

SAFETY DATA SHEET

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

SDS Number: 305 Date of first issue: 01 February 2000 Date of last revision: 21 February 2022

1 - Identification of product

1.1 - Identification of Product

Tradenames: Rope 65-607,

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 thermal insulation, heat shields, heat containment, gaskets and expansion joints in industrial furnaces, ovens, kilns, boilers and other process. equipment and in the aerospace, automotive and appliance industries, and as passive fire protection systems and fire stops. (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

Rope 65-607 coated in white or black, is made of AES wool and reinforced with an E-glass thread.

| COMPONENT | % | CAS NUMBER | Index Number | REACH Registration Number |
|--------------------------------|-------|----------------|----------------|---------------------------|
| Alkaline-earth silicate wools | 60-90 | 436083-99-7* | 650-016-00-2 | 01-2119457644-32-0000 |
| Continuous glass filament | 20-25 | Not applicable | Not applicable | Not yet available |
| Organic graphite black coating | 1-5 | Not applicable | Not applicable | Not yet available |
| Organic acrylate white coating | 1-5 | Not applicable | Not applicable | Not yet available |

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

4.3 - Indication of any immediate medical attention and special treatment required

5 - Fire-fighting measures

5.1 - Extinguishing media

Non combustible products. However, virgin product binder may burn and produce gases and/or fumes. Packaging and surrounding materials may be combustible. Use extinguishing agent suitable for surrounding combustible materials.

5.2 - Special hazards arising from the substance or mixture

5.3 - Advice for firefighters

6 - Accidental Release Measures

6.1 - Personal precautions, protective equipment and emergency procedures

Where abnormally high dust concentrations occur, provide the workers with appropriate protective equipment as detailed in section 8. Restore the situation to normal as quickly as possible.

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

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

Store in original packaging in a dry area.
Always use sealed and clearly labelled containers.
Avoid damaging containers.
Reduce dust emission during unpacking.

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

8.1.2 RECOMMENDED MONITORING PROCEDURES

France: Phase contrast optical microscopy test method reference number XP X43-269 dated March 2002,

United Kingdom: MDHS 59 specific for MMVF: "Man-made mineral fibre - Airborne number concentration by phase-contrast light microscopy" and MDHS 14/3 "General methods for sampling and gravimetric analysis of respirable and inhalable dust"

Germany TRGS 402 and description of applicable sampling / analytical methods in BGI 505-31 and BGI 505-46.

WHO-EURO method: Determination of airborne fibre number concentrations; A recommended method, by phase-contrast optical microscopy (membrane filter method); World Health Organisation Geneva 1997 ISBN 92 4 154496 1.

Information on monitoring procedures

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

| | |
|--|--|
| Information on basic physical and chemical properties | Not Applicable |
| State | White or black |
| Colour | Not applicable |
| Odour | None |
| Odour threshold | Not Applicable |
| pH | Not applicable |
| Melting point/freezing point | > 1200°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 | 50-240 kg/m ³ |
| 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 |
| 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

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

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.

Toxicological Information on Continuous Glass Filament

Because of its large diameter, continuous glass filament is not considered to be respirable.

The International Agency for Research on Cancer (IARC) has classified continuous filament glass fibre as not classifiable with respect to human carcinogenicity (Group 3).

In our experience and according to information available to us the product is not harmful to health provided it is correctly handled and processed according to the given recommendations.

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

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.

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 confirms 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.

Continuous glass filament, 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 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

12.3 - Bioaccumulative potential

12.4 - Mobility in soil

12.5 - Results of PBT and vPvB assessment

12.6 - Endocrine Disrupting Properties

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

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

16.6 - Revision Summary

Amendments to sections 2, 3, 4, 5, 6, 8, 9, 12, 14, 15 and 16 to comply with new guidelines

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.