



Fiberfrax Paper, Fiberfrax Felts

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

Date of issue: 7/12/2018 Revision date: 7/12/2018 Supersedes: 17/10/2017 Version: 46.00

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name : Fiberfrax Paper, Fiberfrax Felts
Type of product : This product is an article under the REACH definition. As the Classification and labelling regulations (CLP) strictly applies to substances and mixtures it does not make provision for articles. However this product SDS and the defined labelling is provided voluntarily. As a duty of care to the user.

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Use of the substance/mixture : Article
For industrial use within high temperature applications.

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Supplier

Unifrax Limited
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reachsds@unifrax.com

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Distributor

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07989 Teichwolframsdorf - Germany
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Distributor

Unifrax France
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42420 Lorette - France
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Distributor

Unifrax Derby
Shaftsbury Street
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T +44 (0) 1332 331808

Distributor

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Ruská 311, Pozorka
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T + 42 (0) 417 800 356 - F + 42 (0) 417 539 838
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Distributor

Unifrax Italia Srl
Via Volonterio 19
21047 Saronno (VA) - Italy
T +39 02 967 01 808 - F +39 02 962 5721

Distributor

Unifrax Spain
Cristobal Bordiu 20
28003 Madrid - Spain
T + 34 91 395 2279 - F + 34 91 395 2124

1.4. Emergency telephone number

Emergency number : Occupational Hygiene and CARE: Tel: + 44 (0) 1744 887603; Email: reachsds@unifrax.com; (8.15-17.10 h); Language : English

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Carcinogenicity (inhalation) Category 1B
Full text of H statements : see section 16

H350i

Adverse physicochemical, human health and environmental effects

This product is an article and has not to be classified and labelled according to the current laws and regulations. A safety data sheet is not required for this product under Article 31 of REACH. This Product Safety Information Sheet has been created on a voluntary basis.

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2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



GHS08

Signal word (CLP)

: Danger

Hazardous ingredients

: Aluminosilicate refractory ceramic fibres

Hazard statements (CLP)

: H350i - May cause cancer by inhalation.

Precautionary statements (CLP)

: P201 - Obtain special instructions before use.
P280 - Wear Respiratory protection.
P261 - Avoid breathing dust.

Extra phrases

: Restricted to professional users.
This product is an article and has not to be classified and labelled according to the current laws and regulations.
A safety data sheet is not required for this product under Article 31 of REACH. This Product Safety Information Sheet has been created on a voluntary basis.
Voluntary labelling will be added to product to advise as to safe handling and use.
Voluntary labelling will be added in line with the regulatory label detailed below.

2.3. Other hazards

Other hazards not contributing to the classification : May cause mechanical irritation to the skin, eyes and respiratory system.

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Not applicable

Comments

: Article

All products contain Aluminosilicate Refractory Ceramic Fibres (RCF/ASW, CAS 142844-00-6): None of the components are radioactive under the terms of European Directive Euratom 96/29.

substance with national workplace exposure limit(s)

Fiberfrax Paper and Fiberfrax Felts are ready to use products in high temperature applications

This mixture does not contain any substances to be mentioned according to the criteria of section 3.2 of REACH annex II

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation

: Fibrous dust may be liberated when handling in use. If irritation to nose and throat, move to fresh air.

First-aid measures after skin contact

: Gently wash with plenty of soap and water. Get medical advice if skin irritation persists.

First-aid measures after eye contact

: Rinse cautiously with water for several minutes. If eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion

: Ingestion unlikely. Drink plenty of water.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after inhalation

: mechanical irritation.

Symptoms/effects after skin contact

: mechanical irritation.

Symptoms/effects after eye contact

: mechanical irritation.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

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SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : The product is not flammable. Use extinguishing media appropriate for surrounding fire.
Foam. Dry powder. Carbon dioxide. Water spray.
- Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

- Fire hazard : Non flammable.

5.3. Advice for firefighters

- Firefighting instructions : Prevent fire fighting water from entering the environment.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Protective equipment : Concerning personal protective equipment to use, see section 8.
- Emergency procedures : Prohibit unauthorized persons.

6.1.2. For emergency responders

- Protective equipment : Ensure adequate ventilation. Concerning personal protective equipment to use, see section 8.
- Emergency procedures : Manipulations are to be done only by qualified and authorised persons.

6.2. Environmental precautions

Avoid release to the environment. Prevent entry to sewers and public waters. Avoid sub-soil penetration.

