According to (EC) No 1907/2006 and (EC) No 1272/2008

1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

1.1 Product Identifier

Trade names : **Fiberfrax Shapes, Fiberfrax Boards**

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

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.

Identification of the company

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2. HAZARD IDENTIFICATION

2.1 Classification of the substance/mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP] Carcinogenicity (inhalation) Category 1B H350i Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

Contains a substance on the REACH candidate list in concentration ≥ 0.1% or with a lower specific limit: Aluminosilicate refractory ceramic fibres (CAS 142844-00-6). 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. Voluntary labelling will be added in line with the regulatory label detailed below.

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.

Extra phrases:
Restricted for professional users
This product is an article and is not required to be classified and labelled according to the current laws and regulations.

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

As the labelling regulations does not apply to articles, this labelling is on strictly voluntary basis.

In cases where the material has already been machined, the above voluntary label will be used!

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.

3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substance
Not applicable

3.2 Mixture
Not applicable
Comments
Article
All products contain Aluminiosilicate 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 Shapes and Fiberfrax Boards 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.

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.

5. FIRE FIGHTING 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.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel

Protective equipment:
Concerning personal 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:
Manipulation are to be done only by qualified and authorised persons.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if product enters sewers or public waters. Avoid sub-soil penetration.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up:
Mechanically recover the product. Minimize generation of dust. High efficiency particulate air filter (HEPA 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.

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.

8. RISK MANAGEMENT MEASURES / EXPOSURE CONTROL / PERSONAL PROTECTION

8.1 Control parameters

Fiberfrax Shapes, Fiberfrax Boards	
United Kingdom	Observe general threshold limit for dust.

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 OEL 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 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 OEL of 0.3 f/ml. This in 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. Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure
Skin and body protection:	Wear suitable protective clothing. Do not take working clothes home
Respiratory protection:	If dust are formed: Wear appropriate mask. (FFP3)

Personal protective equipment symbol(s):

Other information:
Do not eat, drink or smoke during use; Do not take working clothes home; Spearate working clothes from town clothes. Launder seprately.
Uses and Ris 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 clean-up 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

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)	: No data available
Melting point	: > 1650°C
Freezing point	: No data available
Boiling point	: No data available
Flash point	: Not applicable
Auto-ignition temperature	: Not self-igniting
Decomposition temperature	: No data available
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	: No data available
Explosive limits	: No data available

9.2.Other information

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

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 not contain organics and on first heating can liberate VOCs.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects
Acute toxicity:
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)
Serious eye damage/ irritation:
Not classified (Based on available data, the classification criteria are not met)
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:
Not classified (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/m³, 9 mg/m³ and 16 mg/m³ for 24 months.
Results: Minimal to mild lung fibrosis at 9 mg/m³ and 16 mg/m³. No evidence of RCF-related lung tumours at “any of the doses.”

Method:
Nose only inhalation.
Single dose.
Species: Rat. Dose: 30 mg/m3
Results: This study was designed to test the chronic toxicity and carcinogenicity of RCF at extreme exposures. Tumor 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.

Reproductive toxicity:
Not classified (Based on available data, the classification criteria are not met)
Specific target organ toxicity (single exposure):
Not classified (Based on available data, the classification criteria are not met)
Specific target organ toxicity (repeated exposure):
Not classified (Based on available data, the classification criteria are not met)
Aspiration hazard:
Not classified (Based on available data, the classification criteria are not met)

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 decrement in lung function associated with current exposures, but have indicated a reduction of lung capacity among smokers.
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.

12. ECOLOGICAL INFORMATION

12.1 Ecology - general :
The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

12.2 Acute aquatic toxicity
Persistence and degradability : Not applicable.

12.3 Bioaccumulative potential :

Log Pow	Not applicable
Log Kow	Not applicable
Bioaccumulative potential	Not applicable.

12.4. Mobility in soil
Ecology - soil Not applicable.

12.5 Results of PBT and vPvB assessment

Fiberfrax (142844-00-6)
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.

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.

14. TRANSPORT INFORMATION

In accordance with ADR, RID, IATA, IMDG, ADN.

ADR	IMDG	IATA	AND	RID
14.1 UN Number				
Not regulated for transport				
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
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				
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No	Dangerous for the environment: No	Dangerous for the environment: No
No supplementary information available.				

14.6 Special precautions for user

- Overland transport
Transport regulation (ADR): Not applicable
- Transport by sea
Transport regulations (IMDG): Not applicable
- Air transport
Transport regulations (IATA): Not applicable
- Inland waterway transport
Transport regulations (ADN): Not applicable
- Rail transport
Transport regulations (RID): Not applicable

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable.

15. REGULATORY INFORMATION

15.1 Safety, health and environment 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

Contains a substance on the REACH candidate list in concentration ≥ 0.1% or with a lower specific limit: Aluminosilicate refractory ceramic fibres (CAS 142844-00-6)
Contains no REACH Annex XIV substances
Contains no substance subject to REGULATION (EU) No 649/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 concerning the export and import of hazardous chemicals.
Substance(s) are not subject to Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC

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.

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.

16. OTHER INFORMATION

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, Authorization and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rai
PBT	Persistent Bio accumulative Toxic
vPvB	Very persistent and Very Bio accumulative

Data source: ECHA (European Chemicals Agency).
Other information : Occupational Hygiene: dawn.webster@unifrax.com. Please refer to the list of products considered to be articles.

CARE PROGRAMME
ECFIA, representing the high temperature insulation wool (HTIW) industry, has undertaken an extensive industrial hygiene program to provide assistance to the users of all products containing 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.

PRECAUTIONARY MEASURES TO BE TAKEN AFTER SERVICE UPON REMOVAL
In almost all applications high temperature insulating wools products (HTIW) are used as an insulating material helping to maintain temperature at 900°C or more in a closed space. As produced, HTIW 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. As only a thin layer of the insulation hot face side is exposed to high temperature, respirable dust generated during removal operations does not typically contain detectable levels of crystalline silica (CS). In applications where the material is heat soaked, duration of heat exposure is normally short and a significant de-vitrification allowing CS to build up does not occur. This is the case for waste mould casting for instance. Toxicological evaluation of the effect of the presence of CS in artificially heated HTIW material has not shown any increased toxicity in vitro and in vivo. The results from different combinations of factors like increased brittleness of fibres, or microcrystals embedded in the glass structure of the fibre and therefore not biologically available may explain the lack of toxicological effects. IARC evaluation as provided in Monograph 68 is not relevant as CS is not biologically available in after service HTIW and respirable dust generated during removals operations generally do not contain detectable levels of crystalline silica..

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

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

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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