. Packaging and surrounding materials may be combustible. Use extinguishing agent suitable for surrounding combustible materials.

Hazchem Code
None allocated

6. ACCIDENTAL RELEASE MEASURES

6.1 EMERGENCY PROCEDURES
Spillage

If spilt (bulk), contact emergency services if appropriate. If product is damaged, seal and minimize fibre release. Clean area using approved micro-filter-equipped vacuum cleaner or wet sweep. Clear the area of all unprotected personnel and prevent spill entering drains or waterways. Collect and place in sealable containers for disposal or reuse. Avoid generating dust.

Fire and Explosion
Non flammable, No fire or explosion hazard exists. Evacuate area and contact emergency services. Remain upwind and notify those downwind of hazard. Wear full protective equipment including self-contained Breathing Apparatus (SCBA) when combating fire. Use water fog to cool intact containers and nearby storage areas.

Extinguishing
Non flammable

6.2 METHODS AND MATERIAL FOR CONTAINMENT AND CLEAN UP
Pick up large pieces and use a vacuum cleaner fitted with high efficiency filter (HEPA). If brushing is used, ensure that the area is wetted down first.
- Do not use compressed air for clean up.
- Do not allow being wind blown.
- Do not flush spillage to drain and prevent from entering natural watercourses.

For waste disposal see **Section 13, Disposal Considerations**.

7. HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING
Before use carefully read the product label. Use of safe work practices is recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas (ex if container is damaged).In the installation and removal of Superwool™ 607™ HT materials, the following handling procedures are recommended:

Handling & Installation
a) All installation practices should be designed to minimise the liberation of any airborne fibre or dust.
b) In large installations of several days/weeks duration, the installation area should be clearly designated and barriers erected to limit access
c) The Superwool™ 607™ HT fibre materials should be stored in sealed plastic bags or similar containers until installation is to proceed. These containers should be opened within the designated work area when work is to start.
d) Where possible, materials should be delivered in sizes such that a minimum of handling and machining is required. However when cutting or drilling is required, these should be done with hand tools fitted with local exhaust extraction. The exhaust from such extraction equipment should be fitted and positioned away from other work areas.
e) Empty storage bags should be folded and stored in a waste container along with any waste material.
f) Upon completion of the job, all excess materials should be sealed in bags prior to removal from the designated work area. The work area should be vacuumed using an industrial vacuum cleaner. Wet mopping and wiping can be utilised if an industrial vacuum cleaner is not available.

Removal
For the removal of embrittled Superwool™ 607™ HT fibre materials the following procedures are recommended:
a) All practices should be designed to minimise the liberation of any airborne fibre or dust

b) In large installations of several days/weeks duration, the installation area should be clearly designated and barriers erected to limit access
c) Upon completion of the job, all excess materials should be sealed in bags prior to removal from the designated work area. The work area should be vacuumed using an industrial vacuum cleaner. Wet mopping and wiping can be utilised if an industrial vacuum cleaner is not available.
d) With prolonged operations above 980o C, a small proportion of Superwool HT may transform to Wollastonite and disordered cristobalite warranting higher levels of dust control and respiratory protection.

7.2 STORAGE
Store in original packaging in a dry area. Always use sealed and clearly labelled containers. Avoid damaging containers. Reduce dust emission during unpacking. Emptied containers, which may contain debris, should be cleaned before disposal or recycling.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 NATIONAL EXPOSURE STANDARDS

Country	Exposure Limit*	Sources
Australia	0.5 fibres/ml	Australian Safety & Compensation Council

** Time weighted average concentrations of airborne respirable fibres over 8 hours by the conventional membrane filter method.*

8.2 ENGINEERING CONTROLS
Review your applications in order to identify potential sources of dust exposure. Local exhaust ventilation, which collects dust at source, can be used. For example down draft tables, emission controlling tools and materials handling equipment. Keep the workplace clean. Use a vacuum cleaner fitted with a HEPA filter; avoid brushing and compressed air.

8.3 PERSONAL PROTECTIVE EQUIPMENT

Skin protection:
Disposable coveralls or long sleeve loose fitting clothing and gloves (launderable clothing should be washed separately from other clothing).

Eye protection:
As necessary wear goggles or safety glasses with side shields.

Respiratory protection:
The National Standard for Synthetic Mineral Fibres [NOHSC:1004(1990)] advises the use of the following PPE that for installation and removal of both bonded and unbonded glasswool material.
A half-face (P1 or P2) respirator should be worn during work in enclosed or poorly ventilated spaces, or where evidence suggests that respirable fibre levels may exceed 0.5 f/ml.
All respiratory devices should be tested for compliance with AS/NZS 1715 & AS/NZS 1716.

8.4 VENTILATION
Use with adequate natural or mechanical ventilation during installation. If cutting with power tools, local extraction ventilation is recommended. Clean area with micro equipped vacuum cleaner or by wet sweeping.

8.5 INFORMATION AND TRAINING OF WORKERS

Workers should be trained on good working practices and informed on applicable local regulations. This may include:

- the applications involving fibre-containing products;
- the potential risks to health resulting from the exposure to fibrous dust;
- the requirements regarding smoking, eating and drinking at the workplace;
- the requirements for protective equipment and clothing;
- the good working practices to limit dust emissions;
- the proper use of protective equipment;

8.6 ENVIRONMENTAL EXPOSURE CONTROLS

Refer to local applicable environmental permitted standards for air, water and soil. *For waste, refer to Section 13*.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	White Fibre	**BULK DENSITY**	200 kg/m^3
ODOUR	None	**MELTING POINT**	>1400° C
pH	Not Available	**SOLUBILITY IN WATER**	Slight
VAPOUR PRESSURE	Not Available	**SPECIFIC GRAVITY**	Not Available
VAPOUR DENSITY	Not Available	**CHEMICAL FAMILY**	Alkaline Earth Silicate
BOILING POINT	Not Available		

10. STABILITY AND REACTIVITY

STABILITY

This material is chemically stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

CONDITIONS & MATERIALS TO AVOID

During first heating, oxidation products from the organic binder may be emitted in a temperature range from 180°C to 600°C. It is recommended to ventilate the room until gases and fumes have disappeared. Avoid exposure to high concentrations of gas or fumes.

