SAFETY DATA SHEET

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

SDS Number: 1020 Date of first issue: 15 November 2018 Date of last revision: 30 April 2024

1 - Identification of product

1.1 - Identification of Product

Tradenames: Superwool Pumpable,

The above-mentioned product contains 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

This product is used to fill gaps in refractory applications particularly fibre-based refractories. It is highly resistant to spalling and cracking and has also very good adhesive properties. Mastic could be used as seam filler, gap filler, caulking agent, patching repair material, lining material for launders, and so on. (Please refer to specific technical data sheet for more information)

• Primary Use: Manufacture of fibre (this use refers to the initial production of the fibre and is therefore not relevant to the downstream user)
• Secondary Use: Conversion into wet and dry mixtures and articles (refer to section 8)
• Tertiary Use: Installation, removal (industrial and professional) / Maintenance and service life (industrial and professional) (refer to section 8)

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

2.1.1 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

CHRONIC RESPIRATORY HEALTH EFFECTS FOR ETHYLENE GLYCOL
NIOSH recently described evidence that ethylene glycol has potential reproductive hazards by inhalation of ethylene glycol mist.

3 - Composition / Information On Ingredients

This product is mastic made of AES wool. Once dried out, this product may generate dust.

COMPONENT	%	CAS Number	REACH Registration Number	Hazard Classification according to CLP
Alkaline-earth Silicate Wools	15-50	436083-99-7	01-2119457644-32	Not classified
Colloïdal silica	40-80	7631-86-9	01-2119379499-16	Not classified
Water	0-30	7732-18-5	Not yet available	Not classified
Organic material	< 5	Not applicable	Not yet available	Not classified
Ethylene glycol	1-9	107-21-1	01-2119456816-28	Acute Tox 4 (H302)

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 is 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. 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

Provide the workers with appropriate protective equipment until the situation is restored to normal (see section 8).

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

Do not handle wet product with bare hands. The process or processes should be designed to limit the amount of handling. Regular good housekeeping will minimise secondary dispersal.

7.2 - Conditions for safe storage

Store in dry and cool condition. Always use sealed and clearly labelled containers. Avoid storage in temperature lower than +5°C (risk of solidification) or above +40°C. Avoid damaging the packaging and keep closed when not in use. Emptied containers, which may contain debris, should be cleaned before disposal or recycling. Recyclable cardboard and/or plastic films are recommended for packaging.

7.3 - Specific end use

The main application of these products is as thermal insulation. Use of the products is restricted to professional users.
Please refer to section 8 and the relevant exposure scenario

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 national OELs (November 2023) are given in the table below.

COUNTRY	Total Dust (mg/m3)	Resp Dust (mg/m3)	Ethylene Glycol (mg/m3)	Source
Austria	10	6	No limit	Grenzwerteverordnung
Belgium	10	3	52	Valeurs limites d'exposition professionnelle – VLEP/ Grenswaarden voor beroepsmatige blootstelling – GWBB
Denmark	10	5	10	Grænseværdier for stoffer og materialer
Finland	No limit	No limit	50	Finnish Ministry of Social Affairs and Health
France	10	5	52	Institut National de Recherche et de Sécurité
Germany*	10	1.25	26	TRGS 900
Hungary	No limit	No limit	*53*	*EüM-SZCSM rendelet*
Ireland	10	4	10	HAS – Ireland
Italy	10	3	52	Uses EU values
Luxembourg	10	6	No limit	Agents Chimiques, Cancérigènes Ou Mutagènes Au Travail
Netherlands	10	5	10	SER
Norway	10	5	10	Veiledning om administrative normer for forurensning i arbeidsatmosfære
Poland	No limit	No limit	15	Dziennik Ustaw 2010
Spain	10	3	52	INSHT
Sweden	10	5	25	AFS 2005:17
Switzerland	10	6	26	SUVA - *Valeurs limites d'exposition aux postes de travail*
UK	10	4	10	EH40/2005 (4th ed.)

Information on monitoring procedures

United Kingdom

MDHS59 - "Machine Made fibre - Airborne number concentration and classification by phase contrast light microscopy"
MDHS88 - "Volatile organic compounds in air "

NIOSH

NIOSH 5523 "Glycols"
NIOSH 7400 "Asbestos and other fibres by PCM"

8.2 - Exposure controls

8.2.1 APPROPRIATE ENGINEERING CONTROLS
Review your application(s) and assess situations with the potential for dust release.
Where practical, enclose dust sources and provide dust extraction at source.
Designate work areas and restrict access to informed and trained workers.
Use operating procedures that will limit dust production and exposure of workers.
Keep the workplace clean. Use a vacuum cleaner fitted with a HEPA filter; avoid using brooms 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

Information on basic physical and chemical properties	Not applicable
State	White paste
Colour	Not applicable
Odour	None
Odour threshold	Not Applicable
pH	Not applicable
Melting point/freezing point	Not determined
Initial boiling point and boiling point range	Not applicable
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	1.2 - 1.4 kg/dm³ (wet)
Solubility(ies)	Not applicable
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

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

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

Experimental Studies for AES Wool

(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

EXPERIMENTAL STUDIES FOR ETHYLENE GLYCOL
Ethylene glycol toxicity by ingestion includes kidney effects with oxalate crystal deposition and liver damage. By inhalation exposure, lung changes and irritation of mucosal surfaces occurred in rats. A slight effect on reproduction was seen in mice administered 2000 mg/kg/day in their drinking water. During the studies with pregnant animals where high doses of ethylene glycol have been administered, foetal and maternal toxicity was observed.

11.2 Information on other hazards

Endocrine disrupting properties: no known effects.

Other hazards: Negative results have been obtained in animal studies (EU method B 4) for skin irritation. Inhalation exposures using the nose only route produce simultaneous heavy exposures to the eyes, but no reports of excess eye irritation exist. Animals exposed by inhalation similarly show no evidence of respiratory tract irritation.

Human data confirm that only mechanical irritation, resulting in itching, occurs in humans, Screening at manufacturers' plants in the UK has failed to show any human cases of skin conditions related to fibre exposure.

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

FIBRE TYPE DEFINITION ACCORDING TO REGULATION (EC) No 1272/2008 AMENDING AND REPEALING DIRECTIVES 67/548/EEC AND 1999/45/EC, AND AMENDING REGULATION (EC) No 1907/2006.

According to Regulation 1272/2008 the fibre contained in this product is a mineral wool belonging to the group of “man-made vitreous (silicate) fibres with random orientation with alkaline earth oxide ($Na_2O+K_2O+CaO+MgO+BaO$) content greater to 18% by weight". (Table 3.2 Index number 650-016-00-2).

Under 1.1.3.1. (Note Q) of Annex VI of regulation (EC) 1272/2008 the classification as a carcinogen 2 needs not apply on the basis of short term biopersistence test by intratracheal installation showing a half life of less than 40 days for fibres longer than 20 µm. Fibres contained in the products listed in the title are exonerated from carcinogen classification as they show a half life of less than 40 days when measured by the methods specified in European Union regulations (EU protocol ECBT/TM/27(rev 7)).

1st Adaptation of Technical Progress of regulation (EC) N°1272/2008 of 10 August 2009 has removed skin irritancy classification for man-made vitreous (silicate) wools.

Fibres contained in this product are therefore free of any classification and do not require labelling under CLP regulation.

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 RCF/ASW and CSR can be provided on request.

16 - Other Information

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 socked, 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.

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.

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/