

MATERIAL SAFETY DATA SHEET



SoliBlanket ULS Grade
SoliBulk ULS Grade
SoliLog ULS Grade
SoliBloc ULS Grade

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Section 1:

1.1 Identification of product

Product form Article
Product name SoliBlanket ULS Grade - SoliBulk ULS Grade - SoliLog ULS Grade - SoliBloc ULS Grade
Type of product 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: 01-2119457644-32-0009
Productgroup High temperature insulation material

1.2 Use of the product

Application as thermal insulation, heat shields, heat containment, gaskets and expansion joints in industrial furnaces, ovens, kilns, boilers and other proces 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 the company

Vulcor Insulation BV
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+31 (0) 488 700 202 during office hours
sales.support@vulcor.com
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Section 2. Hazard identification

2.1 Classification of the substance | mixture

Classification according to regulation (EC) No 1272 | 2008:
Not classified as hazardous according to classification, labelling and packing regulations (CLP) 1272 | 2008 EEC
For these AES products the half-time of the WHO fibre fraction meets the limit of ≤ 40 days given in Annex II no 5 of the German Gefahrstoffverordnung (hazardous substances ordinance) which was set for the use of MMVF for heat and sound insulation in building construction in Germany.

2.2 Labelling elements

Not applicable

2.3 Other hazards which do not result in classification

Mild mechanical irritation to the skin, eyes and upper respiratory system may result from exposure.
These effects are mostly temporary.

Section 3. Composition & information on ingredients

3.1 Description

These products in the form of bulk, blanket, modules, bloc and log are made of AES wool: synthetic fibers, Alkaline Earth Silicate

Component	% by weight	CAS no	REACH registration number	Hazard classification acc. To CLP
AES Wool, synthetic fibers, Alkaline Earth Silicate	100	436083-99-7	01-2119457644-32-0009	Note Q exonerated

Composition: * CAS definition: alkaline earth silicate (AES) consisting of silica (45-85wt%), calcia and & magnesia (15-50 wt%), alumina and titania (less than 8wt% and trace oxides).

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

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For updated product- and material safety datasheets, please visit our website: www.vulcor.com

Section 4. First Aid Measures

4.1 Description of first aid measurements

Skin

Handling of this material may generate mild mechanical irritation. Wash it off gently with water. Don't rub or scratch the exposed skin.

Eyes

After eye contact: flush with water, or better with eye bath. Don't rub. Seek medical help if problem persists.

Nose & Throat

If irritated, move to dust free area. Drink water and blow the nose. Seek medical help if problem persists.

First Aid additional information

If symptoms persist, seek medical help

4.2 Most important symptoms and effects

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

Section 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

Packing and surrounding materials may be combustible

Section 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Where abnormal high dust concentrations occur, provide workers with appropriate protective equipment as mentioned 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, if applicable.

6.3 Methods and materials for containment and cleaning

Pick up large pieces and use a vacuum cleaner for small parts and dust.

If brushes are needed, ensure 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 read sections 7 & 8.

Section 7. Handling and storage

7.1 Precautions for safe handling

Handling can be a source of dust emission and therefore the process should be designed to limit the amount of handling. Where ever possible, handling should be carried out under controlled conditions (using a dust exhaust system)

Regular good housekeeping will minimise secondary dust dispersal.

7.2 Conditions of safe storage

Store in original packing in a dry area. Always use sealed and clearly labelled containers. Avoid dampening containers.

Reduce dust emission during unpacking.

7.3 Specific end use

The main application of these products: thermal insulation. Please refer to your supplier (Vulcor Insulation)

Section 8. Risk management measures | exposure controls | personal protection

8.1 Control parameters.

Industrial hygiene standards and occupational exposure limits vary between countries and local law. Check the exposure levels in your facility and comply with local regulators. If no regulatory dust or standard apply, a qualified industrial hygienist can assist with a specific workplace evaluation including recommendations for respiratory protection

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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 -
Czech Republic	1 f/ml	
Denmark	1 f/ml	Graensevaerdier 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	1 f/ml	Veiledning om administrative normer for forurensning i arbeidsatmosfaere
Poland	2 f/ml	Dziennik Ustaw 2010
Spain	1 f/ml	INSHT
Sweden	1 f/ml	Hygieniska gränsvärden och åtgärder mot luftöroreningar
Switzerland	1 f/ml	SUVA
UK	2 f/ml	EH40/2005
GCC	1 f/ml	Abu Dahbi OSHAD
South Africa	5 mg/m ³	Regulation 1179 - Hazardous Chemical Substances 2007

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, down draft tables, emission controlling tools and materials handling equipment can be used.

