Safety data sheet according to regulation (EC) No 1907/2006 and (EC) No 1272/2008

Trade name:	**Bolitan-Blanket**		
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Replaces former version:	V2.0	File name:	Bolitan-Matte_en_SDB

1. Designation of Material/Preparation/ and Company

Trade-name : Bolitan - Blanket

Product Information: Thermal insulation of industrial equipment

Manufacturer/Supplier :

Techno-Physik Engineering GmbH

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2. Composition: Information on Constituents

Mixtures:aluminium-silicate fibre. 15 – 60 %

AES wool: CAS 142844-00-6; EC-No.604-314-4; REACH-01-2119458050-50-00001.

Carc. 1B, H350i

3. Potential Hazards

3.1 Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008 The substance is not classified according to the CLP regulation since it is an article.
3.2 Label elements
Labelling according to Regulation (EC) No 1272/2008
P201 – Otain special instructions before use
P261 – Avaoid breathing dust
P280 - Wear respiratory protection
Restricted to professionel users
3.3 Other hazards
Results of PBT and vPvB assessment
May cause mechanical irritation to the skin, eyes and respiratory system

4. First-aid Precautions

Inhalation: At times, symptoms of irritation or dryness in throat and nose – anyone inhaling an accumulation of this product must be given acces to fresh air. Free the nose from dust. Drinking copious amounts of water will sooth the irritation.
Skin contact: From time to time irritation of the skin can occur - wash the affected areas of skin with water and mild soap. Do not use any other cleansing agents.
Eye contact: From time to time irritation or inflammation can occur - rinse the eyes with water. Keep an eye glass handy where there is any danger of eye contact.

Swallowing: Can from time to time lead to irritation and functional impairment of the gastro-intestinal tract – drink copious amounts of water. Symptoms of irritation and inflammation are due to possible mechanical friction effects of the substance. Should the symptoms persist, call a doctor

5. Fire-fighting Precautions

Use an extinguisher appropriate to the environment.

6. Action on accidental Release into the Atmosphere

6.1 Personal precautions	See Point 8 - personal protective clothing for high dust concentrations
6.2. Environmental precautions and decontamination	Collect the product residues mechanically and fill into closed containers; Avoid creating dust. For collecting dust from the product use a vacuum cleaner or clean up with a damp cloth.

7. Handling and Storage

7.1. Handling	Avoid the creation and deposition of dust
7.2. Storage	Store in a dry place. Avoid damage to the packaging.

8. Exposure Control and personal protective Clothing and Equipment

8.1. Additional instructions for the construction of technical plants	Use technical protective measures (e.g. dust exhaustion) to keep dust to a minimum

8.2. Constituents with limits affecting the workplace which require monitoring:

CAS-Nr.	Designation	Measuring Method	Limit
65997-17-3	aluminium silicate fibre	ZH 1/120.31	1.000.000 f/cbm
TRK	general limit for dust	gravimetric	6 mg/m_
MAK14464-46-1	cristobalite	RDA	0,15 mg/m_gravimetric

--> after use >900°C: gravimetric
10000000 fibres/cbM= old fixed plants up to 31.12.1995
500000 fibres/cbm = all others
RDA= x-ray, diffractometric analysis

8.3 Personal Protective Clothing

Respiratory protection	Where the limits have been exceeded (see Point 8.2.) breathing apparatus with a particle filter corresponding to DIN 1381-P2 must be worn. It is recommended that these masks should be worn also atlower fibre concentrations. up to 5,000,000 fibres/cbm = wear a half-mask with a particle filter corresponding to DIN 3181-P3 up to 25,000,000 fibres/cbm = wear a full mask with a particle filter corresponding to DIN 3191-P3 in excess of 25,000,000 fibres/cbm please refer to the manufacturer.
Skin protection	The use of protective gloves is recommended.
Eye protection	Use protective goggles with side protection. Do not wear contact lenses.
Body protection	Wear loose-fitting clothes. Wear headdress when working overhead.

9. Physical and chemical Properties

9.1. Appearance:	Form : mat Colour : white Smell : odourless
9.2 Data of relevance for safety	Change of state from amorphous to crystalline from approx. 900°C Melting temperature over 1500°C Bulk density at approx. 96-160 kg/m³ Solubility: insoluble Vapour pressure: n.a. Explosive limit: n.a.

10. Stability and Reactivity

n.a.

