SAFETY DATA SHEET

(EUROPEAN)

SDS NUMBER 350E REVISION 6 **According to (EC)1907/2006 & (EC)1272/2008**

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1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

IDENTIFICATION OF THE SUBSTANCE

TRADE NAMES *UNIFRAX 1600 Paper/Board* **DENOMINATION : polycrystalline aluminosilicate wools (PCW)**

These products contain synthetic, polycrystalline alumino-silicate (mullite) fibres.

IDENTIFICATION OF THE MANUFACTURER AND SALES CONTACTS

Germany

Unifrax GmbH
Postfach 16 01 62
D-40564 Dusseldorf
Germany
Tel: + 49 (0) 21187746 0
Fax: + 49 (0) 211 87746 115

UK

Unifrax Limited
Mill Lane, Rainford
St Helens, Merseyside
WA11 8LP
Tel: + 44 (0) 1744 88 7600
Fax: + 44 (0) 1744 88 9916

France

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

Unifrax Spain
Cristobal Bordiu 20
Madrid 28003
Spain
Tel: + 34 91 395 2279
Fax: + 34 91 395 2124

ITALY

Unifrax Italia Srl
Via Volonterio 19
Saronno (Va) 21047
Italy
Tel: + 39 02 967 01 808
Fax: + 39 02 962 5721

Emergency contact number

Occupational Hygiene and CARE: Tel: + 44 (0) 1744 887603. Fax: + 44 (0) 1744 886173
E Mail: reachsds@unifrax.co.uk

2. HAZARDS 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.

3. COMPOSITION / INFORMATION OF INGREDIENTS

COMPONENT	EU NUMBER	CAS NUMBER
Polycrystalline alumino silicate Wools	614-074-2	675106-31-7

COMPOSITION

Chemical composition of Unifrax 1600 fibres :< 5% SiO_2 95% Al_2O_3 by weight

DESCRIPTION

Unifrax 1600 products are available in a variety of forms: Papers and boards

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.

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.

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 workers with appropriate protective equipment as detailed in section 8.

Restrict access to the area to a minimum number of workers required.
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.

7. HANDLING AND STORAGE

HANDLING / TECHNIQUES TO REDUCE DUST EMISSIONS DURING HANDLING

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	TWA 8 hr	TWA 8 hr	Notes

Exposure Limit	f/ml	mg/m^3	
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).

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

Occupational Exposure Limit	TWA 8 hr f/ml	TWA 8 hr mg/m^3	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

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.

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 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 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	>2000°C
Flammability	None	Specific gravity	2.5- 2.75
Appearance	White	pH	NA
Oxidising properties	None	Odour	None

10. STABILITY AND REACTIVITY

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

Stable under normal conditions of use.

11. TOXICOLOGICAL INFORMATION

11.1. ACUTE EFFECTS

INHALATION

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

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.

11.2. CHRONIC EFFECTS

Lifetime inhalation studies in the rat on PCW fibres at the maximum levels achievable have shown no evidence of lung cancer, lung fibrosis or any other adverse effect, apart from a minimal pulmonary response typical of

that of a 'low toxicity dust'.

Also, a lifetime feeding study in rats has produced no evidence of any adverse effects at levels up to 2.5 % in the diet. Intraperitoneal, intratracheal and intrapleural studies in rats, together with two in vitro tests, all showed negative results whereas asbestos and crystalline silica which were used as positive controls (where relevant) produced positive responses. The results of these extensive testing programmes indicate that PCW materials as described in Section 9 lack one or more of the fundamental characteristics necessary for mesothelioma induction, as well as not possessing fibrogenic potential.

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

Polycrystalline aluminosilicate fibre 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) 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.

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

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 alumino-silicate fibres (PCW)

Possible fibrous dust inhalation hazard.

Avoid generating and breathing dust.
May cause mechanical irritation to exposed eyes, skin or the upper respiratory tract.

For professional use only.

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)

Good Working Practices for High temperature insulation wools ; *ECFIA Booklet (January 2006)*

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).*
Official journal of the European Communities, 26/07/90
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
TRGS 619 – 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

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 ploycrystalline aluminosilicate wools.

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

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

Products	Significant ingredients %	Hazard warning	Risk Phrases
1600 paper	Acryllic latex <15%	None	None
1600 Boards/VF Boards	Amorphous silica 5-40%	None	None

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.