

## MATERIAL SAFETY DATASHEET

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

MSDS Number: 412      Date of first issue: 01 May 2004      Date of last revision: 21 October 2013

### 1 - Identification of product

#### 1.1 - Identification of Product

Superwool HT Paper,

The above-mentioned products contain Alkaline-earth silicate wools (AES wools)

Index Number: 650-016-00-2 Annex VI

CAS number: 436083-99-7

Registration number: 01-2119457644-32-0000

#### 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

**U.K.**                      THERMAL CERAMICS LIMITED  
Tebay Road, Bromborough  
Wirral, Merseyside CH62 3PH  
Tel. : +44 (0) 151 334 4030  
Fax : +44 (0) 151 334 1684

[www.morganthermalceramics.com](http://www.morganthermalceramics.com)

[marketing.tc@morganplc.com](mailto:marketing.tc@morganplc.com)

### EMERGENCY INFORMATION

Tel: + 44 (0) 7931 963 973

Language: English

Opening hours: Only available during office hours

### 2 - Hazard Identification

#### 2.1 - Classification of the substance/ mixture

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

Not applicable

2.1.2 CLASSIFICATION ACCORDING TO DIRECTIVE 1999/45/EC

Not applicable

#### 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

#### DESCRIPTION

These products are papers made from acrylic bound AES wool.

#### Composition

COMPONENT	%	CAS NUMBER	Index Number	REACH Registration Number
Alkaline-earth silicate wools	50-98	436083-99-7*	650-016-00-2	01-2119457644-32-0000
Acrylic binder	2-15	Not applicable	Not applicable	Not yet available
Inert inorganic material	0-10	Not applicable	Not applicable	Not yet available

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

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

### 4 - First-Aid measures

#### 4.1 - 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.

#### 4.2 - Eyes

In case of eye contact flush abundantly with water; have eye bath available. Do not rub eyes. Seek medical attention is irritation persists.

#### 4.3 - 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.

### 5 - Fire-fighting measures

Non combustible products. 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.

### 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.

## **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

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. Examples of exposure limits applying (in January 2010) in different countries are given below:

COUNTRY	EXPOSURE LIMIT*	SOURCE
Germany	3 mg/m <sup>3</sup>	TRGS 900
France	1.0 f/ml	Circulaire DRT No 95-4 du 12.01.95
Spain	1.0 f/ml	Instituto Nacional de Seguridad e Higiene en el Trabajo (INSHT).
U.K.	2.0 f/ml and 5 mg/m <sup>3</sup>	HSE - EH40 – Workplace Exposure Limit

\*Time weighted average concentrations of airborne respirable fibres measured over 8 hours by the conventional membrane filter method or the total inhalable dust using standard gravimetric techniques.

### 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 fitted with a HEPA filter. 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 section 13

**9 - Physical and chemical properties**

<b>APPEARANCE</b>	White paper
<b>BOILING POINT</b>	Not applicable
<b>FLASH POINT</b>	Not applicable
<b>AUTOFLAMMABILITY</b>	Not applicable
<b>OXIDISING PROPERTIES</b>	Not applicable
<b>RELATIVE DENSITY</b>	200 kg/m <sup>3</sup>
<b>SOLUBILITY</b>	Less than 1 mg/l
<b>PARTITION COEFFICIENT</b>	Not applicable
<b>ODOUR</b>	None
<b>MELTING POINT</b>	> 1400°C
<b>FLAMMABILITY</b>	Not applicable
<b>EXPLOSIVE PROPERTIES</b>	Not applicable
<b>VAPOUR PRESSURE</b>	Not applicable
<b>pH</b>	Not applicable

**LENGTH WEIGHTED GEOMETRIC MEAN DIAMETER**

1.4 - 3 µm

**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**

Upon heating above 900°C for sustained periods, this amorphous material begins to transform to mixtures of crystalline phases. For further information please refer to Section 16.

**11 - Toxicological information****11.1 - 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.

**11.2 - INFORMATION ON TOXICOLOGICAL EFFECTS**

In lifetime chronic studies there was no exposure-related effect more than would be seen with any "inert" dust. Subchronic studies at the highest doses achievable produced at worst a transient mild inflammatory response. Fibres with the same ability to persist in tissue do not produce tumours when injected into the peritoneal cavity of rats.

Superwool fibres are negative when tested using approved methods (Directive 67/548/EEC, Annex 5, Method B4). 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**

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.

## 13 - Disposal Considerations

### WASTE TREATMENT

Waste from these materials may be generally disposed off at a landfill, which has been licensed for this purpose. Please refer to the European list (Decision N° 2000/532/CE as modified) to identify your appropriate waste number, and insure national and/or regional regulations are complied with.

Unless wetted, such a waste is normally dusty and so should be properly sealed in containers for disposal. At some authorised disposal sites, dusty waste may be treated differently in order to ensure they are dealt with promptly to avoid them being windblown. Check for any national and/or regional regulations, which may apply.

### Additional information

When disposing of waste and assigning European Waste Code (EWC) any possible contamination during use will need to be considered and expert guidance sought as necessary.

## 14 - Transport information

Not classified as dangerous goods under relevant international transport regulations (ADR, RID, IATA, IMDG). Ensure that dust is not windblown during transportation.

