

SAFETY DATA SHEET

(Following Regulations (EC) No 1907/2006 & (EC) No 1272/2008)

SDS Number: 439 Date of first issue: 05 March 2020 Date of last revision: 21 February 2022

1 - Identification of product

1.1 - Identification of Product

Tradenames: Superwool 1650SI Board,

1.2 - Use of Product

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)

1.3 - Identification of Company

Morgan Advanced Materials
Thermal Ceramics
30-36 Birralee Road
Regency Park
SA 5010, Australia
Telephone: 1800 467 858

Website

Website : www.morganthermalceramics.com

Email : sds.tc@morganplc.com

1.4 - Emergency information

Tel: 1800 467 858
Language: English
Opening hours: Monday to Friday 08:30 to 16:30

2 - Hazard Identification

2.1 - Classification of the substance/ mixture

2.1.1 CLASSIFICATION ACCORDING TO REGULATION (EC) NO 1272/2008

Not classified as hazardous according to Classification, Labelling and Packaging regulations (CLP) 1272/2008 EEC

2.2 - Labelling Elements

Not applicable

2.3 - Other hazards which do not result in classification

Mild mechanical irritation to skin, eyes and upper respiratory system may result from exposure. These effects are usually temporary

3 - Composition / Information On Ingredients

This product in the form of board (pre-sized or not), or form is made of AES wool.

COMPONENT	% by weight	CAS No.	REACH Registration Number	Hazard Classification according to CLP
Alkaline Earth Silicate Wools	20-40	436083-99-7	01-2119457644-32	Note Q exonerated
Amorphous Silica	60-80	7631-86-9		Not classified as hazardous
Organic Binders	<5	not applicable		Not classified as hazardous

Composition:

* CAS definition: Alkaline earth silicate (AES) consisting of silica (50-82 wt%), calcia and magnesia (18-43 wt%), alumina, titania and zirconia (less than 6 wt%), and trace oxides.

IT IS STATED that these fibres comply with the TERMS of the "NOTE Q" of EUROPEAN COMMISSION regulation EC1272/2008 of 16 December 2008

None of the components are radioactive under the terms of European Directive Euratom 96/29.

4 - First-Aid measures

Skin

Handling of this material may generate mild mechanical temporary skin irritation. If this occurs, rinse affected areas with water and wash gently. Do not rub or scratch exposed skin.

Eyes

In case of eye contact flush abundantly with water; have eye bath available. Do not rub eyes.

Nose and Throat

If these become irritated move to a dust free area, drink water and blow nose. Seek medical attention if irritation persists.

If symptoms persist, seek medical advice.

4.2 - Most Important symptoms and effects, both acute and delayed

No symptoms or effects expected either acute or delayed

4.3 - Indication of any immediate medical attention and special treatment required

No special treatment required, if exposure occurs wash exposed areas to avoid irritation.

5 - Fire-fighting measures

5.1 - Extinguishing media

Non-combustible products, however, virgin product binder may burn and produce gases and/or fumes. Packaging and surrounding materials may be combustible, class of reaction to fire is zero. Packaging and surrounding materials may be combustible. Use extinguishing agent suitable for surrounding combustible materials.

5.2 - Special hazards arising from the substance or mixture

Non-combustible products, however, virgin product binder may burn and produce gases and/or fumes.

5.3 - Advice for firefighters

Packaging and surrounding materials may be combustible.

6 - Accidental Release Measures

6.1 - Personal precautions, protective equipment and emergency procedures

Where abnormally high dust concentrations occur, provide the workers with appropriate protective equipment as detailed in section 8. Restore the situation to normal as quickly as possible.

6.2 - Environmental precautions

Prevent further dust dispersion for example by damping the materials.
Do not flush spillage to drain and prevent from entering natural watercourses.
Check for local regulations, which may apply

6.3 - Methods and materials for containment and clean up

Pick up large pieces and use a vacuum cleaner.
If brushes are used, ensure that the area is wetted down first.
Do not use compressed air for clean up.
Do not allow to become windblown.

6.4 - Reference to other sections

For further information, please refer to sections 7 and 8

7 - Handling and storage

7.1 - Precautions for safe handling

Handling can be a source of dust emission and therefore the processes should be designed to limit the amount of handling. Whenever possible, handling should be carried out under controlled conditions (i.e., using dust exhaust system).
Regular good housekeeping will minimise secondary dust dispersal.

7.2 - Conditions for safe storage

Store in original packaging in a dry area.
Always use sealed and clearly labelled containers.
Avoid damaging containers.
Reduce dust emission during unpacking.

7.3 - Specific end use

The main application of these products is as thermal insulation. Please refer to your local Morgan Thermal Ceramics' supplier.

8 - Risk Management Measures / Exposures Controls / Personal Protection

8.1 - Control parameters

Industrial hygiene standards and occupational exposure limits vary between countries and local jurisdictions. Check which exposure levels apply to your facility and comply with local regulations. If no regulatory dust or other standards apply, a qualified industrial hygienist can assist with a specific workplace evaluation including recommendations for respiratory protection. Thermal Ceramics recommend that where no regulatory limits are in place customers follow the NIOSH recommendations as laid out below.

