MATERIAL SAFETY DATA SHEET

(EUROPEAN)

MSDS NUMBER 800E Revision 2 **According to 2001/58/EC**
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1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

IDENTIFICATION OF THE SUBSTANCE

TRADE NAMES: Insulfrax Blok
DENOMINATION: Alkaline Earth Silicate fibre (AES)
800, 1100.

Alkaline–earth silicate wools (AES wools)

IDENTIFICATION OF THE MANUFACTURER AND SALES CONTACTS

GERMANY	UK	FRANCE
Unifrax GmbH Kappeler Straße 105 40597 Düsseldorf Tel.: +49(0)211 87746 0 Fax.:+49(0)211 87746 115	Unifrax Limited Mill Lane, Rainford St Helens, Merseyside WA11 8LP Tel: + 44 (0) 1744 88 7600 Fax: + 44 (0) 1744 9916	Unifrax France 17 Rue Antoine Durafour 42420 Lorette, France Tel.: +33(0)4-7773-7000 Fax.:+33(0)4-7773-3991

SALES CONTACTS ONLY

SPAIN	ITALY
Unifrax Spain Cristobal Bordiu 20 Madrid 28003 Spain Tel: + 34 91 395 2279 Fax: + 34 91 395 2124	Unifrax Italia Srl Via Volonterio 19 Saronno (Va) 21047 Italy Tel: + 39 02 967 01 808 Fax: + 39 02 962 5721

Occupational Hygiene and CARE: Tel: + 44 (0) 1744 887603. Fax: + 44 (0) 1744 886173

2. COMPOSITION / INFORMATION OF INGREDIENTS

COMPONENT	CAS NUMBER	SYMBOL	R PHRASES
Alkaline earth silicate fibres (AES)	436 083 99 7	None	None
Slag Wool	65997-17-3	None	None

COMPOSITION

Insulfrax Blok contain AES Wool 6-45% , Slag Wool 40-80% and Clay <15%

DESCRIPTION

Insulfrax Blok products are available in the form of boards.

Use of the product

Application as thermal insulation in a wide range of applications, mainly in back up insulation to enable quick, easy and efficient installation in most furnace linings.

3. 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.

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

Non combustible products. Packaging and surrounding materials may be combustible.
Use extinguishing agent suitable for surrounding combustible materials.

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 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.
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 / TECHNIQUES TO REDUCE DUST EMISSIONS DURING HANDLING

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 CONTROL / PERSONAL PROTECTION

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:

Examples of exposure limits in January 2008 are given below:

United Kingdom	2.0 f/ml	HSE EH40 Workplace Exposure Limit

8-hr time weighted average concentrations of airborne respirable fibres measured using the conventional membrane filter method

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 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.

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 your supplier.

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 section13

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid	Melting point	1200℃
Flammability	None	Length weighted geometric diameter	2-3µm
Appearance	White	Explosive properties	None
Oxidising properties	None	Odour	None
pH	NA		

10. STABILITY AND REACTIVITY

CONDITIONS TO AVOID N.A. **MATERIALS TO AVOID** **N.A.**

DECOMPOSITION PRODUCTS
Upon heating above 900℃ 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 V, 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/CE as modified) to identify your appropriate waste number, and insure national and 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
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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

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”.

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(rev 7) and German method as specified in TRGS 905 (1999)).

This applies for sales in the European Union

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 1997 “ on the protection 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 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 5/2000 - 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

Precautionary measures to be taken after service and upon removal

As produced, *Insulfrax* 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) Insulfrax fibres were not toxic to macrophage-like cells.

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 crystalline silica, which some authorities have classified as a carcinogen. 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 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).

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, contact ECFIA or your supplier.

NOTE

The directives and subsequent regulations detailed in this Material Safety Data Sheet are only applicable to the

European Union (EU) Countries and not to countries outside of the EU.

Websites
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

Or to Deutsche Keramikfaser-Gesellschaft e.V. web site: www.dkfg.de

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