



## 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

IDENTIFICATION OF THE MANUFACTURER/SUPPLIER

Murugappa Morgan Thermal Ceramics Ltd.,  
Plot No: 26 & 27, SIPCOT Industrial complex,  
Ranipet, Vellore District, Tamil Nadu, India  
Pin: 632403

Murugappa Morgan Thermal Ceramics Ltd.,  
Plot No: 681, Motibhoyan Village,  
Sanand-Kalol state Highway, Kalol Taluk,  
Gandhi Nagar District, Gujarat, India

#### Website

[www.morganthermalceramics.com](http://www.morganthermalceramics.com)  
[sds.tc@morganplc.com](mailto:sds.tc@morganplc.com)

#### 1.4 - Emergency information

EMERGENCY CONTACT NUMBER

Tel 1: +91 (4172) 244 313 extn no. 215 or 201  
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
Colloidal 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

##### 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.

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	Grenzwertverordnung
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	<i>EüM-SZCSM rendelet</i>
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 - <i>Valeurs limites d'exposition aux postes de travail</i>
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 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

<b>Information on basic physical and chemical properties</b>	Not Applicable
<b>State</b>	White Paste
<b>Colour</b>	Not applicable
<b>Odour</b>	Slight
<b>Odour threshold</b>	Not Applicable
<b>pH</b>	6
<b>Melting point/freezing point</b>	> 1950°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>	1.34 g/cm <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>Other safety information</b>	No further relevant information available.
<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

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

### 13.1 - Disposal Considerations

To prevent waste materials from becoming airborne during waste storage, transportation and disposal, a covered container or plastic bagging is recommended.

For Australia, waste from these materials should be considered as hazardous waste and local waste authorities should be contacted for correct disposal methods.

For other countries, waste from these materials (even after use above 900°C) is not classified as hazardous waste and may generally be disposed of at a normal tipping site which has been licensed for the disposal of industrial waste. Taking into account any possible contamination during use, which may be classified as hazardous, expert guidance should be sought.

Such a waste is normally dusty (unless wetted) and so should be properly bagged and clearly labelled for disposal. At some tip sites dusty waste may be treated differently in order to ensure they are dealt with promptly and to avoid them being windblown. Check for national and /or regional regulations to identify all applicable disposal requirements.

## 14 - Transport information

### 14.1 - Transport information

Not classified as dangerous goods under relevant international transport regulations (Australian DG Code, ADR, RID, IATA, and IMDG).  
Ensure that dust is not windblown during transportation.

UN Number None Allocated  
DG Class None Allocated  
Subsidiary risk(s) None Allocated  
Packing Group None Allocated  
Hazchem Code None Allocated

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 - Regulatory information

This SDS has been prepared in accordance with WHO GHS rev. 6 requirements. Where applicable, local regulations have been followed.

## 16 - Other Information

### 16.1 - ADDITIONAL INFORMATION AND PRECAUTIONS TO BE CONSIDERED UPON REMOVAL OF AFTER SERVICE MATERIAL

### 16.2 - uses advised against

### 16.3 - 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.

### 16.4 - Further Information

#### FURTHER INFORMATION

Further information can be found on

<http://www.morganthermalceramics.com/>

<http://www.cdc.gov/niosh/docs/2006-123/>

<http://www.ecfia.eu/>

[http://echa.europa.eu/chem\\_data/authorisation\\_process/candidate\\_list\\_obligations\\_en.asp](http://echa.europa.eu/chem_data/authorisation_process/candidate_list_obligations_en.asp)

### 16.5 - Technical Datasheets

#### TECHNICAL DATA SHEETS

For more information on individual products please see the technical data sheet section at [www.morganthermalceramics.com](http://www.morganthermalceramics.com)

### 16.6 - Revision Summary

Update to section 15

### 16.7 - NOTICE

The information presented herein is based on data considered to be accurate as of the date of preparation of this Safety Data Sheet. However, 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 authorization given or implied to practice any patented invention without a license. 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.