

SAFETY DATA SHEET

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

SDS Number: 448 Date of first issue: 04 November 2021 Date of last revision: 21 February 2022

1 - Identification of product

1.1 - Identification of Product

Tradenames: Superwool HT NexGen Castingtip.

The above-mentioned product contains 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 at temperatures up to 1600°C in industrial furnaces, ovens, kilns, and other process equipment and in the aerospace, automotive industries.

1.3 - Identification of Company

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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 according to Classification, Labelling and Packaging regulations (CLP) 1272/2008 EEC

2.1.2 Additional information:

This product is considered an article under REACH regulation 1907/2006. The materials do not contain any substances of very high concern or substances intended to be released under normal foreseeable conditions of use, these products are therefore not classified under the CLP regulations 1272/2008 which classifies substances and mixtures.

2.2 - Labelling Elements

No labelling required as product is considered an article under REACH and CLP regulations.

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.

When mixed with water, an increase in pH will occur. Alkaline mix may be irritating to skin and could cause damage to eyes.

3 - Composition / Information On Ingredients

These products are boards, shapes or forms, made of AES wool bound with organic and inorganic materials.

COMPONENT	% by weight	CAS No.	REACH Registration Number	Hazard Classification according to CLP
Alkaline Earth Silicate Wools	20-40	436083-99-7	01-2119457644-32	Note Q exonerated
Amorphous Silica	60-80	7631-86-9		Not classified as hazardous
Organic Binders	<5	not applicable		Not classified as hazardous
Sodium Silicate, M.R. 1.6-2.6	<1	1344-09-8	07-2119448725-31	H315, H318

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

4.1 - Description of First Aid Measures.

Skin

Wash immediately with water and soap, rinse and seek medical advice if skin irritation persists

Eyes

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Nose and Throat

If these become irritated move to a dust free area, drink water and blow nose. Seek medical attention if irritation persists.

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

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.

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

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.
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

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 November 2014) in different countries are given below:

Country	MMVF	Source
Austria	1 f/ml	Grenzwerteverordnung
Belgium	10 mg/m ³	Valeurs limites d'exposition professionnelle – VLEP/ Grenswaarden voor beroepsmatige blootstelling – GWBB
Czech Republic	1 f/ml	
Denmark	1 f/ml	Grænseværdier for stoffer og materialer
Finland	1 f/ml	Finnish Ministry of Social Affairs and Health
France	1 f/ml	INRS
Germany*	1.25 mg/m ³	TRGS900
Hungary	1 f/ml	EüM-SZCSM rendelet
Ireland	1 f/ml	HAS - Eire
Italy	1 f/ml	
Luxembourg	1 f/ml	Règlement grand-ducal du 30 juillet 2002
Netherlands	1 f/ml	Social and Economic Council of the Netherlands
Norway	0.5 f/ml	Veiledning om administrative normer for forurensning i arbeidsatmosfære
Poland	2 f/ml	Dziennik Ustaw 2010
Spain	1 f/ml	INSHT
Sweden	1 f/ml	Hygieniska gränsvärden och åtgärder mot luftföroreningar
Switzerland	1 f/ml	SUVA
UK	2 f/ml	EH40/2005
GCC	1 f/ml	Abu Dhabi OSHAD
South Africa	5mg/m ³	Regulation 1179 – Hazardous Chemical Substances 2007

Information on monitoring procedures

United Kingdom

MDHS 14/4 - "General methods for sampling and gravimetric analysis of respirable, thoracic and inhalable aerosols"

MDHS 59 - "Machine-made fibres Airborne number concentration and classification by phase contrast light microscopy"

MDHS 101 - "Crystalline silica in respirable airborne dusts"

NIOSH

NIOSH 0500 "Particulates not otherwise regulated, total"

NIOSH 0600 "Particulates not otherwise regulated, respirable"

NIOSH 7400 "Asbestos & other fibres by PCM"

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

Information on basic physical and chemical properties	Not applicable
State	Beige, brown white solid
Colour	Beige
Odour	None
Odour threshold	Not Applicable
pH	Not applicable
Melting point/freezing point	> 1650°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	800-900 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
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

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

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

(a) acute toxicity; not tested: Short term tests have been undertaken to determine fibre biopersistence rather than toxicity; repeat dose inhalation tests have been undertaken to determine chronic toxicity and carcinogenicity.