COUNTRY	AES (fibre/ml)	Source
India	No Limit Set	Directorate General Factory Advice Service & Labour Industries (DFGASLI)
China		GBZ 2.1-2019
Japan	1	The Japan Society for Occupational Health (JSOH)
Korea	(10 mg/m ³)	K-OSHA Value
UAE	(2 f/cc)	Abu Dhabi Occupational Safety and Health System Framework (OSHAD-SF) v 3.0 July 2016
Australia	2	Workplace Exposure Standards for Airborne Contaminants, Dec 2019

Information on monitoring procedures

United Kingdom

MDHS 59 specific for MMVF: "Man-made mineral fibre - Airborne number concentration by phase-contrast light microscopy" and MDHS 14/4 "General methods for sampling and gravimetric analysis of respirable and inhalable dust"

NIOSH

NIOSH 0500 "Particulates not otherwise regulate, total"

NIOSH 0600 "Particulates not otherwise regulate, respirable"

NIOSH 7400 "Asbestos and other fibres by PCM"

8.2 - Exposure controls

8.2.1 APPROPRIATE 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. Avoid brushing and compressed air.

If necessary, consult an industrial hygienist to design workplace controls and practices.

The use of products specially tailored to your application(s) will help to control dust. Some products can be delivered ready for use to avoid further cutting or machining. Some could be pre-

treated or packaged to minimise or avoid dust release during handling.

Consult your supplier for further details

8.2.2 - Personal Protective Equipment

Skin protection:

Wear gloves and work clothes, which are loose fitting at the neck and wrists. Soiled clothes should be cleaned to remove excess fibres before being taken off (e.g. use vacuum cleaner, not compressed air). Wash work clothes separately from other clothing.

Eye protection:

As necessary wear goggles or safety glasses with side shields.

Respiratory protection:

For dust concentrations below the exposure limit value, RPE is not required but FFP2 respirators may be used on a voluntary basis.

For short-term operations where excursions are less than ten times the limit value use FFP2 respirators.

In case of higher concentrations or where the concentration is not known, please seek advice from your company and/or local Thermal Ceramics supplier.

Information and training of workers

Workers should be trained on good working practices and informed on applicable local regulations.

8.2.3 - Environmental Exposure Controls

Refer to local, national or European applicable environmental standards for release to air water and soil.

For waste, refer to section13

9 - Physical and chemical properties

Information on basic physical and chemical properties

State	Not Applicable
Colour	White or coloured board/shape
Odour	White
Odour threshold	None
pH	Not Applicable
Melting point/freezing point	Not applicable
Initial boiling point and boiling point range	> 1650°C
Flash point	Not applicable
Evaporation rate	Not applicable
Flammability (solid, gas)	Not Applicable
Upper/lower flammability or explosive limits	Not applicable
Vapour pressure	Not applicable
Vapour density	Not Applicable
Relative density	Not Applicable
Solubility(ies)	800-900 kg/m ³
Partition co-efficient: n-octanol/water	Less than 1 mg/l
Auto-ignition temperature	Not applicable
Decomposition temperature	Not applicable
Viscosity	Not Applicable
Other safety information	No further relevant information available.
Particle Characteristics	Not applicable
Explosive properties	Not applicable
Oxidising properties	Not applicable

10 - Stability and Reactivity

10.1 - Reactivity

AES is stable and non reactive

10.2 - Chemical Stability

AES is inorganic, stable and inert

10.3 - Possibility of Hazardous Reactions

During first heating, oxidation products from the organic binder might 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.

10.4 - Conditions to Avoid

Please refer to handling and storage advice in Section 7

10.5 - Incompatible Materials

None

10.6 - Hazardous decomposition products

11 - Toxicological information

Toxicokinetics, metabolism and distribution

11.1.1 BASIC TOXICOKINETICS

Exposure is predominantly by inhalation or ingestion. Man made vitreous fibres of a similar size to AES have not been shown to migrate from the lung and/or gut and do not become located in other organs of the body

Fibres contained in the products listed in the title have been designed to be rapidly cleared from lung tissue. This low biopersistence has been confirmed in many studies on AES using EU protocol ECB/TM/27(rev 7). When inhaled, even at very high doses, they do not accumulate to any level capable of producing a serious adverse biological effect.

11.1 - Information on hazard classes as defined in Regulation (EC) No 1272/2008

(a) acute toxicity; not tested: Short term tests have been undertaken to determine fibre biopersistence rather than toxicity; repeat dose inhalation tests have been undertaken to determine chronic toxicity and carcinogenicity.