6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Mechanically recover the product. Minimise generation of dust. Dust can be vacuumed with a vacuum cleaner containing a HEPA (High Efficiency Particulate Air) filter.

6.4. Reference to other sections

Information for safe handling. See section 7. Concerning personal protective equipment to use, see section 8. For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Obtain special instructions before use. Avoid contact with eyes. Do not eat, drink or smoke when using this product. Clean contaminated areas thoroughly. Use personal protective equipment as required. Ensure good ventilation of the work station.
- Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Product must only be kept in the original packaging. Store tightly closed in a dry and cool place.

7.3. Specific end use(s)

For professional users only. See Heading 8. Exposure scenarios.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limit values for the other components

Aluminosilicate refractory ceramic fibres (142844-00-6)			
United Kingdom	Remark (WEL)	1,0 f/ml (HSE EH40 Workplace Exposure Limit)	

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Aluminosilicate refractory ceramic fibres (142844-00-6)

United Kingdom

Recommended monitoring procedures

The UK follow MDHS 59 specific for MMVF: "Man-made mineral fibre - Airborne number concentration by phase-contrast light microscopy" and MDHS 14/3 "General methods for sampling and gravimetric analysis of respirable and inhalable dust".

WHO-EURO method: Determination of airborne fibre number concentrations; A recommended method, by phase-contrast optical microscop

Aluminosilicate refractory ceramic fibres (142844-00-6)

DNEL/DMEL (additional information)

long term - Local, Inhalation

2,17 f/ml

Additional information

: The DNEL cited in the long term exposure section above is based on the incidence of lung tumours (non-significant at all treatment levels) in a multi-dose rat study reported by Mast et al (Inhalation Toxicology, 1995, 7(4), 469-502) which demonstrates a NOAEL of 162 f/ml and leads to the calculated endpoint-specific DNEL of 2.17 f/ml.

SCOEL have recommended an BOELV for RCF of 0.3 f/ml based on measured lung function in exposed workers. Assuming 45 years exposure, the average cumulative exposures of 147.9 (all workers in the high exposure group) and 184.8 fmo/ml (workers 60+ years of age in the high exposure group) - equivalent to average fibre concentrations of 0.27 and 0.34 f/ml respectively - were considered as no observed adverse effect levels for lung function and SCOEL therefore proposed an BOELV of 0.3 f/ml. This is considerably lower than the calculated DNEL value.

8.2. Exposure controls

Hand protection:

Leather protective gloves

Eye protection:

Safety glasses with side shields as appropriate.

Skin and body protection:

Wear suitable protective clothing. Do not take working clothes home

Respiratory protection:

If dust are formed : Wear appropriate mask

Personal protective equipment symbol(s):



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Other information:

Do not eat, drink or smoke during use; Do not take working clothes home; Separate working clothes from town clothes. Launder separately
Uses and Risk Management Measures (RMM)

Intended use

Secondary use – Conversion into wet and dry mixtures and articles.

Process would include: Mixing forming operations, handling of RCF/ASW products, assembly of RCF/ASW containing products, machine and hand finishing of RCF/ASW products.

Reference ES 2*

RMM - Hierarchy of Controls

- Where it is practical to do so, automatically feed RCF/ASW in to the process
- Where practical to do so, segregate dry and wet processing
- Enclose the process where practically possible.
- Where practical to do so, segregate machine areas and restrict access to operators involved in the process.
- Enclose Machines as far as practically possible.
- Install LEV where possible, when machine finishing, handling, compressing and hand cutting to remove dust at source
- Employ experienced personnel – trained in the correct use of fibrous products
- PPE and RPE used for all dusty tasks
- Provide vacuum cleaner connection point to central system where practical or use a portable HEPA vacuum
- Regular clean up – using a wet scrubbing unit where practically possible and in general a HEPA vacuum should be used.
- Dry brushing and use of compressed air should be prohibited
- Waste materials to be contained at source, labelled and stored separately for disposal or recycling.

Intended use

Tertiary use - maintenance and service life (Industrial or professional use)

Process: Small scale repairs involving removal and installation of RCF/ASW products. Use of the product in an enclosed system, where there is occasional control access or no access.

