

# SAFFIL BLANKET

## 1. IDENTIFICATION OF THE PRODUCTS AND OF THE COMPANY

### Identification of the substance

Trade names : Saffil Blanket

HDB –high density blanket

The above-mentioned product contains polycrystalline wool (PCW)

CAS number : 675106-31-7

EC number : 614-074-2

Registration number : 01-2119456884-25-0000

### Use of the product

For application as thermal insulation at temperatures up to 1600°C in industrial furnaces, ovens, kilns, boilers and other process equipment. Should not be sold directly to the general public, but to professional users only.

### Identification of the company

#### INSULCON B.V.

P.O. Box 134

4650 AC STEENBERGEN, The Netherlands

Zilverhoek 4, 4651 SP STEENBERGEN

Tel. : +31 (0)167-565750

Fax : +31 (0)167-566263

[www.insulcon.com](http://www.insulcon.com)

[info@insulcon.com](mailto:info@insulcon.com)

#### KERAMAB N.V.

Belgium

Tel. : + 32 (0)3 711.02.78

#### INSULCON GMBH

Germany

Tel.: + 49 (0) 2162 249 60-0

## 2. HAZARD IDENTIFICATION

Polycrystalline wools (PCW) are not classified as dangerous under EC Directive 67/548/EEC, CLP Regulation 1272/2008 or according to the self-classification guidelines.

PCW have not been assessed by the EU and therefore are not specifically classified by the European Union. The International Agency for Research on Cancer (IARC) classed polycrystalline wools (polycrystalline aluminosilicate fibres) in group 2B (“possibly carcinogenic to humans”) in their Monograph of 1988. In Germany in accordance with Technical Rules for Hazardous Substances TRGS905 (2.3. para. 6) inorganic fibrous dust, unless classified elsewhere, is classified in category 3.

### Irritant effects

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

Insulcon B.V.- The Netherlands - Tel: +31 (0)167 565 750

Insulcon GmbH - Germany - Tel: +49 (0)2131 408548-0

Keramab N.V. – Belgium - Tel: +32 (0)3 711 02 78

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[www.insulcon.com](http://www.insulcon.com) / [www.keramab.com](http://www.keramab.com)

Form: A1-101

Effective: 04082015/JN/ka

Supersedes: 23022015/JM/ka

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## SAFFIL BLANKET

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	EU number	CAS number
Polycrystalline wool	614-074-2	675106-31-7*
Polypropylene binder		9003-07-0

\*PCW can also be identified by a combination of CAS Numbers: 1344-28-1 (fibrous forms of Aluminium Oxide), 7631-86-9 (Silica, non-crystalline), or 1302-93-8 (Mullite).

#### Composition

Chemical composition of Saffil fibres ( $\text{Al}_2\text{O}_3$ : 72-97%  $\text{SiO}_2$ : 3 - 28%)

### 4. FIRST AID MEASURES

#### Skin

In case of skin irritation 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. Get medical attention if irritation persists.

#### Inhalation:

Remove worker from source of exposure to clean fresh air. Drink water and blow nose

### 5. FIRE FIGHTING MEASURES

#### In General

PCW are Non-combustible,

The organic binder (5%) is combustible however not readily ignited.

Combustion of the binder can evolve irritant vapours. At complete combustion, the major products formed are carbon dioxide and water. Other products of decomposition will also be present but at concentrations considerably less than carbon dioxide. During incomplete combustion a range of products will be formed but mainly carbon dioxide and carbon monoxide.

#### Extinguishing media

As appropriate for surrounding combustible materials.

### 6. ACCIDENTAL RELEASE MEASURES

#### Personal Protection

During removal of spillages, use personal protection (including gloves and a suitable dust mask as detailed in section 8).

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### General

- Restore the situation to normal as quickly as possible.
- Prevent further dust dispersion for example by damping the materials.
- Pick up large pieces and use a vacuum cleaner fitted with high efficiency filter (HEPA)
- If brushing is used, ensure that the area is wetted down first.
- Do not use compressed air for clean-up.
- Do not allow to be wind blown.
- Transfer to a lidded container for disposal.
- To avoid blockages do not allow product to enter drains/sewage

## 7. HANDLING AND STORAGE

### Handling / techniques to reduce dust emissions during

#### Handling

Handling can be a source of dust emission. Process should be designed to limit the amount of handling. Whenever possible, handling should be carried out under controlled conditions (i.e., use dust exhaust system). Using specially treated or encapsulated products will minimise dust release. Regular good housekeeping will minimise secondary dust dispersal.

#### Storage

Store in original packaging in dry area whilst awaiting use Always use sealed and visibly labelled containers.

## 8. EXPOSURE CONTROL / PERSONAL PROTECTION

### Hygiene standards and control measures

Hygiene standards and exposure limits may differ from country to country. Check those currently applying in your country and comply with local regulations.