11. Toxicological Data

Acute Toxicity:
Classification values for LD/LD 50 n. a.
Primary irritant effect: causes no irritation of the skin (84/449/EEC Test B4)

Experience with human beings:
Epidemiological investigations of workers in the ceramic fibre industry in Europe and the USA over many years, and which are still in progress, have so far produced the following results:
1. X-ray examinations have revealed no indications of the occurrence of pulmonary fibrosis (interstitial fibrosis).
2. Non-smokers exhibited no indications of pulmonary disorders. Smokers and former smokers, on the other hand, experienced symptoms such as shortage of breath and dry cough.

3. Investigations revealed a statistical trend whereby, depending on the duration of exposure to ceramic fibres, some respiratory function tests showed a measurable decline in pulmonary function. However, this change was not clinically significant and remained within the biological variability of respiratory functional measurement
4. A US study revealed a small number of pleural plaques in a limited number of employees who had been working with ceramic fibres over an extended period of time. A series of occupational and non-occupational causes of pleural plaques exist. It should be mentioned that pleural plaques are neither a precursor of cancer, nor was any link to a measurable impairment of pulmonary function identified.
In recent years a series of studies on rats and hamsters of the overall toxic effects of inhaling ceramic fibres have been conducted. In a chronic nasal inhalation study on rats with a maximum dose of 30 mg/cbm (200f/cbm) lung damage (interstitial fibrosis), lung cancer and pleural plaque (mesothelioma) were observed. In the same study, hamsters also exhibited interstitial fibrosis und mesothelioma, but no lung cancer.
A further study with rats (doses of 3, 6 und 9 g/cbm, corresponding to 25,000,000, 75,000,000 und 115, 000,000 f/cbm) was completed after 29 months. Dosedependent biological effects of ceramic fibres were detected. A rise in the lungcancer rate was not observed at any of the dose-rates. An increased rate of pulmonary fibrosis occurred at concentrations of from 6 and 9 mg/cbm. Pleural fibrosis and a mesothelioma were detected in only a single rat out of 127 from the group 9 mg/cbm. No pulmonary fibrosis was observed in the groups of animals under 9 mg/cbm. In 1998 the WJP-OARC published data on the carcinogenicity of KMF (including ceramic fibres, glass wool, rock wool and slag wool). On the basis of these data, the data available up to that point, ceramic fibres were placed in the group of substances posing a potential threat of cancer to human beings. This classification was based on animal studies as no data had hitherto been available on the effects of ceramic fibres on human beings.

12. Ecological Data

The, mostly mineral, constituents of these products are inert and stable.

13. Instructions for Disposal

These products contain no hazardous substances in the sense of the Dangerous Substances Directive and may be disposed of in an appropriate disposal site in keeping with official and local regulations. Residues and waste not subjected to thermal effects will be taken back by the manufacturer.

EEC-Code for waste glass: 101103

14. Shiping Data

These products do not present any shipping hazard.
Protect products from damp during shipment. Avoid the creation of dust.

15. Regulations

Fibre type definition according to Directive 67/548/EEC

Regulatory status in the EU, comes from European Directive 67/548/EEC, on the classification, labelling and packaging of dangerous substances and preparations as modified by Directive 97/69/EEC and its implementations by the Member States.

According to Directive 67/548/EEC, 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 oxide and alkali earth oxide (Na_2O +K_2O+CaO+MgO+BaO) content greater than 18% by weight".

In accordance with 31st adaptation to Technical Progress of Directive 67/548/ECC as published 15th January 2009 the classification as "irritant" has been removed for all types of man made vitreous fibres (MMVFs).

Under criteria listed in nota Q of Directive 67/548/EEC, AES wools are exonerated from carcinogen classification because of low pulmonary biopersistence measured by the methods specified in European Union and German regulations (EU protocol ECB/TM/27(rev 7) and German method as specified in TRGS 905 (1999)).

16. Miscellaneous Data

USEFUL REFERENCES (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)

Council Directive 67/548/EEC on the "approximation of the laws, regulations and administrative provision
relating to the classification, packaging and labelling of dangerous substances as modified and adapted to the technical progress" (OJEC L 196 of 16 August 1967,p.1 and its modifications and adaptations to technical progress).

Commission Directive 97/69/EC of 5 December 1997 "adapting to technical progress for the 23rd time Council Directive 67/548/EEC ,(OJEC L 343 Official Journal of the European Communities, 13/12/97, p.19).
Council Directive 98/24/EC of 7th April 1998 "on the protection of the health and safety of workers from risks related to chemical agents at work" (OJEC L131 of 5th May 1998, P.11)
TRGS 521 : Faserstaube 5/2002 - Germany

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