(b) skin corrosion/irritation; Not a chemical irritant according to test method OECD no. 404

(c) serious eye damage/irritation; not tested

(d) respiratory or skin sensitisation; No evidence from human epidemiological studies of any respiratory or skin sensitisation potential

(e) germ cell mutagenicity; no adverse effects

Method: In vitro micronucleus test
Species: Hamster (CHO)
Dose: 1-35 mg/ml
o Routes of administration: In suspension
o Results: Negative

(f) carcinogenicity; no adverse effects

(g) reproductive toxicity; no adverse effects

Method: Gavage
Species: Rat
Dose: 250mg/kg/day
Routes of administration: Oral
Results: No effects were seen in an OECD 421 screening study. There are no reports of any reproductive toxic effects of mineral fibres. Exposure to these fibres is via inhalation and effects seen are in the lung. Clearance of fibres is via the gut and the faeces, so exposure of the reproductive organs is extremely unlikely.

(h) STOT-single exposure; not applicable

(i) STOT-repeated exposure; not applicable

(j) aspiration hazard. not applicable

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

These products are not reported to have any ecotoxicity effects.

12.1 - Toxicity

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

FIBRE TYPE DEFINITION ACCORDING TO REGULATION (EC) No 1272/2008 AMENDING AND REPEALING DIRECTIVES 67/548/EEC AND 1999/45/EC, AND AMENDING REGULATION (EC) No 1907/2006.

According to Regulation 1272/2008 the fibre contained in this product is a mineral wool belonging to the group of "man-made vitreous (silicate) fibres with random orientation with alkaline earth oxide (Na₂O+K₂O+CaO+MgO) content greater to 18% by weight". (Table 3.2).

The classification as a carcinogen 2 will apply until the completion of short term biopersistence test by intratracheal installation showing a half life of less than 40 days for fibres longer than 20 µm under 1.1.3.1. (Note Q) of Annex VI of regulation (EC) 1272/2008. Fibres contained in this product therefore require labelling under CLP regulation.

1st Adaptation of Technical Progress of regulation (EC) N°1272/2008 of 10 August 2009 has removed skin irritancy classification for man-made vitreous (silicate) wools.

Restriction on Marketing of material

Marketing and use of Superwool Auto is controlled by Directive 76/769/EEC relating to restrictions on the marketing and use of certain dangerous substances and preparations as modified (21st amending, Directive 2001/41/EC, 19 June 2001) and is restricted to professional use only.

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

A Chemical Safety Assessment has been carried out for AES and CSR can be provided on request.

16 - Other Information

Information on after service heated fibres

In almost all applications high temperature insulating wools products (HTIW) are used as an insulating material helping keeping up temperature at 900°C or more in a closed space. As only a thin layer of the insulation hot face side is exposed to high temperature, respirable dust generated during removal operations does not contain detectable levels of crystalline silica.

In applications where the material is heat soaked, duration of heat exposure is normally short and a significant devitrification allowing CS to build up does not occur. This is the case for waste mould casting for instance.

Toxicological evaluation of the effect of the presence of CS in artificially heated HTIW material has not shown any increased toxicity in vitro. The results from different combinations of factors like increased brittleness of fibres, or micro crystals embedded in the glass structure of the fibre and therefore not biologically available may explain the lack of toxicological effects.

IARC evaluation as provided in Monograph 68 is not relevant as CS is not biologically available in after service HTIW and respirable dust generated during removal operations does not contain detectable levels of crystalline silica. <http://www.iarc.fr/en/publications/pdfs-online/index.php>

High concentrations of fibres and other dusts may be generated when after-service products are mechanically disturbed during operations such as wrecking. Therefore ECFIA recommends:

- a) control measures are taken to reduce dust emissions; and
- b) all personnel directly involved wear an appropriate respirator to minimise exposure and comply with local regulatory limits.

The trade association representing the European high temperature insulation wool industry (ECFIA) has undertaken an extensive hygiene programme for High Temperature Insulation Wool (HTIW). The objectives are twofold: (i) to monitor workplace dust concentrations at both manufacturers' and customers' premises, and (ii) to document manufacturing and use of HTIW products from an industrial hygiene perspective in order to establish appropriate recommendations to reduce exposures. The initial results of the programme have been published. If you wish to participate in the CARE programme, contact ECFIA or your Thermal Ceramics' supplier.

For more information connect to:

The Morgan Thermal Ceramics' website: (<http://www.morganthermalceramics.com/>)

Or ECFIA's website: (<http://www.ecfia.eu>)

Revision Summary

New SDS

Technical data sheets

For more information on individual products please see the relevant technical data sheet available from <http://www.morganthermalceramics.com/downloads/datasheets>

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).