

# FIBERFRAX Z PRODUCTS

According to (EC) No 1907/2006 (REACH)

## 1. IDENTIFICATION OF THE PRODUCTS AND OF THE COMPANY

### 1.1 Identification of the products

#### Trade Names: Fiberfrax Z

Fiberfrax Z products contain **Refractory Ceramic Fibres (RCF)/Alumino-silicate wools (ASW) ((RCF/ASW))**.

Index Number : 650-017-00-8 (CLP Annex VI)

EC Number : 604-314-4

**CAS number** : 142844-00-6

**CAS Name** : Refractories, fibres, aluminosilicate

Registration number : 01-2119458050-50-0001

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

#### 1.2.1 Relevant identified uses

Industrial/Professional use spec : For professional use only

#### 1.2.2 Uses advised against

No additional information available

### 1.3 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)

Under the CLP-Regulation (classification, labelling and packaging of substances and mixtures)

Carcinogenicity (inhalation) Category 1B H350i

Full text of hazard classes and H-statements : see section 16

#### Adverse physicochemical, human health and environmental effect:

No additional information available

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## FIBERFRAX Z PRODUCTS

### 2.2 Labelling elements

Component	Classification	Hazard pictogram & Symbol	R Phrase & H Statement
Refractory ceramic Fibres (Alumino-silicate wools)	(EC)No. 1272/2008	GHS 08 	H350i

#### Signal Word

Danger.

#### Hazard Statements

May cause cancer by inhalation (H350i).

#### Precautionary statements

Do not handle until all safety instructions have been read and understood. (P202)

Wear eye protection, protective gloves, respiratory protection (P280)

#### Listed in Annex VI

EC index no: 650-017-00-8

May cause mechanical irritation to the skin, eyes and respiratory system.

### 2.3 Other hazards

#### Other hazards which do not result in classification:

Mild mechanical irritation to skin, eyes and upper respiratory system may result from exposure. These effects are usually temporary.

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

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

### 3.1 Substance

COMPONENT	CAS NUMBER	Classification according to Regulation (EC) No 1272/2008 (CLP)	% by weight
Refractory ceramic fibres (Alumino-silicate wools) (Note A) (Note R)	CAS No: 142 844-00-6 EC No: 604-214-4 EC index No: 650-017-00-8 REACH No: 1-2119458050-0001	Carc. 1B H350i	100

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### Note A:

Without prejudice to Article 17(2), the name of the substance must appear on the label in the form of one of the designations given in Pat 3. In Part 3, use is sometimes made of a general description such as "...compounds" or "...salts". In this case, the supplier is required to state on the label the correct name.

### 3.2 Mixture

No applicable

## 4. FIRST AID MEASURES

### 4.1 Description of 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.

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

Symptoms/injuries after skin contact : mechanical irritation

Symptoms/injuries 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

Product is not flammable. Packaging and surrounding materials may be combustible.  
Use extinguishing agent suitable for surrounding combustible materials. Foam, dry powder, Carbon dioxide, water spray. Do not use a heavy water stream.

### 5.2 Special hazards arising from the substance of mixture

No additional information available

### 5.3 Advice for firefighters

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

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### 6. ACCIDENTAL RELEASE MEASURES

#### 6.1 Personal precautions, protective equipment and emergency procedures

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.

#### 6.2 Environmental precautions

Prevent further dust dispersion for example by dampening the materials

Do not flush spillage to drain.

Check for local regulations, which may apply.

#### 6.3 Methods and materials for containment and clean up

Pick up large pieces and use a vacuum cleaner fitted with a 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

#### 7.1 Precautions for safe handling

Handling can be a source of dust emission and therefore the processes should be designed to limit the amount of handling. Whenever possible, handling should be carried out under controlled conditions (i.e., using dust exhaust system).

Regular good housekeeping will minimise secondary dust dispersal.

#### 7.2 Conditions for safe 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 (see 6.3) before disposal or recycling.

Recyclable cardboard and/or plastic films are recommended for packaging.

#### 7.3 Specific end use(s)

The main application of these products is as thermal insulation. Use of the products is restricted to “professional users”. Please refer to section 8 and the relevant exposure scenario.