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

### SAFETY HEALTH AND ENVIRONMENT REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCES OR MIXTURES

EU regulations:

- Council Directive 67/548/EEC "on the approximation of the laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances as modified and adapted to the technical progress" (OJEC L 196 of 16 August 1967, p.1 and its modifications and adaptations to technical progress).
- Council Directive 1999/45/EC of 31 May 1999 concerning the approximation of the laws, regulations and administrative provisions of the Member States relating to the classification, packaging and labelling of dangerous preparations (OJ L 200 of 30.7.1999)
- Regulation (EC) No 1907/2006 dated 18th December 2006 on Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)
- Regulation (EC) No 1272/2008 dated 20th January 2009 on classification, labelling and packaging of substances and mixtures (OJ L 353)
- Commission Directive 97/69/EC of 5 December 1997 adapting to technical progress for the 23rd time Council Directive 67/548/EEC (OJEC of 13 December 1997, L 343).
- Commission regulation (EC) No 790/2009 of 10 August 2009 amending, for the purposes of its adaptation to technical and scientific progress, Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures.
- The 1st Adaptation to Technical Progress (ATP) to Regulation (EC) No 1272/2008 enters into force on 25 September 2009. It transfers the 30th and 31st ATPs of Directive 67/548/EEC to the Regulation (EC) No 1272/2008.

### PROTECTION OF WORKERS

Shall be in accordance with several European Directives as amended and their implementations by the Member States:

- a) Council Directive 89/391/EEC dated 12 June 1989 "on the introduction of measures to encourage improvements in the safety and health of workers at work" (OJEC (Official Journal of the European Community) L 183 of 29 June 1989, p.1).
- b) Council Directive 98/24/EC dated 7 April 1998 "on the protection of workers from the risks related to chemical agents at work" (OJEC L 131 of 5 May 1998, p.11).

### OTHER POSSIBLE REGULATIONS

Member States are in charge of implementing European Directives into their own national regulation within a period of time normally given in the Directive. Member States may impose more stringent requirements. Please always refer to any national regulation.

A Chemical Safety Assessment has been carried out for AES and CSR can be provided on request.

## 16 - Other Information

### useful references

(the directives which are cited must be considered in their amended version)

- Council Directive 89/391/EEC dated 12 June 1989 "on the introduction of measures to encourage improvements in the safety and health of workers at work" (OJEC L 183 of 29 June 1989, p.1).
- Regulation (EC) No 1907/2006 dated 18th December 2006 on registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)
- Regulation (EC) No 1272/2008 dated 20th January 2009 on classification, labelling and packaging of substances and mixtures (OJ L 353)
- Commission Directive 97/69/EC of 5 December 1997 adapting to technical progress for the 23rd time Council Directive 67/548/EEC (OJEC of 13 December 1997, L 343).
- Council Directive 98/24/EC of 7 April 1998 "on the protection of the health and safety of workers from the risks related to chemical agents at work" (OJEC L 131 of 5 May 1998, p11).

### precautionary measures

Information on after service heated fibres

In almost all applications high temperature insulating wools products (HTIW) are used as an insulating material helping keeping up temperature at 900°C or more in a closed space. As only a thin layer of the insulation hot face side is exposed to high temperature, respirable dust generated during removal operations does not contain detectable levels of crystalline silica.

In applications where the material is heat soaked, duration of heat exposure is normally short and a significant devitrification allowing CS to build up does not occur. This is the case for waste mould casting for instance.

Toxicological evaluation of the effect of the presence of CS in artificially heated HTIW material has not shown any increased toxicity in vitro. The results from different combinations of factors like increased brittleness of fibres, or micro crystals embedded in the glass structure of the fibre and therefore not biologically available may explain the lack of toxicological effects.

IARC evaluation as provided in Monograph 68 is not relevant as CS is not biologically available in after service HTIW and respirable dust generated during removal operations does not contain detectable levels of crystalline silica. <http://www.iarc.fr/en/publications/pdfs-online/index.php>

High concentrations of fibres and other dusts may be generated when after-service products are mechanically disturbed during operations such as wrecking. Therefore ECFIA recommends:

- a) control measures are taken to reduce dust emissions; and
- b) all personnel directly involved wear an appropriate respirator to minimise exposure and comply with local regulatory limits.

### CARE Program

The trade association representing the European high temperature insulation wool industry (ECFIA) has undertaken an extensive hygiene programme for High Temperature Insulation Wool (HTIW). The objectives are twofold: (i) to monitor workplace dust concentrations at both manufacturers' and customers' premises, and (ii) to document manufacturing and use of HTIW products from an industrial hygiene perspective in order to establish appropriate recommendations to reduce exposures. The initial results of the programme have been published. If you wish to participate in the CARE programme, contact ECFIA or your Thermal Ceramics' supplier.

### website

For more information connect to:

The Morgan Thermal Ceramics' website: (<http://www.morganthermalceramics.com/>)

Or the ECFIA's website: (<http://www.ecfia.eu>)

Or Deutsche KeramikFaser-Gesellschaft e.V' website: (<http://www.dkfg.de/>)

### Revision Summary

General Update of SDS to comply with REACH Regulation, changes to sections 1-16

### technical data sheets

For more information on individual products please see the relevant technical data sheet listed below:

Product Datasheet Code

### Other Information

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 authorisation given or implied to practice any patented invention without a licence. 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 (however, this shall not act to restrict the vendor's potential liability for negligence or under statute).