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|---|---|
| Kºhlerwoodcap<br>Bovendijk 196<br>3045PD Rotterdam | issue / revision date<br>07.01.2015 |

**Product name:** Flammiband

## 1. Identification of the substance / preparation and of the company

**Identification of the substance or preparation:**

Flammiband

**Use of the substance / preparation:**

Sealing tape

**Company identification:**

Kºhlerwoodcap

Telephone: +32(0)10 2780880
Emergency: +32(0)10 2780880

Bovendijk 196
3045 PD Rotterdam

**Informing department:** development & quality assurance Telephone: +32(0)10 2780880

## 2. Hazards identification

Mild mechanical irritation to skin, eyes and upper respiratory system may result from exposure. These effects are usually temporary.
Pre-existing skin and respiratory conditions including dermatitis, asthma and chronic lung disease might be aggravated by exposure.

## 3. Composition / information on ingredients

**Chemical characterization:** Sealing tape made of high temperature vitreous fibres ($SiO_2$ = 60% - 70%, alkali earth oxide (CaO + MgO) = 30% - 40%, acrylic-latex-binder < 15%); self-adhesive with pressure sensitive adhesive based on a acrylic dispersion and with a polyester nonwoven carrier; liner: siliconized polyolefin foil

## 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.

**Nose and throat:** If these become irritated move to a dust free area, drink water and blow nose. If symptoms persist, seek medical advice.

## 5. Fire-fighting measures

**Suitable extinguishing media:** water, powder, foam, carbon dioxide ($CO_2$)

**Unsuitable extinguishing media:** none

**Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases:** Combustion products of the adhesive are: water, soot, carbon monoxide (CO), carbon dioxide ($CO_2$) and organic pyrolysis products.
The fibre material is not combustible.

**Special protective equipment for firefighting:** breathing apparatus with independent air supply for fire-fighters

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## 6. Accidental release measures

Where abnormally high dust concentrations occur, provide the workers with appropriate protective equipment as detailed in section 8.

Restore the situation to normal as quickly as possible.
Prevent further dust dispersion for example by damping the materials.

**Methods for cleaning up:** Pick up large pieces and use 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.
Do not flush spillage to drain and prevent from entering natural watercourses.
Check for local regulations, which may apply.

For wastes disposal refer to section 13.

## 7. Handling and Storage

### Handling

Handling can be a source of dust emission.
The process or processes 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).
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.
Avoid damaging containers.
Reduce dust emission during unpacking.
Emptied containers, which may contain debris, should be cleaned before disposal or recycling.

## 8. Exposure limitation and personal protective equipment

### Hygiene standards and control measures

Hygiene standards and occupational exposure limits may vary between countries and local jurisdictions. Check which exposures apply to your facility.
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 to mineral wool in different countries are given below:

| Country | Exposure limits* | Source |
|---|---|---|
| Germany | 3,0 mg/m³ ** | TRGS 900, Bundesarbeitsblatt 2005 |
| France | 1,0 f/ml | Circulaire DRT No 95-4 du 12/01/95 |
| United Kingdom | 2,0 f/ml | HSE EH40 Workülace Exposure Limit |

*8h time weighted average concentrations of airborne respirable fibres measured using the conventional membrane filter method.
** Respirable dust, TRGS 900 does not specify an exposure limit in f/ml.

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## 8. Exposure limitation and personal protective equipment

**Engineering controls**

Review your application(s) 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 material handling equipment. Keep the workplace clean. Use a vacuum cleaner fitted with an HEPA filter; avoid brushing and using compressed air.

**Personal protective equipments**

**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).

**Eye protection:** As necessary wear goggles or safety glasses with side shields.

**Respiratory protection:** For dust concentrations below the exposure limit value, respiratory protection equipment 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.

**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 applicable environmental permitted standards for release to air, water and soil.
For waste, refer to section 13.

## 9. Physical and chemical properties

**General information**

**Physical state:** solid

**Colour:** white

**Odour:** practical odourless

**Important health, safety and environmental information**

| | value/dimension | method |
|---|---|---|
| **pH-value:** | n.a. | |
| **Physical state change:** melting point fibre | > 1330 °C | |
| **Ignition temperature:** | n.a. | |
| **Density:** | 180 - 240 kg/m³ | DIN EN ISO 845 |
| **Solubility in water:** | insoluble | |

n.a. = not applicable

**Additional information:** Length weighted geometric diameter 2-3 µm

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## 10. Stability and Reactivity

**Conditions to avoid:** no decomposition at use according to applicational design

**Materials to avoid:** avoid direct contact to heavy acids or heavy bases

**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

**Irritant properties**

When tested using approved methods (Directive 67/548/EC, Annex 5, Method B4), fibres contained in this material give negative results. All man made mineral fibres, like some natural fibres, can produce a mild irritation resulting in itching or rarely, in some sensitive individuals, in slight reddening. Unlike other irritant reactions this is not the result of allergy or chemical skin damage but is caused by a temporary mechanical effect.