Keep the workplace clean, use a vacuum cleaner and 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 fitted at the neck and wrists. Soiled clothes should be cleaned to remove excess fibres before being taken off (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 10 times the limit value use, FFP2 respirators. In case of higher concentrations, or where the concentration is unknown, please seek advice from your supplier.

Information and training 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 section 13.

Section 9. Physical and chemical properties

Information on basic physical and chemical properties:	N.A.
Appearance:	White fibre -blanket paper bulk log bloc
Odour:	None
Odour threshold:	N.A.
pH	N.A.
Melting point freezing point:	> 1200°C
Initial boiling point and boiling point range:	N.A.
Flash point:	N.A.
Evaporation rate:	N.A.
Flammability (solid, gas)	N.A.
Upper lower flammability or explosive limits:	N.A.

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Vapour pressure:	N.A.
Vapour density:	N.A.
Relative density:	48-240kg/m ³
Solubility(ies):	Less than 1mg/l
Partition co-efficient: n-octanol water:	N.A.
Auto-ignation temperature:	N.A.
Decomposition temperature:	N.A.
Viscosity:	N.A.
Explosive properties:	N.A.
Oxidising properties:	N.A.

Section 10. Stability and reactivity**10.1 Reactivity**

The material is stable, inorganic and inert.

10.2 Chemical stability

The material is stable, inorganic and inert.

10.3 Possibility of hazardous reactions

None

10.4 Conditions to avoid

Please refer to the 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 mixtures of crystalline phases. For further information please refer to section 16.

Section 11. Toxicological information | toxicokinetics | metabolism | 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 cleaned from lung tissue. This low biopersistence has been confirmed in many studies on AES using EU protocol ECB|TM|27(rev7). 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 toxicological effects

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 in tissue do not produce tumours when injected into the peritoneal cavity of rats.

11.2 Irritant properties

These products 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 people, 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.

Section 12. Ecological information: ecotoxicity (aquatic and terrestrial where available)**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 a 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 Other adverse effects

No additional information available

Section 13. Disposal considerations

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13.1 Waste treatment methods

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 Nr 2000|532|CE as modified) to identify your appropriate waste number, and issue national and/or regional regulations are complied with.

Unless wetted, such as 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.

Section 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 MARPOL 73|78 and the IBC code

Not applicable

Section 15. Regulatory information

15.1 Safety, health and environmental regulations|legislation specific for the substances or mixtures

EU regulations:

1. Regulation (EC) No 1907/2006 dated 18th December 2006 on Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)
2. Regulation (EC) No 1272/2008 dated 20th January 2009 on classification, labelling and packaging of substances and mixtures (OJ L353) Annex of Regulation (EU) 2015/830
3. 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.
4. The 1st Adaptation to Technical Progress (ATP) to Regulation (EC) No 1272/2008 enters into force on 25th of September 2009.

Protection of the workers:

Shall be in accordance with several European Directives as amended and their implementations by the Member States:

1. 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) L183 of 29 June 1989
2. Council Directive 98/24/EC dated 7 April 1998 "on the protection of workers from the risks related to chemical agents at work" (OJEC L131 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. Please always refer to any national regulation. Member States may impose more stringent requirements. (the directives which are cited must be considered in their amended version)

1. 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).
2. Regulation (EC) No 1907/2006 dated 18th of December 2006 on Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)
3. Regulation (EC) No 1272/2008 dated 20th January 2009 on classification, labelling and packaging of substances and mixtures (OJ L 353)
4. 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, p.11).

15.2 Chemical safety assessment

A chemical safety assessment has been carried out for AES and CSR can be provided on request.

Section 16. Other information

16.1 Usefull references:

16.2 Precautionary measures

Information on after service heated fibres.

In almost all applications high temperature insulating wool products (HTW) 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 is exposed to high temperature, respirable dust generated during removal operations does not contain detectable levels of crystalline

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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 f.i.

Toxicological evaluation of the effect of the presence of CS in artificially heated HTW material hasn't shown any increased toxicity in vitro. The results for 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 HTW and respirable dust generated during removal operations doesn't contain detectable levels of CS. High concentrations of fibres and other dusts may be generated when after-service products are mechanically disturbed during operation such as wrecking. ECHFIA recommends:

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

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