### Occupational Exposure Limits

Occupational Exposure limits	LTEL 8hr TWA ppm	LTEL 8hr TWA mg/m <sup>3</sup>	Note:
UK	2	5 (Total dust)	Machine-made mineral fibres: Work place Exposure Limit :EH40

\* For the UK, there is no occupational exposure standard specific to Polycrystalline Wools (polycrystalline aluminosilicate (mullite) fibres), however it is recommended that airborne fibre levels be kept below 0.5 fibres/ml (8 hours TWA). For total inhalable dust apply 10 mg/m<sup>3</sup> and for respirable dust apply 3 mg/m<sup>3</sup>.

### Some selected references:

Germany: OELs have been replaced by obligation of employer to evaluate hazard and risk of each activity where exposure to PCW dust may occur according to TRGS 558 and TRGS 402.

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Occupational Exposure limits	TWA 8hr f/ml	TWA 8hr mg/m <sup>3</sup>	Notes:
France	-	5 (respirable dust) 10 (total dust)	Code du travail R4222-10
Italy		3 (respirable dust)	Based on ACGIH recommendation – not an official limit value
Spain	1		Limites de exposición profesional 2010
Sweden	0.2		Statute Book of the Swedish Work Environment Authority; AFS 2005: 17 occupational Exposure Limit Values and measures against air contaminants.

### Information and training of workers

Workers should be trained on good working practices and informed on applicable local regulations.

### Engineering controls

Review your application(s) and assess situations with the potential for dust release.

Where practical, enclose dust sources and provide dust extraction at source.

Use operating procedures, which will limit dust production and exposure of workers.

Keep the workplace clean. Use a vacuum cleaner fitted with an HEPA filter; avoid using brooms and compressed air.

If necessary, consult an industrial hygienist to design workplace controls and practices.

Using 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 treated or packaged to minimise or avoid dust release during handling.

Consult your supplier for further details

### Personal protective equipments

#### Skin protection

Wear gloves and work clothes as necessary to prevent skin irritation. Washable or disposable clothing may be used. Soiled clothes should be cleaned to remove excess fibres before being taken off (e.g. use vacuum cleaner, not compressed air). It is good hygiene practice to ensure work clothes are washed separately by the employer.

#### Eye protection

As necessary wear goggles or safety glass 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.

In case of higher concentrations or where the concentration is not known, please seek advice from your company and/or your supplier.

You may also refer to the ECFIA code of practice available on the ECFIA's web site

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## Information and training of workers

Workers should be trained on good working practices and informed on applicable local regulations.

## Environmental exposure controls

Refer to local, national or European

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	White, fibrous wool
Upper/lower flammability or explosive limits	Not explosive
Odor	Odorless
Vapor pressure	Not applicable
Odor threshold	Not applicable
Vapor density	Not applicable
pH	Not applicable
Relative density	3.0 to 3.5 (range)
Melting point	>1800*°C
Solubility	Insoluble
Initial boiling point and boiling range	Not applicable
Partition coefficient: n-octanol/water	Not applicable
Flash point	Not applicable
Auto-ignition temperature	Not applicable
Evaporation rate	Median Fibre diameter
Not applicable	3-4µm
Decomposition temperature	Not applicable
Flammability	Not flammable
Viscosity	Not applicable
*Refers to SAFFIL fibre	

## 10. STABILITY AND REACTIVITY

<b>Conditions to</b>	N.A.
<b>Materials to AVOID</b>	N.A.
Stable under normal conditions of use.	

## Decomposition products

Thermal decomposition of the polypropylene binder contained within the product is probable above 300°C.

## 11. TOXICOLOGICAL INFORMATION

### Acute effects

#### **Inhalation**

Fibrous dust may be mechanically irritant to the nose and throat.

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## Skin contact

May cause skin to itch in sensitive individuals.

## Eye contact

May cause mechanical irritation.

## Ingestion

Low oral toxicity. Unlikely to cause harmful effects under normal conditions of handling and use.

## Chronic effects

Lifetime rat inhalation studies of polycrystalline fiber show that at the maximum dose level tested, there was no evidence of lung cancer, lung fibrosis or any other significant adverse effect. Intraperitoneal, intratracheal and intrapleural studies in rats, together with two in vitro tests, have all shown negative results. Despite some study limitations, it is important to note the consistent lack of carcinogenic response in animal studies.

In 1988, the International Agency for Research on Cancer (IARC) considered the carcinogenicity of several groups of fibers. One grouping they considered was a poorly defined collection of disparate fiber types [polycrystalline fiber, refractory ceramic fiber (referred to as RCF) and single crystal whiskers] into a broad, single category they termed "ceramic fibers". The IARC monograph clearly indicated that test data specific to *polycrystalline* fibers were negative, but according to the IARC classification principles, positive results with other fiber types led to the conclusion that all fibers in the group should be considered as possible human carcinogens (IARC Category 2B). In a subsequent monograph on MMVF (2002), IARC did not specifically re-evaluate polycrystalline fiber. The Annual Report on Carcinogens prepared by the National Toxicology Program (NTP), (latest edition) classified "ceramic fibers (respirable size)" as reasonably anticipated to be carcinogens.