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### 8. EXPOSURE CONTROL / PERSONAL PROTECTION

#### 8.1 Control parameters

<b>Fiberfrax Z (142844-00-6)</b>		
United Kingdom	Remark (WEL)	1,0 f/ml (HSE EH40 Workplace Exposure Limit)
United Kingdom	Recommended monitoring procedures	
	<p>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: .</p> <p>WHI-EURO method: Determination of airborne fibre number concentrations: A recommended method, by phase-contrast optical microscope.</p>	

<b>Fiberfrax Z (142844-00-6)</b>	
DNEL/DMEL (additional information)	
Long term – local effect, 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 (not significant at all treatment levels) in a multi-dose rat study reported (inhalation toxicology, 1995, 7(4), 469502, 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 worker's. Assuming 45 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/m; respectively- were considered as no observed adverse effect levels for lung function and SCOEL therefore proposed an OEL 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

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### Skin and body protection

Impervious clothing. Do not take working clothes home

### Respiratory protection

If dusts are formed: wear appropriate mask (FFP3)



**Table of Uses and Risk Management Measures (RMM):**

Intended use	RMM - Hierarchy of Controls
<p><b>Secondary use</b> – Conversion into wet and dry mixtures and articles.</p> <p>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.</p> <p>Reference ES 2*</p>	<ul style="list-style-type: none"> <li>- Where it is practical to do so, automatically feed RCF/ASW in to the process</li> <li>- Where practical to do so, segregate dry and wet processing.</li> <li>- Enclose the process where practically possible.</li> <li>- Where practical to do so, segregate machine areas and restrict access to operators involved in the process.</li> <li>- Enclose Machines as far as practically possible.</li> <li>- Install LEV where possible, when machine finishing, handling, compressing and hand cutting to remove dust at source.</li> <li>- Employ experienced personnel – trained in the correct use of fibrous products.</li> <li>- PPE and RPE used for all dusty tasks</li> <li>- Provide vacuum cleaner connection point to central system where practical or use a portable HEPA vacuum.</li> <li>- Regular clean up – using a wet scrubbing unit where practically possible and in general a HEPA vacuum should be used.</li> <li>- Dry brushing and use of compressed air should be prohibited.</li> <li>- Waste materials to be contained at source, labelled and stored separately for disposal or recycling.</li> </ul>
<b>Intended use</b>	<b>RMM - Hierarchy of Controls</b>

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<p>Tertiary use - maintenance and service life (Industrial or professional use)</p> <p>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.</p> <p>Reference ES 3*</p>	<ul style="list-style-type: none"> <li>- Use pre-cut, pre-sized pieces where practically possible.</li> <li>- Allow access only to trained (authorised ) operators</li> <li>- Where practically possible, perform all hand cutting in a segregated area, on a down draft bench.</li> <li>- Clean up work area regularly during the shift using a HEPA equipped vacuum cleaner.</li> <li>- Prohibit use of dry brushing and compressed air cleaning.</li> <li>- Bag and seal waste immediately at source.</li> <li>- Use PPE and RPE appropriate to task.</li> <li>- Employ good hygiene practices.</li> </ul>
<p><b>Intended use</b></p> <p>Tertiary use- installation and removal (industrial or professional).</p> <p>Large scale removal and installation of RCF/ASW from Industrial processes.</p> <p>Large scale removal and installation by professionals.</p> <p>Reference ES 4*</p>	<p><b>RMM - Hierarchy of Controls</b></p> <ul style="list-style-type: none"> <li>- Where practically possible enclose or segregate the work area.</li> <li>- Allow only authorised personnel.</li> <li>- Pre-wet insulation prior to removal where practically possible.</li> <li>- Where practically possible use a water lance for removal or vacuum-truck.</li> <li>- Use down draft bench for hand cutting products.</li> <li>- Cover pre-cut section during transport and storage to prevent secondary exposure.</li> <li>- Where practically possible provide multiple vacuum hoses for convenient cleanup of spillage or use portable HEPA filtered vacuums.</li> <li>- Bag waste materials immediately at source</li> <li>- Prohibit use of dry brushing and or compressed air cleaning.</li> <li>- Experienced personnel only.</li> <li>- Use appropriate PPE and RPE appropriate to expected concentrations.</li> </ul>

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### 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	: Solid	Solubility	: Water: < 1 mg/l
Appearance	: Fibres	Partition coefficient	: Not applicable
Boiling point	: Not applicable	Odour	: None
Flash point	: Not applicable	Melting point	: > 1740° C
Autoflammability	: Not applicable	Flammability	: Not applicable
Oxidising properties	: Not applicable	Explosive properties	: Not applicable
Specific gravity	: Not applicable	Vapour pressure	: Not applicable
Log Pow	: No data available		

#### Length weighted geometric mean diameter of fibres contained in the product

1.4 - 3 µm.

