



### 3 - Composition / Information On Ingredients

This product is a grey refractory isolating cement containing AES wool.

COMPONENT	%	CAS Number	REACH Registration Number	Hazard Classification according to CLP
Alkaline-earth silicate wools	15-40	436083-99-7	01-2119457644-32	Note Q exonerated
Clay	10-40	1332-58-7	Not yet available	Not classified
Cement	> 20	65997-15-1	Not yet available	H315, H318, H317, H335
Alumino-Silicate	10-30	Not Applicable	Not yet available	Not classified
Other inert material	< 5	Not Applicable	Not yet available	Not classified

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

#### 4.1 - Description of First Aid Measures.

##### Skin

In case of skin irritation 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.

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,

#### 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. 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 for respirable dust (in November 2014) are given below:

COUNTRY	Total Dust (mg/m3)	Resp Dust (mg/m3)	Quartz (mg/m3)	Cristobalite (mg/m3)	Source
EU BOELV			0.1	0.1	Carcinogens and Mutagens Directive (Directive 2004/37/EC)
Belgium	10	3	0.1	0.05	Ministerie van Sociale Zaken en Werkgelegenheid
Denmark	10	5	0.10	0.05	Direktoratet for Arbejdstilsynet
Finland	10	No limit	0.05	0.05	National Board of Labour Protection
France	10	5	0.10	0.05	Ministère du Travail
Germany	10	0.5 <sup>^</sup>	0.05 <sup>^</sup>	0.05 <sup>^</sup>	Bundesministerium für Arbeit und Soziales
Italy	10	3	0.1	0.1	Decreto Legislativo 1 giugno 2020 n. 44
Netherlands	10	5	0.075	0.075	Ministerie van Sociale Zaken en Werkgelegenheid
Norway	10	5	0.10	0.05	Direktoratet for Arbejdstilsynet
Poland	10	No limit	0.1	0.1	Regulation of the Minister of Labour and Social
Romania		10	0.10	0.05	Government Decision regarding carcinogenic agents (in Annex 3: Quartz, Cristobalite, Tridymite).
Spain	10	3	0.05	0.05	Instrucciones de Técnicas Complementarias (ITC)
Sweden		5	0.10	0.05	National Board of Occupational Safety and Health
UK	10	4	0.10	0.10	Health & Safety Executive

<sup>^</sup> Defined for a density of 1 g/cm<sup>3</sup>, i.e. for minerals with a common density of 2,5 g/cm<sup>3</sup>, a calculated OEL of 1,25 mg/m<sup>3</sup> applies.

\*Assessment Criterion (reference value)

#### Information on monitoring procedures

United Kingdom

MDHS 14/4 - "General methods for sampling and gravimetric analysis of respirable, thoracic and inhalable aerosols"  
MDHS 101 - "Crystalline silica in respirable airborne dusts"

NIOSH

NIOSH 0500 "Particulates not otherwise regulated, total"  
NIOSH 0600 "Particulates not otherwise regulated, respirable"  
NIOSH 7500 "Silica, Crystalline, by XRD (filter redeposition)"

### 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

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>Information on basic physical and chemical properties</b>	Not applicable
<b>State</b>	Grey powder with fibre
<b>Colour</b>	Not applicable
<b>Odour</b>	Slight
<b>Odour threshold</b>	Not Applicable
<b>pH</b>	Not applicable
<b>Melting point/freezing point</b>	> 1350°C
<b>Initial boiling point and boiling point range</b>	Not applicable
<b>Flash point</b>	Not applicable
<b>Evaporation rate</b>	Not Applicable
<b>Flammability (solid, gas)</b>	Not applicable
<b>Upper/lower flammability or explosive limits</b>	Not applicable
<b>Vapour pressure</b>	Not applicable
<b>Vapour density</b>	Not Applicable
<b>Relative density</b>	250-900 kg/m <sup>3</sup>
<b>Solubility(ies)</b>	Less than 1 mg/l
<b>Partition co-efficient: n-octanol/water</b>	Not applicable
<b>Auto-ignition temperature</b>	Not applicable
<b>Decomposition temperature</b>	Not Applicable
<b>Viscosity</b>	Not Applicable
<b>Particle Characteristics</b>	Not applicable
<b>Explosive properties</b>	Not applicable
<b>Oxidising properties</b>	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

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

### 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

AES 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.

#### 11.1.2 Human Toxicological data

Epidemiology for crystalline silica

Prolonged/repeated inhalation of respirable crystalline silica dust may cause delayed lung injury (silicosis).

In evaluating crystalline silica as a cancer risk, the International Agency for Research on Cancer (IARC) reviewed several studies from different industries and concluded that crystalline silica from occupational sources inhaled in the form of quartz or cristobalite is carcinogenic to humans (Group 1) [IARC Monograph; vol.68; June 1997]. However, in reaching its conclusion, IARC stated that the carcinogenicity in humans could not be found in all industries reviewed and that carcinogenicity might be dependent on inherent characteristics of crystalline silica or on external factors affecting biological activity (e.g., cigarette smoking) or distribution of its polymorphs.

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

##### EXPERIMENTAL STUDIES FOR AES WOOL

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.

##### Experimental Studies for Crystalline Silica

Animals exposed to very high concentrations of crystalline silica, artificially or by inhalation, have reported fibrosis and tumours (IARC Monographs 42 and 68).

Inhalation and intratracheal installation of crystalline silica in rats caused lung cancer. However, studies in other species such as mice and hamsters caused no lung cancer. Crystalline silica also caused fibrosis in rats and hamsters in several inhalation and intratracheal installation studies.

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 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

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

EU regulations:

- 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)
- Annex of Regulation (EU) 2015/830
- 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.

#### 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.

### 15.2 - Chemical Safety Assessment

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

## 16 - Other Information

Full text for H Phrases found in Section 3:

H315: Causes skin irritation  
H318: Causes serious eye damage  
H317: May cause an allergic skin reaction  
H335: May cause respiratory irritation

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.

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.

ECFIA recommends that this fibre should not be used for spraying

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 3

### Technical data sheets

For more information on individual products please see the relevant technical data sheet available from <http://www.morganthermalceramics.com/downloads/datasheets>

### NOTICE:

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