As produced most polycrystalline fibers, including Saffil, have fiber diameters too large to be respirable. Numerous scientific studies suggest that the potential toxicity of a respirable fiber is directly related to bio-persistence (the length of time it takes for the fiber to clear the lung). Based on limited in-vitro laboratory analysis, which measure the dissolution rate of fibers in simulated lung fluid, polycrystalline fibers are known to be relatively durable.

Data from respiratory surveillance studies are not available for PCW workers. In a small cohort of workers exposed to PCW with historical co-exposures to RCF and other fibers, there was no evidence of interstitial lung disease on chest x-rays nor an accelerated rate of loss of lung function on pulmonary function testing. Symptom responses could not be attributed to or excluded from exposure to PCW as a consequence of the prior fiber exposures.

## 12. ECOLOGICAL INFORMATION

The product is a non-volatile solid, insoluble in water, has no potential for bioaccumulation and has no mobility in soil.

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## Persistence and degradation

The product is inorganic: no biodegradability in water or soil is expected.

## Toxicity

Unlikely to be hazardous to aquatic life.

## Effect on effluent treatment

Unlikely to have any significant effects on effluent treatment.

### 13. DISPOSAL CONSIDERATIONS

Polycrystalline wool is categorised as a stable non-reactive waste, which can generally be disposed of at landfill, which has been licensed for this purpose. Please refer to the European list (Decision no 2000/532/CE as modified -EU waste code 17-06-02 may apply to virgin product) to identify your appropriate waste number, and ensure national and or regional regulation are complied with. Taking into account any possible contamination during use, expert guidance should be sought.

### 14. TRANSPORT INFORMATION

Not classified as dangerous goods under relevant international transport regulations (ADR, RID, IATA, IMDG Refer Section 16 "Definitions").

Ensure that dust is not wind blown during transportation.

### 15. REGULATORY INFORMATION

Polycrystalline wools (PCW) are not classified as dangerous under EC Directive 67/548/EEC, CLP Regulation 1272/2008 or according to the self-classification guidelines. PCW have not been assessed by the EU and therefore are not specifically classified by the European Union  
In Germany in accordance with Technical Rules for Hazardous Substances TRGS905 (2.3. para. 6) inorganic fibrous dust, unless classified elsewhere, is classified in category 3.

In 1988 IARC classified man-made mineral fibres as possible human carcinogens (2B) and, at that time PCWs were included in this broad category of materials.

Current information on carcinogenicity is given in Section 11.

#### Recommended labelling

Attention:

"This product contains Polycrystalline Wool (PCW)

May cause temporary mechanical irritation to exposed eyes, skin or respiratory tract.

Minimise dust generation."

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 national regulations.

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## 16. OTHER INFORMATION

### 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).
  - 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, labeling and packaging of substances and mixtures (OJ L 353)
  - Commission Directive 97/69/EC of 5 December 1997 adapting to technical progress for the 23rd time Council Directive 67/548/EEC (OJEC of 13 December 1997, L 343).
  - 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).

Good Working Practices for High temperature insulation wools ; ECFIA Booklet (January 2006)  
TRGS 619, TRGS 558 and TRGS 905 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
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

Precautionary measures to be taken after service and upon removal

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

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

These procedures should ensure compliance with local regulatory exposure standards and provide a high degree of protection.

### Care programme

ECFIA has undertaken an extensive industrial hygiene programme to provide assistance to the users of High Temperature Insulation Wool products, including polycrystalline aluminosilicate wools.

The objectives are twofold:

- to monitor workplace dust concentrations at both manufacturers' and customers' premises,



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- to document manufacturing and use of HTIW products from an industrial hygiene perspective in order to establish appropriate recommendations to reduce exposures.

If you wish to participate in the CARE programme, contact ECFIA or your supplier.

### Note

The directives and subsequent regulations detailed in this Safety Data Sheet are only applicable to the European Union (EU) Countries and not to countries outside of the EU.

### Websites:

For more information connect to:

European Industry Association Representing HTIW (ECFIA): 3, Rue du Colonel Moll, 75017 Paris  
Tel. +33 (0) 6 31 48 74 26 , ECFIA's website: (<http://www.ecfia.eu>)

### Definitions

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### Website

Websites European Industry Association Representing HTIW (ECFIA): 3, Rue du Colonel Moll, 75017 Paris Tel. +33 (0) 6 31 48 74 26 [www.ecfia.eu](http://www.ecfia.eu)

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### NOTICE:

The information presented here in 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 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.

**Insulcon B.V.**- The Netherlands - Tel: +31 (0)167 565 750  
**Insulcon GmbH** - Germany - Tel: +49 (0)2131 408548-0  
**Keramab N.V.** – Belgium - Tel: +32 (0)3 711 02 78



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