SAFETY DATA SHEET

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

SDS Number: 425 Date of first issue: 07 February 2013 Date of last revision: 21 February 2022

1 - Identification of product

1.1 - Identification of Product

Tradenames: FireMaster Paper IMG72,

The above-mentioned product contains mineral wool.

1.2 - Use of Product

Intumescent mat for surfacing polymer matrix composite structures to provide improved surface fire protection

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 is an expanding intumescent paper

COMPONENT	%	CAS/EC Number	Classification according to EC 1272/2008	REACH Registration Number
Mineral Wool[2]	13-16	287922-11-6	Not Classified	Not yet available
Chopped Strand glass fibre[1]	8.0 - 11	65997-17-3	Article - not classified	Not yet available
Exfoliating Graphite	16 - 18	7782-42-5/ 231-999-5	Not Classified	Not yet available
Aluminium tri-hydroxide	59 - 65	21645-51-2	Non-hazardous	not yet available
Polymeric Binder	0.5 - 2.0	Not applicable - Polymer	Not Classified	Not applicable

1) Man-made vitreous silicate fibres of random orientation with alkaline oxide and alkali earth oxides (Na_2O + K_2O + CaO + MgO + BaO) content greater than or equal to 18% by weigh. the fibres are exempt from classification as they have mean geometric diameters greater than 6µm - Note R. They are not fibres of random orientation and are conisdered articles under REACH.

2)Man-made vitreous silicate fibres of random orientation with alkaline oxide and alkali earth oxides (Na_2O + K_2O + CaO + MgO + BaO) content greater than or equal to 18% by weight and fulfilling one of the Note Q critieria for exoneration from carcinogen classification

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

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. 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

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

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

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

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

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 exposure limits applying (in January 2010) in different countries are given below:

COUNTRY	MMMF EXPOSURE LIMIT*	Aluminium Tri-hydroxide EXPOSURE LIMIT*	Fine Carbon Dust EXPOSURE LIMIT*	SOURCE
Germany	3 mg/m^3	no specific limit general dust limit applies 10mg/m^3	no specific limit general dust limit applies 10mg/m^3	TRGS 900
France	1.0 f/ml		2 mg/m^3	Circulaire DRT No 95-4 du 12.01.95
U.K.	2.0 f/ml and 5 mg/m^3	4.0 mg/m^3 (respirable)	3.5mg/m^3	HSE - EH40 – Workplace Exposure Limit

**Time weighted average concentrations of airborne respirable fibres measured over 8 hours by the conventional membrane filter method or the total inhalable dust using standard gravimetric techniques.*

Information on monitoring procedures

United Kingdom

MDHS 59 specific for MMVF: "Man-made mineral fibre - Airborne number concentration by phase-contrast light microscopy" and MDHS 14/4 "General methods for sampling and gravimetric analysis of respirable and inhalable dust"

NIOSH

NIOSH 0500 "Particulates not otherwise regulate, total"
NIOSH 0600 "Particulates not otherwise regulate, respirable"
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	Pale green-grey fibrous paper
Colour	Not applicable
Odour	None
Odour threshold	Not Applicable
pH	Not applicable
Melting point/freezing point	Not determined
Initial boiling point and boiling point range	Not applicable
Flash point	Not applicable
Evaporation rate	Not Applicable
Flammability (solid, gas)	The material will burn for a short period only until the polymeric binder is burnt out or the resulting expansion self-extinguishes
Upper/lower flammability or explosive limits	Not applicable
Vapour pressure	Not applicable
Vapour density	Not Applicable
Relative density	Not applicable
Solubility(ies)	Not applicable
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

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

Strong oxidising agents, strong alkalis and hydroflouric acid

10.6 - Hazardous decomposition products

Decomposition of the polymeric binder will occur at tempatures above 200ºC releasing smoke, H_2O, CO, CO_2 and hydrocarbons.
When heated above 250ºC the graphite will expand resulting in a thermally insulating char.

Hazardous Polymerisation: Will not occur.

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 Mineral Wool have not been shown to migrate from the lung and/or gut and do not become located in other organs of the body
Fibres contained in the products listed in the title have been designed to be rapidly cleared from lung tissue. 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

RESPIRATORY TOXICITY FOR MINERAL WOOLS
Epidemiological studies did not show any health effects related to fibres among Mineral Wool manufacturing workers. The excess of lung cancers reported in 1982 have been the subject of additional investigations and the examination of the confounding factors showed that the excess were not attributed to fibres. Smoking has been identified as the most important of these confounding factors.

RESPIRATORY TOXICITY FOR GRAPHITE
Cases of pneumoconiosis, pulmonary fibrosis and emphysema have been reported in workers following prolonged exposures to high levels of airborne graphite dust

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

Experimental Studies for Mineral Wools
Animal inhalation studies on mineral wools showed neither pulmonary fibrosis nor lung cancer nor mesothelioma. Intratracheal and intraperitoneal injection studies did not show any disease except those involving selected fine glass fibres for special uses or experimental rock wools.

Experimental Studies for Chopped Strand glass fibre
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.

Experimental Studies for Aluminium Tri-hydroxide (ATH)
ATH Powder is insoluble and is essentially non-toxic
high levels of airborne ATH dust may be a mechnical eye irritant.
Skin contract with ATH dust may cause temporary irritation due to mechanical effects.
Airborne ATH dust is an upper respiratory irritant; exposures may aggravate pre-existing upper respiratory and lung diseases
If ingested Aluminium can accumulate in the human body; repated or extreme high level exposure to aluminium compounds may result in long term systemic effects.
Normal use of the intumescent product contraining ATH is unlikely to result in high level exposures to ATH dust or long term effects related to the aluminium content.

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 following exposure to mineral wools

Skin contact with graphite dusts may cause temporary irritation due to mechanical effeects: Repeated prolonged exposures may lead to dermatitis.

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

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

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 - 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 enters into force on 25 September 2009.

PROTECTION OF WORKERS
Shall be in accordance with several European Directives as amended and their implementations by the Member States:
a) Council Directive 89/391/EEC dated 12 June 1989 "on the introduction of measures to encourage improvements in the safety and health of workers at work" (OJEC (Official Journal of the European Community) L 183 of 29 June 1989, p.1).
b) Council Directive 98/24/EC dated 7 April 1998 "on the protection of workers from the risks related to chemical agents at work" (OJEC L 131 of 5 May 1998, p.11).

OTHER POSSIBLE REGULATIONS
Member States are in charge of implementing European Directives into their own national regulation within a period of time normally given in the Directive. Member States may impose more stringent requirements. Please always refer to any national regulation.

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

(the directives which are cited must be considered in their amended version)
- Council Directive 89/391/EEC dated 12 June 1989 "on the introduction of measures to encourage improvements in the safety and health of workers at work" (OJEC L 183 of 29 June 1989, p.1).
- 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)
- Council Directive 98/24/EC of 7 April 1998 "on the protection of the health and safety of workers from the risks related to chemical agents at work" (OJEC L 131 of 5 May 1998, p11).

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

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

Technical data sheets

NOTICE:
The information presented herein is based on data considered to be accurate as of the date of preparation of this Material Safety Data Sheet. However safe as provided by law, 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 authorisation given or implied to practice any patented invention without a licence. 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 (however, this shall not act to restrict the vendor's potential liability for negligence or under statute).