HAZARDOUS DECOMPOSITION PRODUCTS AND HAZARDOUS REACTIONS

None

11. TOXICOLOGICAL INFORMATION

11.1 EPIDEMIOLOGY

Extensive investigations of ceramic fibre production workers have been ongoing for more than 10 years. The preliminary evidence is as follows:

1. There is no evidence of any fibrotic lung disease (interstitial fibrosis) whatsoever on X-ray.
2. There is no evidence of any lung disease among those employees exposed to ceramic fibres that have never smoked.
3. A statistical "trend" was observed in smokers between slight decreases in measures of pulmonary function and the duration of exposure to Superwool fibre however this trend is similar to that observed in smokers who work in other industries.

4. Pleural plaques (thickening along the chest wall) have been observed in a small number of employees in overseas plants that have had long duration of employment. A repeat study found inconsistencies in detecting such pleural plaques. No pleural plaques have been found in the Australian manufacturing workforce. There are several occupational and non-occupational causes for pleural plaques and it is generally considered that they are not indications of "pre-cancer" nor are they associated with any measurable effect on lung function

11.2 TOXICOLOGY

The potential for SMF fibres to produce health effects has been the subject of extensive investigations over a number of decades. Information will be updated as studies are completed and reviewed. The following is a review of the results to date:

A number of studies have been conducted on the health effects of inhalation of Superwool™ 607™. A lifetime (6 hours per day, 5 days a week for 24 months) nose only inhalations study has been conducted in rats exposed to Maximum Tolerated Dose (30 mg/M^3, 200 fibres/ml). The findings indicate;

- No progressive lung damage (interstitial fibrosis)
- No reversible cellular changes in the lung tissue similar to the effects observed after inhalation of high concentrations of inert dust.
- No cancer of the lung or mesothelioma incidence over the control group.

In 1997 the International Agency for Research on Cancer (IARC) reviewed the epidemiological and animal toxicology data on SMF (including ceramic fibre, glasswool, rockwool, and slagwool) and classified the group as possible human carcinogens (IARC Group 2B). In October 2001 IARC lowered the classification for glass wool insulation from Group 2B to a Group 3 classification (not classifiable as to the carcinogenicity to humans). However, results in animals studies with Superwool™ 607™ HT fibres appear to preclude an association in accordance with Note Q of the National Occupational Health and Safety Commission: NOHSC: 10005 (1999).

12. ECOLOGICAL INFORMATION

These products are inert materials, which remain stable over the time.
No adverse effects of this material on the environment are anticipated.

13. DISPOSAL CONSIDERATIONS

Place in sealed, appropriately labeled plastic bags and dispose of in accordance with local authority guidelines. Suitable label: CAUTION: SYNTHETIC MINERAL FIBRE WASTE. Clean area with micro equipped vacuum or wet sweep.

14. TRANSPORT INFORMATION

Not classified as a Dangerous Good according to the Australian Code for the transport of Dangerous Goods by Road and Rail.

UN Number	None Allocated
DG Class	None Allocated
Subsidiary risk(s)	None Allocated
Packing Group	None Allocated
Hazchem Code	None Allocated

15. REGULATORY INFORMATION

Poison Schedule
None

16. OTHER INFORMATION

As produced, Superwool™ are vitreous (glassy) AES Wools that do not contain silica. Continued exposure to elevated temperatures may cause these materials to form crystalline phases including crystalline silica formation is dependant. The occurrence and extent of crystalline silica formation is dependent on the duration and temperature of exposure, CMS Wool chemistry and/or the presence of fluxing agents. The presence of crystalline silica can be confirmed only through laboratory analysis of the "hot face" fibre. If crystalline silica is present, follow appropriate hygiene standards and national or state regulations.
Respirable fibreglass is classified as possibly carcinogenic to humans (IARC Group 2B). Fibres of a diameter less than 3 microns are classified as respirable, while 3 microns or greater are classified as non-respirable. If the fibrous glass can be demonstrated as meeting the conditions of Note Q in the List of Designated Hazardous Substances [NOHSC: 10005(1999)] then the classification as a carcinogen need not apply.

Australian safety and Compensation Council
This code details the exposure standard and the appropriate testing procedures

National Code of Practice for the Safe Use of Synthetic Mineral Fibres [NOHSC: 2006(1990)]
This code details the minimum requirements for the safe handling of synthetic mineral fibres. It details provisions for the training, air monitoring, application procedures to reduce fibre release and personal protective equipment when using synthetic mineral fibres within the workplace.

NOTICE:
The information presented herein is based on data considered to be accurate as of the date of preparation of this Material Safety Data Sheet. However safe as provided by law, no warranty or representation, express or implied, is made as to the accuracy or completeness of the foregoing data and safety information, nor is any authorization given or implied to practice any patented invention without a license. In addition, the vendor can assume no responsibility for any damage or injury resulting from abnormal use. Further can assume no responsibility from any failure to adhere to recommended practices, or from any hazards inherent in the nature of the product (however, this shall not act to restrict the vendor's potential liability for negligence or under statute).

--- END OF MSDS ---