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## MATERIAL SAFETY DATA SHEET

Classified as Hazardous according to criteria of Worksafe Australia

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### 1. IDENTIFICATION OF MATERIAL & SUPPLIER

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**Brand Name:** FIBERFRAX FELTS, Lo-con Felt, Duraset, Duraset LE, Spacefelt, AC Felt, QSF 3000

**Synonyms:** RCF, ceramic fibre, synthetic vitreous fibre (SVF), man made vitreous fibre (MMVF), man made mineral fibre (MMMMF).

**Ship. Name (CSN):** None Allocated

**Recommended Uses:** Exhaust Duct Insulation  
Commercial Appliances  
Home Security Boxes  
Expansion Joints  
Domestic Appliances  
Gasketing and sealing.

**Manufacturer/Supplier:** Unifrax Australia Pty. Ltd.

**Contact Information:** See page 9

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### 2. HAZARDS IDENTIFICATION

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Classified as hazardous according to the criteria of NOHS (National Occupational Health and Safety Commission).

**Health Hazards:** Irritating to eyes, skin, respiratory system and disturbances to Gastro intestines.

**Risk Phrases:**

R21/22 Harmful in contact with skin and if swallowed  
R36 Irritating to eyes  
R37 Irritating to respiratory system  
R38 Irritating to skin  
R43 May cause sensitisation by skin contact  
R49 May cause cancer by inhalation

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### 2. Hazards Identification cont'd:

**Safety Phrases:**

- S22 Do not breathe dust
- S36/37/39 Wear suitable protective clothing, gloves and eye/face protection
- S38 In case of insufficient ventilation, wear suitable respiratory equipment
- S53 Avoid exposure-obtain special instructions before use

### 3. COMPOSITION AND INFORMATION ON INGREDIENTS

Ingredient	CAS No	Proportion (wt %)
Refractories, Fibres, aluminosilicate	142844-00-6	94 - 98
Starch	9005-25-8	1 - 3
Phenol, polymer with formaldehyde	9003-35-4	0 - 3
Formaldehyde, polymer with ammonia and phenol	35297-54-2	0 - 3
Phenol - as contained in phenol resin	108-95-2	0 - 1
Formaldehyde - as contained in phenol resin	50-00-0	0 - 1

Both Refractory Ceramic Fibres and Formaldehyde are Classified by the NOHSC as Category 2 Carcinogens - substances that should be regarded as if they are carcinogenic to humans, for which there is sufficient evidence, based on long-term animal studies and other relevant information, to provide a strong presumption that human exposure may result in the development of cancer.

### 4. FIRST AID MEASURES

**Respiratory Irritation** If respiratory tract irritation develops, move the person to a dust free location. Get medical attention if the irritation continues. Refer to Section 8 for additional measures to reduce or eliminate exposure.

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### 4. First Aid Measures cont'd:

- Eye Irritation:** If eyes become irritated, flush immediately with large amounts of lukewarm water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Do not rub eyes. Get medical attention if irritation persists.
- Skin Irritation:** If skin becomes irritated, remove soiled clothing. Do not rub or scratch exposed skin. Wash area of contact thoroughly with soap and water. Using a skin cream or lotion after washing may be helpful.
- Ingestion:** If gastrointestinal tract irritation develops, move the person to a dust free environment. Do not induce vomiting; drink plenty of water.
- Advice to doctor:** Skin and respiratory effects are the result of temporary, mild mechanical irritation; fibre exposure does not result in allergic manifestations.

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### 5. FIRE FIGHTING MEASURES.

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Non-combustible product. Use extinguishing agent suitable for surrounding combustible materials.

**Hazardous Decomposition Products:** Thermal decomposition of binder from fires or from first heat of product may release smoke, carbon monoxide, carbon dioxide, oxides of nitrogen, oxides of sulfur, phenol, methyl phenols, formaldehyde, ammonia and small amounts of aromatic and aliphatic hydrocarbons. Use adequate ventilation or other precautions to eliminate exposure to vapours resulting from thermal decomposition of binder. Exposure to thermal decomposition fumes may cause respiratory tract irritation, bronchial hyper-reactivity or an asthmatic-type response.

No Hazchem code allocated.