### 10. STABILITY AND REACTIVITY

#### Reactivity

RCF/ASW is stable and non-reactive.

#### Chemical stability

RCF/ASW is inorganic, stable and inert

#### Possibility of hazardous reactions

None

#### Conditions to avoid

Please refer to handling and storage advice in Section 7

#### Incompatible materials

None

#### Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

### 11. TOXICOLOGICAL INFORMATION

#### Information on Toxicological effects

- Acute toxicity: short term 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)



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- Serious eye damage/irritation:  
Not classified (based on available date, the classification criteria are not met)
- Respiratory or skin sensitization  
Not classified (based on available date, the classification criteria are not met)
- Germ cell mutagenicity  
Not classified (based on available date, the classification criteria are not met)
- Carcinogenicity  
Not classified (based on available date, the classification criteria are not met)
- Additional information
  - Method: Nose only inhalation
  - Multi dose Species: Rat
  - Dose: 30 mg/m<sup>3</sup>, 9 m/m<sup>3</sup> and 16 mg/m<sup>3</sup> for 24 months.
  - Results: minimal to mild lung fibrosis at 9 mg/m<sup>3</sup> and 16 mg/m<sup>3</sup>. No evidence of RCF-related lung tumours at “any of these doses”
  
  - Method: Nose only inhalation
  - Single dose Species: Rat, dose: 30 mg/m<sup>3</sup>
  - 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.
- Reproductive toxicity;  
Not classified (based on available date, the classification criteria are not met)
- Specific target organ toxicity (single exposure)  
Not classified (based on available date, the classification criteria are not met)
- Specific target organ toxicity (repeated exposure)  
Not classified (based on available date, the classification criteria are not met)
- Aspiration hazard  
Not classified (based on available date, the classification criteria are not met)

### Other information

- Basic toxicokinetic  
Exposure is predominantly by inhalation of ingestions.  
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 any 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).

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### 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 (OM) has conducted medical surveillance studies on RCF workers in European manufacturing facilities.

Pulmonary morbidity studies among production workers in Europe and USA have 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 to 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' plant in UK has failed to show any human cases of skin conditions related to fibre exposure.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

Ecology – general:

The product is not considered harmful to aquatic organisms nor to cause long-term adverse effect in the environment.

### 12.2 Persistence and degradability

No additional information available

### 12.3 Bio accumulative potential

No additional information available

### 12.4 Mobility in soil

No additional information available

### 12.5 Results of PBT and vPvB assessment

#### Alumino silicate refractory ceramic fibres (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

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment method

Waste disposal recommendation

Dispose in a safe manner in accordance with local/national regulations.

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European list of waste (LoW) code

16.03.03\* - inorganic waste containing dangerous substances

### 14. TRANSPORT INFORMATION

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

ADR	IMDG	IATA	AND	RID
<b>14.1 UN number</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.2 UN proper shipping name</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.3 Transport hazard class(es)</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.4 Packing group</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.5 Environmental hazards				
Not dangerous for the environment	Not dangerous for the environment: No Marine pollutant	Not dangerous for the environment	Not dangerous for the environment	Not dangerous for the environment

#### 14.5 Special precautions for user

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

Not applicable

### 15. REGULATORY INFORMATION

#### 15.1 Safety, health and environment regulations/legislation specific for the substances or mixtures

##### 15.1.1 EU regulations

No REACH Annex XVII restrictions

Fiberfrax Z is on the REACH Candidate list

Other information, restriction and prohibition regulations

The zircon used in this product contains small amounts of uranium and thorium, which are naturally occurring radioactive material (NORMS). However none of the components are radioactive under the terms of the European Directive Euro tom 96/29. Take note of Directive 94/33/EC on the protection of your 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 chemical safety assessment has been carried out.

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### 16. OTHER INFORMATION

#### Abbreviations and acronyms:

AND	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 chemical regulation (EC) No 1907/2006
RID	Regulation concerning international carriage of dangerous goods by Rai
PBT	Persistent bio-accumulative toxic
vPvB	Very persistent and very bio-accumulative

#### Data sources:

Regulation (EC) No 1272/2008 of the European parliament and of the council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, ad amending Regulation (EC) No 1907/2006

#### Full text of H- and EUH-statements

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

#### NOTICE:

*The information presented herein 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 license. 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.*

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