Reference ES 3*

RMM - Hierarchy of Controls

- Use pre-cut, pre-sized pieces where practically possible.
- Allow access only to trained (authorised) operators
- Where practically possible, perform all hand cutting in a segregated area, on a down draft bench.
- Clean up work area regularly during the shift using a HEPA equipped vacuum cleaner.
- Prohibit use of dry brushing and compressed air cleaning.
- Bag and seal waste immediately at source.
- Use PPE and RPE appropriate to task.
- Employ good hygiene practices.

Intended use

Tertiary use- installation and removal (industrial or professional).

Large scale removal and installation of RCF/ASW from Industrial processes.

Large scale removal and installation by professionals.

Reference ES 4*

RMM - Hierarchy of Controls

- Where practically possible enclose or segregate the work area.
- Allow only authorised personnel.
- Pre-wet insulation prior to removal where practically possible.
- Where practically possible use a water lance for removal or vacuum-truck.
- Use down draft bench for hand cutting products.
- Cover pre-cut section during transport and storage to prevent secondary exposure.
- Where practically possible provide multiple vacuum hoses for convenient cleanup of spillage or use portable HEPA filtered vacuums.
- Bag waste materials immediately at source
- Prohibit use of dry brushing and or compressed air cleaning.
- Experienced personnel only
- Use appropriate PPE and RPE appropriate to expected concentrations.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Colour	: white. Beige.
Odour	: odourless.
Odour threshold	: No data available
pH	: Not applicable
Relative evaporation rate (butylacetate=1)	: Not applicable
Melting point	: > 1650 °C Fibres
Freezing point	: Not applicable
Boiling point	: Not applicable
Flash point	: Not applicable
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available

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Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: Water: < 1 mg/l
Log Pow	: No data available
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: Not applicable
Explosive properties	: Product is not explosive.
Oxidising properties	: Non oxidizing.
Explosive limits	: Not applicable

9.2. Other information

Other properties : Length weighted geometric mean diameter of fibres contained in the product: 1.4 - 3 µm.

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions of use.

10.2. Chemical stability

The product is stable at normal handling and storage conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known.

10.4. Conditions to avoid

No additional information available.

10.5. Incompatible materials

None.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. Do contain organics and on first heating can liberate VOCs.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (dermal)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation)	: Not classified (Based on available data, the classification criteria are not met)
Skin corrosion/irritation	: Not classified (Based on available data, the classification criteria are not met) pH: Not applicable
Serious eye damage/irritation	: Not classified (Based on available data, the classification criteria are not met) pH: Not applicable
Respiratory or skin sensitisation	: Not classified (Based on available data, the classification criteria are not met)
Germ cell mutagenicity	: Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity	: May cause cancer by inhalation. (Based on available data, the classification criteria are not met)
Additional information	: Fibres May cause cancer by inhalation. Method: Nose only Inhalation. Multi-dose Species: Rat, Dose: 3 mg/m ³ , 9 mg/m ³ and 16 mg/m ³ for 24 months Results: Minimal to mild lung fibrosis at 9mg/m ³ and 16 mg/m ³ . No evidence of RCF-related lung tumours at "any of these doses." Method: Nose only Inhalation. Single dose Species: Rat, Dose: 30 mg/m ³ . Results: This study was designed to test the chronic toxicity and carcinogenicity of RCF at extreme exposures. Tumour incidence (incl. mesothelioma) was raised at this dose level. The presence of overload conditions (only detected after the experiment was completed), whereby the delivered dose exceeded the clearance capability of the lung, makes meaningful conclusions in terms of hazard and risk assessment difficult.

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Reproductive toxicity	: Not classified (Based on available data, the classification criteria are not met)
STOT-single exposure	: Not classified (Based on available data, the classification criteria are not met)
STOT-repeated exposure	: Not classified (Based on available data, the classification criteria are not met)
Aspiration hazard	: Not classified (Not relevant)
Other information	: Basic toxicokinetic Exposure is predominantly by inhalation or ingestion. Man made vitreous fibres of a similar size to RCF/ASW have not been shown to migrate from the lung and/or gut and do not become located in other parts of the body When compared to many naturally occurring minerals, RCF/ASW has a low ability to persist and accumulate in the body (half-life of long fibres (> 20 µm) in 3 week rat inhalation test is approx. 60 days).

