



## SAFETY DATA SHEET

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

SDS Number: 608 Date of first issue: 01 August 1998 Date of last revision: 21 February 2022

### 1 - Identification of product

#### 1.1 - Identification of Product

**Tradenames:** FIRELITE LOD SW HT ,

The above-mentioned products contain 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

Application as high temperature processing, lining of industrial furnaces, thermal insulation of kilns, etc...(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  
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 is a grey refractory isolating cement containing AES wool.

Component	% by weight	CAS No.	REACH Registration Number	Hazard Classification according to CLP
Clay	10-50	1332-58-7	Not yet available	Not classified
Cement	20-50	65997-16-2	Not yet available	Not classified
Alkaline-earth silicate wools	5-35	436083-99-7	01-2119457644-32	Note Q exonerated
Anorthite	20-50	Not available	Not yet available	Not classified
Other inert material	< 1	Not available	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

### 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

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

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

### 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

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

Avoid damaging packaging.  
Always use sealed and visibly labelled containers  
Emptied containers, which may contain debris, should be cleaned (see 6.3) 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. 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)	Quartz (mg/m3)	Cristobalite (mg/m3)	MMVF (f/ml)	Source
EU BOELV			0.1	0.1		Carcinogens and Mutagens Directive (Directive 2004/37/EC)
Austria	10	6	0.1	0.1	1	Grenzwertverordnung
Belgium	10	3	0.10	0.05	1	Ministerie van Sociale Zaken en Werkgelegenheid
Denmark	10	5	0.10	0.05	1	Direktoratet for Arbejdstilsynet
Finland	10	No limit	0.05	0.05	1	National Board of Labour Protection
France	10	5	0.10	0.05	1	Ministère du Travail
Germany	10	0.5*	0.05*	0.05*	No limit	Bundesministerium für Arbeit und Soziales
Hungary	10	No limit	0.10	0.10	1	EÜM-SZCSM rendelet
Ireland	10	4	0.05	0.05	1	HAS – Ireland
Italy	10	3	0.1	0.1	1	Uses EU values
Luxembourg	10	6	0.10	0.10	1	Agents Chimiques, Cancérogènes Ou Mutagènes Au Travail
Netherlands	10	5	0.075	0.075	1	Ministerie van Sociale Zaken en Werkgelegenheid
Norway	10	5	0.10	0.1	0.5	Direktoratet for Arbejdstilsynet
Poland	10	No limit	0.10	0.10	2	Regulation of the Minister of Labour and Social
Romania	10	3	0.05	0.05	2	Government Decision regarding carcinogenic agents (in Annex 3: Quartz, Cristobalite, Tridymite).
Spain	10	3	0.05	0.05	1	Instrucciones de Técnicas Complementarias (ITC)
Sweden	10	5	0.10	0.05	1	AFS 2005:17
Switzerland	10	5	0.10	0.05	1	SUVA - Valeurs limites d'exposition aux postes de travail
UK	10	4	0.10	0.10	2	Health and Safety Executive

#### 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:

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>	Not applicable
<b>Colour</b>	Not applicable
<b>Odour</b>	None
<b>Odour threshold</b>	Not Applicable
<b>pH</b>	Not applicable
<b>Melting point/freezing point</b>	> 1400°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>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

The product is stable

### 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

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.

Superwool fibres are negative when tested using approved methods (OECD TG 404). Like all man-made mineral fibres and some natural fibres, fibres contained in this product can produce a mild mechanical irritation resulting in temporary itching or rarely, in some sensitive individuals, in a slight temporary 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

### 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

The fibres contained in this product have been tested for bio persistence according to Note Q requirements under European Classification, Labelling and Packaging Regulations (EC/1272/2008) and it's subsequent amendments.

Based on these results they are exonerated from classification as carcinogens in Europe and Australia.

## 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](http://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.