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## MATERIAL SAFETY DATA SHEET

No Classification under EEC Directive 76/548/EEC.

Refer Worksafe Australia Classifying Clause 1.14.

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### 1. IDENTIFICATION OF MATERIAL & SUPPLIER

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**Product Name** Isofrax® KUB™ Cement

**Other Names:** Isofrax®  
Isofrax® Bulk Fibre  
Isofrax® Blanket  
Isofrax® Modules  
Isofoam®

**UN Number:** None  
**DG Class:** None  
**Manufacture's Product Code:** None  
**Hazchem Code:** None  
**Poisons Schedule:** None  
**Product Use:** Thermal Insulation

**Manufacturer/Supplier:**

Unifrax Australia Pty. Ltd.  
326 Settlement Rd  
Thomastown Victoria 3074  
**Australia**

Unifrax GmbH  
Postfach 16 01 62  
D-40564 Düsseldorf  
**Germany**

Unifrax UK Limited  
Mill Lane, Rainford  
St. Helens,  
Merseyside 20 WA118L  
**UK**

Unifrax France  
17 Rue Antoine durafour  
42420 Lorette,  
**France**

**Contact Details:** See Page 8

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### 2. HAZARDS IDENTIFICATION

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**Flammability**

**Fire Hazards:** Non Flammable

**Explosive Hazards:** Non Explosive

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

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### 3. COMPOSITION AND INFORMATION ON INGREDIENTS

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**Ingredients:** Alkaline Earth Silicate (AES) consisting of (70-80wt %),  
Magnesia (18-27%).

| <b>Component</b>                          | <b>CAS</b>   | <b>Proportion</b> | <b>R Phrases</b> |
|---|--------------|-------------------|------------------|
| Alkaline Earth Silicate                   | 436 083 99 7 |                   | None             |
| Alumina (Al <sub>2</sub> O <sub>3</sub> ) | 1344-28-1    | 10-<30%           |                  |
| Calcium Aluminate Cement                  | 65997-16-2   | 10-<30%           |                  |
| Fumed Silica                              | 7631-86-9    | 10-<30%           |                  |
| Calcium Silicate                          | 13983-17-0   | 1--<30%           |                  |

**Description:** Isofrax products are available in a variety of forms: bulks, blankets, papers, felts, boards, shapes, modules, cements, coatings, mixes and mastics.

**Use of the Product:** Application as thermal insulation, heat shields, heat containment, gaskets and expansion joints at temperature up to 1250°C, in industrial furnaces ovens, kilns, boilers and other process equipment and in the aerospace, automotive and appliance industries and as a passive fire protection systems and firestops.

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### 4. FIRST AID MEASURES

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|                             |   |
|-----------------------------|---|
| <b>Eyes:</b>                | Flush eyes with water. Do not rub eyes.                         |
| <b>Skin:</b>                | Rinse affected areas with water and soap. Do not use detergent. |
| <b>Nose &amp; Throat:</b>   | Remove to fresh air and blow nose. Drink water.                 |
| <b>First Aid Facilities</b> | Eye wash facilities are recommended if eye contact is probable. |

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### 5. FIRE FIGHTING MEASURES.

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|  |  |
|--|--|
| <b>Fire Explosion Hazard:</b>                          | Non Flammable and non explosive. Packaging and surrounding materials may be combustible. Use extinguishing agent suitable for surrounding combustible materials. |
| <b>Hazardous Reactions/<br/>Decomposition Products</b> | Refer to HANDLING INFORMATION  |
| <b>Hazchem Code:</b>                                   | None Allocated.  |

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### 6. ACCIDENTAL RELEASE MEASURES

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|   |  |
|---|--|
| <b>Spills or Release<br/>To the Environment</b> | Do not flush to drains. Prevent entry to waterways. Do not allow to be windblown.<br><br>Use vacuum cleaning equipment fitted with HEPA filters to collect debris. Use dust extraction equipment. Avoid procedures that will generate airborne fibres. |
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### 7. HANDLING & STORAGE

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**Handling:**

Handling can be a source of dust emission. The process or processes 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). Regular good housekeeping will minimize secondary dust dispersal. Use of protective clothing (i.e. gloves, clothing, glasses) to reduce possible irritation is recommended

**Storage Precautions:**

Store in original packaging in dry area when not in use. Always use sealed and visibly labeled containers. Avoid damaging containers. Reduce dust emission during unpacking. Emptied containers, which may contain debris, should be cleaned before disposal or recycling.

