SAFETY DATA SHEET

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

SDS Number: 1012 Date of first issue: 01 February 1999 Date of last revision: 21 February 2022

1 - Identification of product

1.1 - Identification of Product

Tradenames: Mastic 1600 LS, Mastic 1600 Mouldable,

The above-mentioned product contains polycrystalline wools.

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 also has 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).

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

3 - Composition / Information On Ingredients

This product in the form of paste is made of polycrystalline fibres. Once dried out, this product may generate dust.

COMPONENT	%	CAS Number	Index number	REACH Registration Number
Polycrystalline Fibre	15-30	EINECS No. 215-691-6	Not Applicable	Not yet available
Colloïdal silica	55-70	EINECS No. 229-912-9	Not Applicable	Not yet available
Monoethylene glycol	3-7	EINECS No. 203-473-3	Not Applicable	Not yet available
Organic binder	1-4	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 - 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 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

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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

When material is wet use gloves, boots and rubber protection clothes when cleaning up
Where abnormally high dust concentrations occur, provide workers with appropriate protective equipment as detailed in section 8.

Restrict access to the area to a minimum number of workers required.
Restore the situation to normal as quickly as possible

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

6.4 - Reference to other sections

7 - Handling and storage

7.1 - Precautions for safe handling

Do not handle wet product with bare hands.

7.2 - Conditions for safe storage

Store in dry and cool condition.
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.

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 national OELs (November 2014) 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

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 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:
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 seperately 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	Not applicable
State	White Paste
Colour	Not applicable
Odour	Slight
Odour threshold	Not Applicable
pH	6
Melting point/freezing point	> 1950°C
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	1.34 g/cm³
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

None

11 - Toxicological information

Toxicokinetics, metabolism and distribution

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

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..

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.

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

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

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 entered into force on 25 September 2009.

POLYCRYSTALLINE FIBRE
In Germany and in accordance with Technical Rules for Hazardous Substances TRGS905 (2.3. para. 6) inorganic fibrous dust is classified in category 3.
In 1988 IARC classified man-made mineral fibres as possible human carcinogens (2B) and, at that time PCWs were included in this broad category of materials. 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

Full text for H Phrases found in Section 3:

H302: Harmful if swallowed

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.

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 http://www.morganthermalceramics.com/downloads/datasheets

NOTICE:
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