**Other animal studies**

These materials have been designed to allow rapid clearance from tissue. And this low biopersistence has been confirmed in many studies using EU protocol ECB/TM/27(rev 7) and the German method specified in TRGS 905 (1999). When inhaled, even at very high doses, they do not accumulate to any level capable of producing a serious adverse biological effect. 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 to persist in tissue do not produce tumours when injected into the peritoneal cavity of rats.

## 12. Ecological information

These products are inert materials, which remain stable overtime.
No adverse effects of this material on the environment are anticipated.

## 13. Disposal considerations

Waste from these products are classed as non hazardous and may generally be disposed of at landfill, which has been licensed for this purpose. Please refer to the European list (Decision no 2000/532/EC as modified) to identify your appropriate waste number, and insure national or regional regulation are complied with. Taking into account any possible contamination during use, expert guidance should be sought.

Unless wetted, such a waste is normally dusty and so should be properly sealed in clearly labelled 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 wind blown. Check for national and/or regional regulations, which may apply.

## 14. Transport information

Not classified as dangerous goods under relevant international transport regulations.

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## 15. Regulatory information

**Labelling:** does not require labelling

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".

Under Directive 67/548/EEC all types of man made vitreous (silicate) fibres are classified as "irritant" despite the fact that testing by the appropriate EU method (B4 in annex 5 of Directive 67/548/EEC) is providing no response and would not result in irritant classification.
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(rev7) and German method as specified in TRGS 905 (1999).

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

a) Council Directive 83/391/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). protection of workers from the risks related to exposure to chemical, physical and biological agents at work ».

b) Council Directive 98/24/EC dated 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).

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.

## 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 (Official Journal of the European Community) 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 13/12/97, p.19).

Council Directive 98/24/EC dated 7 April 1998 "on the protection of the health and safety of workers from risks related to chemical agents at work" (OJEC L 131 of 5 May 1998, p.11).

TRGS 521 (Germany)

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## 16. Other information

**Precautionary measures to be taken after service and upon removal**

As produced the fibres are vitreous (glassy) materials which, upon continued exposure to elevated temperatures (above 900°C) might de-vitrify. The occurrence and extent of crystalline phase formation is dependent on the duration and temperature of exposure, fibre chemistry and/or the presence of fluxing agents. The presence of crystalline phases can be confirmed only through laboratory analysis of the "hot-face" fibre.

Simulated after-use (up to 8 weeks at 1000°C) the fibres were not toxic to macrophage-like cells.

High concentrations of fibres and other dust may be generated when after-service products are mechanically disturbed during operations such as wrecking. These dusts may contain crystalline silica, which some authorities have classified as a carcinogen. Therefore the European Ceramic Fibres Industry Association (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 will ensure compliance with local regulatory exposure standards for free crystalline silica. And because de-vitrified fibres containing silica mixed with amorphous and other crystalline phases are far less biologically active than free crystalline silica dusts, these measures will provide a high degree of protection.

**CARE-Programme**

The European Ceramic Fibres Industry Association (ECFIA) has undertaken an extensive industrial hygiene programme for High Temperature Insulation Wool (HTIW).
(CARE = Controlled And Reduced Exposure Programme)
The objectives are twofold:
- to monitor workplace dust concentrations at both manufacturers and customers premises
- 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 please contact:
The European Ceramic Fibres Industry Association (ECFIA) 3, Rue du Colonel Moll, 75017 Paris Tel. +33(0)1 44 05 54 84 / Fax +33(0)1 44 05 54 94 / www.ecfia.org
oder
Deutsche Keramikfaser-Gesellschaft (DKFG) e.V. www.dkfg.de

**Further information:** This product is - according to the EC Directives 1999/45/EC or 67/548/EEC - a product for which a safety data sheet is not necessary.
With respect to the safety interest of our customers we hereby reflect the relevant phrases of the directive 1907/2006/EC for hazardous substances and preparations.
All above mentioned statements are according to our actual knowledge. The given information describes the product under the aspect of safety relevant data and do not constitute a warranty like a technical specification.
All existing laws and regulations must be kept by the user of our products.

This data sheet replaces all previous versions.

| Changes as against the last version

Safety data sheet issued by the development and quality department.