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### 6. ACCIDENTAL RELEASE MEASURES

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Avoid creating airborne dust. Dust suppressing cleaning methods such as wet sweeping or vacuuming should be used to clean the work area. If vacuuming, the vacuum must be equipped with a HEPA filter. Compressed air or dry sweeping should not be used for cleaning.

Refer to personal protection and exposure controls section below during clean up of spilled

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### 7. HANDLING & STORAGE

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#### Handling

- Handle ceramic fibre carefully.
- Limit use of power tools unless in conjunction with local exhaust ventilation
- Use hand tools whenever possible.
- Frequently clean the work area with HEPA filtered vacuum or wet sweeping to minimise the accumulation of debris.
- Do not use compressed air for clean up

#### Storage

- Store the product in original container in a dry area.
  - Keep container closed when not in use.
  - Empty packaging may contain residue and should not be reused.
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### 8. EXPOSURE CONTROLS & PERSONAL PROTECTION

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#### National Exposure Standards

No exposure standard has been established for this product by NOHSC, however National Exposure Standards for certain ingredients (refractory ceramic fibres, starch and phenol) are shown below:

Ingredient	ES-TWA (fibres/ml)	ES-TWA (mg/m <sup>3</sup> )	ES-STEL (mg/m <sup>3</sup> )
Refractory ceramic fibres	0.5		
Dusts not otherwise classified, inspirable- starch		10	

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Formaldehyde (ES currently under review by NOHSC)		1.2	2.5
Phenol		4*	

\*Skin notation

### Engineering Control Measures

Use engineering controls such as local exhaust ventilation, point of generation dust collection, down draft work stations, emission controlling tool designs, and materials handling equipment designed to minimize airborne fibre emissions.

Airborne Fibre levels should be kept below 0.5 f/ml, if this is not possible then more extensive precautions are required as outlined below in "Personal Protective Equipment".

### Personal Protective Equipment

**Respiratory protection:** When engineering and/or administrative controls are insufficient to maintain workplace concentrations below the NOHSC TWA Exposure Standard of 0.5 f/ml, the use of appropriate respiratory protection, conforming to AS/NZS 1716 and 1715, is recommended. The evaluation of workplace hazards and the identification of appropriate respiratory protection is best performed, on a case by case basis, by a qualified Occupational Hygienist.

**Eye/Face protection:** Wear goggles or safety glasses with side shields to prevent eye irritation. The use of contact lenses is not recommended, unless used in conjunction with appropriate eye protection. Do not touch eyes with soiled body parts or materials. If possible, have eyewashing facilities readily available where eye irritation can occur.

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### 8. Exposure Controls & Personal Protection cont'd:

**Skin protection:** Wear gloves, head coverings and full body clothing as necessary to prevent skin irritation and possible skin sensitisation. Washable or disposable clothing may be used. If possible, do not take unwashed clothing home. If soiled work clothing must be taken home, employers should ensure employees are thoroughly trained on the best practices to minimize or avoid non-work dust exposure (e.g., vacuum clothes before leaving the work area, wash work clothing separately, rinse washer before washing other household clothes, etc.).

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### 9. PHYSICAL & CHEMICAL PROPERTIES

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<b>Appearance</b>	White fibrous material - Nil odour
<b>Melting Point</b>	1760 °C
<b>Boiling Point</b>	Not applicable
<b>Vapour Pressure</b>	Not applicable
<b>Specific Gravity</b>	2.62
<b>Flash Point</b>	None
<b>Flamm. Limit LEL</b>	Not applicable
<b>Solubility in Water</b>	Not available
<b>Autoignition Temp</b>	None
<b>Vapour Density</b>	Not applicable
<b>pH Value</b>	Not applicable

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### 10. STABILITY & REACTIVITY

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<b>Stability:</b>	Stable under normal conditions of use.
<b>Hazardous Reactions</b> <b>Decomposition Products</b>	Refer to SAFE HANDLING INFORMATION

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### 11. TOXICOLOGICAL INFORMATION