(b) skin corrosion/irritation; Not a chemical irritant according to test method OECD no. 404

(c) serious eye damage/irritation; not tested

(d) respiratory or skin sensitisation; No evidence from human epidemiological studies of any respiratory or skin sensitisation potential

(e) germ cell mutagenicity; no adverse effects

Method: In vitro micronucleus test
Species: Hamster (CHO)
Dose: 1-35 mg/ml
o Routes of administration: In suspension
o Results: Negative

(f) carcinogenicity; no adverse effects

(g) reproductive toxicity; no adverse effects

Method: Gavage
Species: Rat
Dose: 250mg/kg/day
Routes of administration: Oral
Results: No effects were seen in an OECD 421 screening study. There are no reports of any reproductive toxic effects of mineral fibres. Exposure to these fibres is via inhalation and effects seen are in the lung. Clearance of fibres is via the gut and the faeces, so exposure of the reproductive organs is extremely unlikely.

(h) STOT-single exposure; not applicable

(i) STOT-repeated exposure; not applicable

(j) aspiration hazard. not applicable

Superwool fibres are negative when tested using approved methods (OECD TG 404). Like all man-made mineral fibres and some natural fibres, fibres contained in this product can produce a mild mechanical irritation resulting in temporary itching or rarely, in some sensitive individuals, in a slight temporary reddening. Unlike other irritant reactions this is not the result of allergy or chemical skin damage but is caused by mechanical effects.

12 - Ecological information

12.1 - Toxicity

These products are insoluble materials that remain stable overtime and are chemically identical to inorganic compounds found in the soil and sediment; they remain inert in the natural environment.

No adverse effects of this material on the environment are anticipated.

12.2 - Persistence and degradability

Not established

12.3 - Bioaccumulative potential

Not established

12.4 - Mobility in soil

No information available

12.5 - Results of PBT and vPvB assessment

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).

This mixture contains no substance considered to be very persistent and very bioaccumulative (vPvB).

12.6 - Endocrine Disrupting Properties

No additional information available

12.7 - Other adverse effects

13 - Disposal Considerations

13.1 - Disposal Considerations

To prevent waste materials from becoming airborne during waste storage, transportation and disposal, a covered container or plastic bagging is recommended.

Waste from these materials (even after use above 900°C) is not generally classified as hazardous waste and may be disposed of at a normal tipping site which has been licensed for the disposal of industrial waste. Taking into account any possible contamination during use, which may be classified as hazardous, expert guidance should be sought.

Such a waste is normally dusty (unless wetted) and so should be properly bagged and clearly labelled for disposal. At some tip sites dusty waste may be treated differently in order to ensure they are dealt with promptly and to avoid them being windblown.

Check for national and /or regional regulations to identify all applicable disposal requirements.

14 - Transport information

14.1 - Transport information

Not classified as dangerous goods under relevant international transport regulations (Australian DG Code, ADR, RID, IATA, and IMDG).

Ensure that dust is not windblown during transportation.

UN Number None Allocated

DG Class None Allocated

Subsidiary risk(s) None Allocated

Packing Group None Allocated

Hazchem Code None Allocated

Definitions:

ADR Transport by road, council directive 94/55/EC

IMDG Regulations relating to transport by sea

RID Transport by rail, Council Directive 96/49/EC

ICAO/IATA Regulations relating to transport by air

ADN European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

15 - Regulatory information

15.1 - Regulatory information

The fibres contained in this product have been tested for bio persistence according to Note Q requirements under European Classification, Labelling and Packaging Regulations (EC/1272/2008) and it's subsequent amendments.

Based on these results they are exonerated from classification as carcinogens in Europe and Australia.

16 - Other Information

16.1 - ADDITIONAL INFORMATION AND PRECAUTIONS TO BE CONSIDERED UPON REMOVAL OF AFTER SERVICE MATERIAL

As manufactured, Superwool products are vitreous (glassy) AES wools that do not contain crystalline silica. Continued exposure to elevated temperatures may cause these materials to form crystalline phases including crystalline silica. The occurrence and extent of crystalline formation is dependent on the duration and temperature of exposure, AES wool chemistry and/or presences 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/state regulations.

Respirable fibreglass is classified as possibly carcinogenic to humans (IARC Group 2B). Fibres of a diameter of 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 carcinogenic need not apply.

National Standard for Synthetic Mineral Fibres [NOHSC: 1004(1990)]

The 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.

16.2 - uses advised against

ECFIA recommends that this fibre is not used for spraying

16.3 - NOTE

This Safety Data Sheet was originally produced in English and has subsequently been translated in to other languages; whilst every effort has been made to make this an accurate translation, please be aware that technical terms do not always translate correctly. The English version should always be considered as the reference version.

16.4 - Further Information

FURTHER INFORMATION

Further information can be found on

<http://www.morganthermalceramics.com/>

<http://www.ecfia.eu/>

<http://www.safeworkaustralia.gov.au/sites/swa/about/publications/pages/workplace-exposure-standards-airborne-contaminants>

16.5 - Technical Datasheets

TECHNICAL DATA SHEETS

For more information on individual products please see the technical data sheet section at www.morganthermalceramics.com

16.6 - Revision Summary

Update to Section 9

16.7 - NOTICE

The information presented herein is based on data considered to be accurate as of the date of preparation of this Safety Data Sheet. However, 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, no responsibility can be assumed by the vendor for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices, or from any hazards inherent in the nature of the product.