

## SAFETY DATASHEET

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

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### 1 - Identification of product

**Tradenames:** Kaowool Hardener, Superwool Hardener,

#### 1.1 - Identification of Product

The above mentioned product is a hardener.

#### 1.2 - Use of Product

This product is used to produce a hard surface finish.

#### 1.3 - Identification of Company

**U.K.**                      THERMAL CERAMICS LIMITED  
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### 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 classified

2.1.2 CLASSIFICATION ACCORDING TO DIRECTIVE 1999/45/EC

Not classified

#### 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 to high dust concentrations of dried product. These effects are usually temporary.

Pre-existing skin and respiratory conditions including dermatitis, asthma or chronic lung disease might be aggravated by exposure.

### 3 - Composition / Information On Ingredients

#### DESCRIPTION

This product is an inorganic liquid hardening agent.

#### Composition

COMPONENT	%	CAS Number	Index number	REACH Registration Number
Alumino-silicate	40-70	Not Applicable	Not Applicable	Not yet available
Alumina	< 10	EINECS No. 215-691-6	Not Applicable	Not yet available
Cement	< 40	EINECS No. 266-045-5	Not Applicable	Not yet available
Commissioning additives	< 0.5	Not Applicable	Not Applicable	Not yet available

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

## 4 - First-Aid measures

### 4.1 - Skin

In case of skin irritation 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 if 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,  
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

Wear suitable goggles, gloves and protective clothing.

### 6.2 - ENVIRONMENTAL PRECAUTIONS

Do not flush spillage to drain and prevent from entering natural watercourses.  
For waste disposal refer to section 13

### 6.3 - METHODS AND MATERIALS FOR CONTAINMENT AND CLEAN UP

Contain spillage, absorb in earth or sand and shovel into suitable containers

## 7 - Handling and storage

### 7.1 - PRECAUTIONS FOR SAFE HANDLING

Handling of dried product 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.  
Avoid storage below +2°C and above +43°C.  
The product has a shelf life of approximately 12 months.  
Avoid damaging the packaging.

### 7.3 - SPECIFIC END USE

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* (Respirable Dust)	SOURCE
Germany	3 mg/m <sup>3</sup> or 6 mg/m <sup>3</sup>	TRGS 900
France	5 mg/m <sup>3</sup>	Décret 97-331 du 10 avril 1997
U.K.	4 mg/m <sup>3</sup>	HSE - EH40

\* Gravimetric concentrations of respirable dust – 8-hour time weighted average.

### 8.2 - EXPOSURE CONTROLS

Review your applications in order to identify potential sources of exposure. If necessary, conduct personal air monitoring. Use technical and/or organisational means to comply with regulations.

#### 8.2.2 - Personal Protective Equipment

##### Skin Protection

Use of gloves and work clothes is recommended.

##### Eye Protection

Wear safety glasses

##### Respiratory Protection

Use appropriate respiratory protective equipment (RPE) if necessary.

##### Information and Training of workers

Workers should be informed on:

- The requirements for the use of protective equipment and clothing.

Workers should be trained on:

- The proper use of protective equipment

#### 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

<b>APPEARANCE</b>	White Liquid
<b>PARTITION COEFFICIENT</b>	Not applicable
<b>ODOUR</b>	None
<b>FLAMMABILITY</b>	Not applicable
<b>EXPLOSIVE PROPERTIES</b>	Not applicable
<b>VAPOUR PRESSURE</b>	Not applicable
<b>pH</b>	9.7

## 10 - Stability and Reactivity

### 10.1 - Reactivity

The material is stable and non reactive.

### 10.2 - Chemical Stability

The product is inorganic, stable and inert

### 10.3 - Possibility of Hazardous Reactions

None

### 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 not expected during normal use due to nature of the products, exposure during removal may be possible, predominantly by inhalation or ingestion, available toxicological information is as follows:

#### 11.1.2 HUMAN TOXICOLOGICAL DATA

No human data available

### 11.2 - INFORMATION ON TOXICOLOGICAL EFFECTS

#### ACUTE TOXICITY

Lethal dose 50 % (LD50) / lethal concentration 50% (LC50): N.A.

#### CHRONIC TOXICITY

No effects reported

## 12 - Ecological information

These products are inert materials that remain stable overtime.  
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 ensure 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, ADN).

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.

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

### 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

Additional information and precautions to be considered upon removal of after service material

Continuous use of these products at temperatures above 900°C may, as with many other refractories, lead to the formation of cristobalite (a type of crystalline silica).

Please refer to sections 2, 11 and to national regulation on crystalline silica.

High concentrations of 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.

### 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/>)

### 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).