Human toxicological data
In order to determine possible human health effects following RCF exposure, the University of Cincinnati has been conducting medical surveillance studies on RCF workers in the U.S. The Institute of Occupational Medicine (IOM) has conducted medical surveillance studies on RCF workers in European manufacturing facilities.
Pulmonary morbidity studies among production workers in Europe and USA have demonstrated an absence of interstitial fibrosis and no loss in lung function was observed in the longitudinal study with RCF exposure.
A statistically significant correlation between pleural plaques and cumulative RCF exposure was evidenced in the USA longitudinal study.
The USA mortality study did not show evidence of increased lung tumour development either in the lung parenchyma or in the pleura.

Irritant Properties
Negative results have been obtained in animal studies (EU method B 4) for skin irritation. Inhalation exposures using the nose only route produce simultaneous heavy exposures to the eyes, but no reports of excess eye irritation exist. Animals exposed by inhalation similarly show no evidence of respiratory tract irritation.
Human data confirm that only mechanical irritation, resulting in itching, occurs in humans. Screening at manufacturers' plants in the UK has failed to show any human cases of skin conditions related to fibre exposure.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Acute aquatic toxicity	: Not classified (Based on available data, the classification criteria are not met)
Chronic aquatic toxicity	: Not classified (Based on available data, the classification criteria are not met)

12.2. Persistence and degradability

Fiberfrax Paper, Fiberfrax Felts	
Persistence and degradability	Not applicable.

12.3. Bioaccumulative potential

Fiberfrax Paper, Fiberfrax Felts	
Bioaccumulative potential	Not applicable.

12.4. Mobility in soil

Fiberfrax Paper, Fiberfrax Felts	
Ecology - soil	Not applicable.

12.5. Results of PBT and vPvB assessment

Fiberfrax Paper, Fiberfrax Felts	
This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII	
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII	

12.6. Other adverse effects

No additional information available

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according to Regulation (EC) No. 1907/2006 (REACH)

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Disposal must be done according to official regulations. European waste catalogue.
Sewage disposal recommendations : Do not allow into drains or water courses.
Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.2. UN proper shipping name				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.4. Packing group				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
No supplementary information available				

14.6. Special precautions for user

Overland transport

Not applicable

Transport by sea

Not applicable

Air transport

Not applicable

Inland waterway transport

Not applicable

Rail transport

Not applicable

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

The following restrictions are applicable according to Annex XVII of the REACH Regulation (EC) No 1907/2006:

28. Substances which are classified as carcinogen category 1A or 1B in Part 3 of Annex VI to Regulation (EC) No 1272/2008 and are listed in Appendix 1 or Appendix 2, respectively.	Aluminosilicate refractory ceramic fibres
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Contains a substance on the REACH candidate list in concentration $\geq 0.1\%$ or with a lower specific limit: Aluminosilicate refractory ceramic fibres (CAS 142844-00-6)

Contains no REACH Annex XIV substances

Other information, restriction and prohibition regulations

: This product is an article and has not to be classified and labelled according to the current laws and regulations. Take note of Directive 94/33/EC on the protection of young people at work. Take note of Directive 92/85/EC on the safety and health of pregnant workers at work.

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15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

A safety data sheet is not required for this product under Article 31 of REACH. This Product Safety Information Sheet has been created on a voluntary basis

SECTION 16: Other information

Indication of changes:

Version/s is/are not available in this language.

Section	Changed item	Change	Comments
2.1	Classification	Modified	
2.2	Labelling	Modified	

Abbreviations and acronyms:

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
DNEL	Derived-No Effect Level
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
PBT	Persistent Bioaccumulative Toxic
vPvB	Very Persistent and Very Bioaccumulative

Data sources : ECHA (European Chemicals Agency).

Other information : Occupational Hygiene: dawn.webster@unifrax.com. Please refer to specific technical data sheet for more information. Please refer to the list of products considered to be articles.

Full text of H- and EUH-statements:

Carc. 1B	Carcinogenicity (inhalation) Category 1B
H350i	May cause cancer by inhalation.

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Carc. 1B	H350i	
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KFT SDS EU 10

The information presented herein is presented in good faith and believed to be accurate as of the effective date of this Safety Data Sheet. Employers may use this SDS to supplement other information gathered by them in their efforts to assure the health and safety of their employees and the proper use of the product. This summary of the relevant data reflects professional judgment; employers should note that information perceived to be less relevant has not been included in this SDS. Therefore, given the summary nature of this document, Unifrax I LLC does not extend any warranty (expressed or implied), assume any responsibility, or make any representation regarding the completeness of this information or its suitability for the purposes envisioned by the user.