



SAFETY DATA SHEET

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

SDS Number: 611 Date of first issue: 17 September 2014 Date of last revision: 21 February 2022

1 - Identification of product

1.1 - Identification of Product

Tradenames: Firemaster FireBarrier 100,

The above-mentioned products are cements.

1.2 - Use of Product

These products are used for fire protection to concrete tunnel linings, structural steel and vessels.

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, Motibhojan Village,
Sanand-Kalol state Highway, Kalol Taluk,
Gandhi Nagar District, Gujarat, India

Website

www.morganthermalceramics.com
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

Classified as category 1 damaging to eyes, category 2 skin irritant, category 3 respiratory irritant and category 1 skin sensitizer

2.2 - Labelling Elements

2.2.1 LABELLING ELEMENTS ACCORDING TO REGULATION (EC) NO 1272/2008



Hazard pictogram: GHS05
Signal Word: Danger
Hazard statements:
H315: Causes skin irritation
H318: Causes serious eye damage
H317: May cause an allergic skin reaction
H335: May cause respiratory irritation

Precautionary Statements

P280: Wear protective gloves/protective clothing/eye protection/

face protection.

P305 + P351 + P338 + P310: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

P362 + P352 + P333 + P313: IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention.

P261 + P304 + P340 + P312: Avoid breathing dust/fume/gas/mist/vapours/spray. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

P501: Dispose of contents/container to in accordance with local requirements

2.3 - Other hazards which do not result in classification

CHRONIC EFFECTS FOR CRYSTALLINE SILICA

These products may contain minimal amounts of crystalline silica. Prolonged/repeated inhalation of respirable crystalline silica dust may cause delayed lung injury (silicosis).

IARC (International Agency for Research on Cancer) states that there is "sufficient evidence in humans for the carcinogenicity of inhaled crystalline silica in the form of quartz or cristobalite from occupational sources to classify crystalline silica as carcinogenic to humans (Group 1)". (Monograph V 68)

In making the overall evaluation the Working Group noted however that carcinogenicity in humans was not detected in all industrial circumstances studied.

3 - Composition / Information On Ingredients

These products are cements for fire protection.

Component	% by weight	CAS No.	REACH Registration Number	Hazard Classification according to CLP and DSD
Cement	20-40	65997-15-1	Not yet available	H315, H318, H317, H335
Clay	<20	1332-58-7	Not yet available	Not classified
Alumina hydrate	<10	21645-51-2	01-2119529246-39	Not classified
Alumino silicate	<20	Not available	Not yet available	Not classified
Calcium carbonate	30-50	471-34-1	01-2119486795-18	Not classified
Other inert mineral material	<40	Not available	Not yet available	Not classified

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

4 - 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

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

Wear suitable goggles, gloves and protective clothing.

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

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

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. Handling of dried products 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 damaging the packaging.
Material supplied in multi-ply paper sacks or big bags.

7.3 - Specific end use

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/m ³)	Resp Dust (mg/m ³)	Quartz (mg/m ³)	Cristobalite (mg/m ³)	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 [^]	0.05 [^]	0.05 [^]	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

[^] Defined for a density of 1 g/cm³, i.e. for minerals with a common density of 2,5 g/cm³, a calculated OEL of 1,25 mg/m³ 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.

Soiled clothes should be cleaned before being taken off (e.g. use vacuum cleaning, not compressed air).

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	Grey Powder
Colour	Not applicable
Odour	None
Odour threshold	Not Applicable
pH	Not applicable
Melting point/freezing point	> 1400°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	450 - 600 kg/m ³
Solubility(ies)	Slight
Partition co-efficient: n-octanol/water	Not applicable
Auto-ignition temperature	Not applicable
Decomposition temperature	Not Applicable
Viscosity	Not Applicable
Other safety information	No further relevant information available.
Particle Characteristics	Not applicable
Explosive properties	Not applicable
Oxidising properties	Not applicable

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

Toxicokinetics, metabolism and distribution

11.1.1 BASIC TOXICOKINETICS

As manufactured, these products may contain a minimal amount of crystalline silica.

Exposure is predominantly by inhalation or ingestion, available toxicological information is as follows:

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 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.

ACUTE TOXICITY

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

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

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 - 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.ecfia.eu/>

<http://www.safeworkaustralia.gov.au/sites/swa/about/publications/pages/workplace-exposure-standards-airborne-contaminants>

16.5 - Technical Datasheets

TECHNICAL DATA SHEETS

For more information on individual products please see the technical data sheet section at www.morganthermalceramics.com

16.6 - Revision Summary

Update to section 8.

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.