



## SAFETY DATA SHEET

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

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### 1 - Identification of product

#### 1.1 - Identification of Product

**Tradenames:** Alphawool Paper, Kaowool 1600 Paper, Kaowool 1600 Paper with self-adhesive backing.

The above-mentioned product contains polycrystalline fibres and mineral wool. These products are available with and without Aluminium Foil and/or Self adhesive backing, please contact your Morgan Thermal Ceramics Supplier for more information

#### 1.2 - Use of Product

Application as thermal insulation, heat shields, heat containment, gaskets and expansion joints at temperatures up to 1600°C in industrial furnaces, ovens, kilns, and other process equipment and in the aerospace, automotive industries.

#### 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

#### Website

www.morganthermalceramics.com  
sds.tc@morganplc.com

#### 1.4 - 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 CLASSIFICATION OF THE SUBSTANCE/MIXTURE

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

Mineral wools (glass, rock and slag wool) included in these products have been classified under Regulation no. 1272/2008 as a category 2 carcinogen ("substance which cause concern for man owing to possible carcinogen effects") due to the absence of toxicological data allowing to exonerate these fibres under note Q of the Directive.

#### 2.2 - Labelling Elements

No labelling required as product is considered an article under REACH and CLP regulations.

#### 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

#### 3.2 Mixture

These products are papers made of organic bonded polycrystalline fibres and mineral wool.

COMPONENT	%	CAS Number	REACH Registration Number	Hazard Classification according to CLP
Polycrystalline fibre	80-90	675106-31-7	01- 2119456884-25	Not classified as hazardous
Mineral wool	<7.5	65997-17-3	01- 2119495511- 37-0000	Carc. 2 (H351)
Organic binder	3-10	Not applicable	Not yet available	Not classified as hazardous

The paper contains between 3% and 10% by weight of crosslinked acrylic esters which are insoluble in water and non-hazardous in nature

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

## 4 - First-Aid measures

### 4.1 - Description of 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. Seek medical attention if irritation persists.

#### Nose and Throat

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

#### Ingestion

Do not induce vomiting. Wash out mouth with water and give water to drink.  
Obtain medical attention if ill effects occur.

#### Further Medical Treatment

Unlikely to be required, however, 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

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

During removal of spillages, use personal protection (including gloves and a suitable dust mask).

### 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

Protect against dust generation. Collect dust and loose material using a high efficiency vacuum cleaner.  
If vacuum cleaner is unavailable: moisten spillages with water. Clear up spillages.  
Transfer to a lidded container for disposal.

### 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

Dust generation should be minimized. Good housekeeping and hygiene practices should be followed during handling.

### 7.2 - Conditions for safe storage

Packaging should be kept closed and intact to reduce the possibility of releasing dust.

Re-use of packaging is not recommended in case residual fibrous dust and product debris are present.

### 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. 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.

#### 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

Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded.

#### 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 paper
Odour	Not applicable
Odour threshold	Slight
pH	Not Applicable
Melting point/freezing point	Not applicable
Initial boiling point and boiling point range	> 1800°C
Flash point	Not applicable
Evaporation rate	Not applicable
Flammability (solid, gas)	The material will burn for a short period only until the polymeric binder is burnt out or the resulting expansion self-extinguishes
Upper/lower flammability or explosive limits	Not applicable
Vapour pressure	Not applicable
Vapour density	Not Applicable
Relative density	90-210kg/m <sup>3</sup>
Solubility(ies)	Less than 1 mg/l
Partition co-efficient: n-octanol/water	Not applicable
Auto-ignition temperature	Not applicable
Decomposition temperature	Not Applicable
Viscosity	Not Applicable
Particle Characteristics	Not applicable
Explosive properties	Not applicable
Oxidising properties	Not applicable

## 10 - Stability and Reactivity

### 10.1 - Reactivity

PCW is stable and non reactive

### 10.2 - Chemical Stability

The product 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

Decomposition of the polymeric binder will occur at temperatures above 200°C releasing smoke, water, carbon monoxide, carbon dioxide and hydrocarbons. The duration and the amount of release will depend upon the applied temperature, the thickness and area of the material and binder content. Removal of the binder will release the fibres unless they are physically constrained. During the first heating cycles increased ventilation or the use of suitable respirator protection may be required.

Hazardous polymerisation will not occur.

## 11 - Toxicological information

### Toxicokinetics, metabolism and distribution

#### 11.1.1 Basic toxicokinetics

Exposure is predominantly by inhalation or ingestion. Polycrystalline fibres have not been shown to migrate from the lung and/or gut and do not become located in other organs of the body. Available toxicological information is as follows:

#### 11.1.2 HUMAN TOXICOLOGICAL DATA

##### Epidemiology of Mineral Wools

Epidemiological studies did not show any health effects related to fibres among Mineral Wool manufacturing workers. The excess of lung cancers reported in 1982 have been the subject of additional investigations and the examination of the confounding factors showed that the excess were not attributed to fibres. Smoking has been identified as the most important of these confounding factors.

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

##### Experimental Studies for Mineral Wools

Animal inhalation studies on mineral wools showed neither pulmonary fibrosis nor lung cancer nor mesothelioma. Intratracheal and intraperitoneal injection studies did not show any disease except those involving selected fine glass fibres for special uses or experimental rock wools.

##### Experimental Studies for Polycrystalline Wool

Lifetime rat inhalation studies in the rat on PCW fibres at the maximum levels achievable have shown no evidence of lung cancer, lung fibrosis or any other adverse effect, apart from a minimal pulmonary response typical of that of a 'low toxicity dust'.

Also, a lifetime feeding study in rats has produced no evidence of any adverse effects at levels up to 2.5 % in the diet.

Intraperitoneal, intratracheal and intrapleural studies in rats, together with two in vitro tests, all showed negative results whereas asbestos and crystalline silica which were used as positive controls (where relevant) produced positive responses.

The results of these extensive testing programmes indicate that PCW materials lack one or more of the fundamental characteristics necessary for mesothelioma induction, as well as not possessing fibrogenic potential..

#### 11.2 Information on other hazards

When tested using approved methods (as listed in Regulation (EC) 1907/2006, Annex 8, Section 8.1), fibres contained in this material give negative results. All man-made mineral fibres, like some natural fibres, can produce a mild irritation resulting in itching or rarely, in some sensitive individuals, in a slight 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 inert materials that remain stable overtime.  
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

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.

## 14 - Transport information

### 14.1. UN number

Not Applicable

### 14.2. UN proper shipping name

Not Applicable

### 14.3. Transport hazard class(es)

Not Applicable

### 14.4. Packing group

Not Applicable

### 14.5. Environmental hazards

Not Applicable

### 14.6. Special precautions for user

Not Applicable

### 14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not Applicable

## 15 - Regulatory information

### 15.1 - Safety health and environment regulations/legislation specific for the substances or mixtures

The International Agency for Research on Cancer (IARC), in 1988, classified man-made mineral fibres (including PCW) as carcinogens group 2B ("possibly carcinogenic to humans") Current information on carcinogenicity is given in Section 11.

### 15.2 - Chemical Safety Assessment

Chemical Safety Reports have been requested from suppliers, as soon as this information is available it will be shared with downstream users.

## 16 - Other Information

(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)
- 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).

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

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

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.

For more information connect to:

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

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

### Revision Summary

Update to section 15

### Technical data sheets

For more information on individual products please see the relevant technical data sheet available from <https://www.morganthermalceramics.com/search/product-datasheet/>

### 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).