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A number of studies have been conducted on the health effects of inhalation exposure of rats and hamsters. In a lifetime (6 hours per day, 5 days a week for 24 months) nose only inhalation study, rats exposed to the maximum Tolerated Dose (30mg.m<sup>3</sup>, 200 Fibers/ml) developed progressive lung damage (interstitial fibrosis) and cancer of the lung and mesothelioma. In contrast, Hamsters similarly exposed, developed interstitial fibrosis and mesothelioma but no lung cancers. A multiple dose study (3, 9, 16mg/m<sup>3</sup>; 25, 75 and 150 Fibers/ml) found a dose related parenchymal fibrosis however, in the lowest exposed group (25 Fibers/ml), no irreversible effects were found that could be attributed to ceramic Fiber exposure. There was no statistical excess of lung tumours at any dose. One rat developed a mesothelioma in the 75 Fiber/ml exposure group. In 1987, the International Agency for Research on Cancer (IARC) reviewed the epidemiological and animal toxicology data on SMF (including ceramic Fiber, glasswool, rockwool and slagwood) and classified the group as possible human carcinogens (IARC Group 2B).

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### 12. ECOLOGICAL INFORMATION

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Not Available.

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### 13. DISPOSAL CONSIDERATIONS

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**Waste Disposal:**

Waste shall be placed in containers, plastic bags or other methods which will prevent Fiber and/or dust emission and disposed of in accordance with the local waste disposal authority requirements. There may be specific regulations at the Local, State or Federal level that pertain to this material.

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### 14. TRANSPORT INFORMATION

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No special transport requirements are necessary.

<b>UN Number</b>	None Allocated
<b>Shipping Name</b>	None Allocated
<b>DG Class</b>	None Allocated
<b>Packaging Group</b>	None Allocated
<b>Hazchem Code</b>	None Allocated
<b>Poisons Schedule</b>	Not Scheduled

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### 15. REGULATORY INFORMATION

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**Risk Statement:** R40 (3) Possible risk of irreversible effects. R36/37/38 Irritating to eyes, respiratory system and skin.

**Safety Statement:** S22 Do not breathe dust. S52 Avoid contact with eyes. S38 In insufficient ventilation, wear suitable respiratory equipment. S40 To clean floor and all objects contaminated by this Material, use AS approved HEPA fitted vacuum cleaner. S36/37/39 Wear suitable protective clothing, gloves and eye/ Face protection.

**Hazard Category:** Harmful, irritant.

**Poisons Schedule:** Not scheduled.

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### 16. OTHER INFORMATION

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#### RCF DEVITRIFICATION

As produced, all RCG fibers are vitreous (glassy) materials which do not contain crystalline silica. Continued exposure to elevated temperatures may cause these fibers to devitrify (become crystalline). The first crystalline formation (mullite) begins to occur at approximately 985° C (1805° F). Crystalline phase silica may begin to form at temperatures of approximately 1200° C (2192° F). The occurrence and extent of crystalline phase formation is dependent on the duration and temperature of exposure, fiber chemistry and/or the presence of fluxing agents. The presence of crystalline phases can be confirmed only through laboratory analysis of the "hot face" fiber.

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IARC's evaluation of crystalline silica states "Crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (Group 1)" and additionally notes "carcinogenicity in humans was not detected in all industrial circumstances studied" (IARC Monograph Vol. 68, 1997). NTP lists all polymorphs of crystalline silica amongst substances which may "reasonably be anticipated to be carcinogens".

IARC and NTP did not evaluate after-service RCF, which may contain various crystalline phases. However, an analysis of after-service RCF samples obtained pursuant to an exposure monitoring agreement with the USEPA, found that in the furnace conditions sampled, most did not contain detectable levels of crystalline silica. Other relevant RCF studies found that (1) simulated after-service RCF showed little, or no, activity where exposure was by inhalation or by intraperitoneal injection; and (2) after-service RCF was not cytotoxic to macrophage-like cells at concentrations up to 320 g/cm<sup>2</sup> - by comparison, pure quartz or cristobalite were significantly active at much lower levels (circa 20 g/cm<sup>2</sup>).

### **CONTACT DETAILS:**

<b>Contact:</b>	During Business Hours	Ph: +61 3 9463 0000
<b>Customer Service Toll Free:</b>		Ph: 1300 797 888
<b>Emergency / After Hours Contact:</b>		Alan Smith
		Ph: 0409 288 916

**References:** Replaces MSDS dated 27 March 2007.

***NOTICE:*** *The information presented herein is based on data considered to be accurate as of the date of preparation of this Material 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 practise any patented invention without licence. In addition, no responsibility can be assumed by the vendor for any*

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FIBERFRAX<sup>®</sup> LO-CON FELT

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*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.*

... End Of Report ...