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### 8. EXPOSURE CONTROLS & PERSONAL PROTECTION

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| <b>Exposure Controls:</b> | <b>Name</b>       | <b>CAS No.</b> | <b>Exposure</b> |
|---------------------------|-------------------|----------------|-----------------|
|                           | Magnesia Silicate | 65997-17-3     | TWA 0.5 f/ml**  |

\*\* National Occupational and Safety Commission - National Code of Practice for the safe use of Synthetic Fibres.

**Engineering Controls:**

Keep the workplace clean. Use a vacuum cleaner fitted with an HPA filter; avoid brushing and using compressed air. Review your application(s) in order to identify potential sources

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

of dust exposure.

Local exhaust ventilation, which collects dust at source, can be used. Eg, down draft tables, emission controlling tools and material handling equipment.

**Personal Protection:**

Respirators are recommended. All respirators used shall comply with the provisions of AS1715 and 1716. Gloves are recommended to avoid skin irritation. Safety eyewear is also recommended particularly for overhead work.

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### 9. PHYSICAL & CHEMICAL PROPERTIES

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|                              |                |
|------------------------------|----------------|
| <b>Appearance</b>            | Grey           |
| <b>Boiling/Melting Point</b> | 1500 - 1500 °C |
| <b>Physical State</b>        | Solid          |
| <b>Odour</b>                 | None           |
| <b>Oxidising Properties</b>  | None           |

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### 10. STABILITY & REACTIVITY

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**Stability:** Stable under normal conditions of use.

**Hazardous Reactions**  
**Decomposition Products** Refer to SAFE HANDLING INFORMATION

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### 11. TOXICOLOGICAL INFORMATION

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#### **Irritant Properties**

When tested using approved methods (Directive 67/548/EC, Annex V, Method B4), fibres contained in this material give negative results. All manmade mineral fibres, like some natural fibres, can produce a mild irritation resulting in itching or rarely, in some sensitive individuals, a slight reddening. Unlike other irritant reactions this is not the result of allergy or chemical skin damage but is caused by a temporary mechanical effect.

#### **Other Animal Studies**

These materials have been designed to allow rapid clearance from tissue. And this low biopersistence has been confirmed in many studies using EU protocol ECB/TM/27 (rev 7) and the German method specified in TRGS 905 (1999). When inhaled, even at very high doses, they do not accumulate to any level capable of producing a serious adverse biological effect. In lifetime chronic studies there was no exposure-related effect more than would be seen with any "inert" dust. Sub chronic studies at the highest doses achievable produced, at worst, a transient mild inflammatory response. Fibres with the same ability to persist in tissue do not produce tumours when injected into the peritoneal cavity of rats.

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### 12. ECOLOGICAL INFORMATION

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These products are inert materials, which remain stable overtime.  
No adverse effects of this material on the environment are anticipated.

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### 13. DISPOSAL CONSIDERATIONS

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**Waste Disposal:** Place in plastic containers and dispose in accordance with local government provisions.

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### 14. TRANSPORT INFORMATION

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Ensure that dust in not wind-blown during transportation.

|                         |                |
|-------------------------|----------------|
| <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. R36/38.  
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.

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 INFORMATION

**Contact:** During Business Hours Ph: +61 3 9463 7100

**Emergency / After Hours Contact:** Alan Smith

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**ISOFRAX®**  
**KUB™ CEMENT**

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**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 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.....

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