

Revision Number: 2

Ceramic Fiber Blanket

Classification	PPE Personal protection equipment	Transport Symbols
		

1. IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND SUPPLIER

Commodity code	04002 - RCF
Product Name	Ceramic Fiber Blanket
Synonym	Insulation Blanket; RCF Blanket M-4, M-6, M-8; Wet Felt; Ladle Liner
Product use	Insulated blanket.

Details of the supplier

Pyrotek Products Ltd.
 69 Cryers Road
 East Tamaki
 Manukau, Auckland, 2013
 New Zealand
 Phone 1: (64) (0)9 272-2056
 Fax: (64) (0)9 274-4023

Emergency Telephone Number	In New Zealand: 0800 CHEMCALL (0800 243 622) 24 hours National Poisons Centre: 0800 POISON (0800 764 766) New Zealand Fire and Emergency Service: 111
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2. HAZARDS IDENTIFICATION

Signal word	DANGER
Hazard statements	H350 - May cause cancer H315 - Causes skin irritation
Emergency Overview	This product is custom-made (ready for use), with a low potential for release of dust and not classified as hazardous. However, during transport or if the product is worked, this may result in a low level release of dust. Inhalation of fiber dust must be avoided. Product dust may also be mechanical irritant
Precautionary Statements	P201 - Obtain special instructions before use

P202 - Do not handle until all safety precautions have been read and understood
 P281 - Use personal protective equipment as required
 P308 + P313 - IF exposed or concerned: Get medical advice/attention
 P405 - Store locked up
 P501 - Dispose of contents/ container to an approved waste disposal plant



Further information

This product contains Refractory Ceramic Fibres (RCF), Index Number 650-017-00-8 (CLP Annex VI), CAS number: 142844-00-6, also known under the trade name Fiberfrax®. Fiberfrax® is a trademark of the Unifrax Corporation and have been registered successfully with ECHA under the following registration number: 01-2119458050-50-xxxx. Use of the products is restricted to "professional users" for application as thermal insulation, heat shields, heat containment, gaskets and expansion joints at temperatures up to 1260°C (2300°F) in industrial furnaces, ovens, kilns, boilers and other process equipment and in the aerospace and automotive industries. Products are not intended for direct sale to the general public..

Synthetic vitreous fibers (SVF) are fibrous inorganic substances classified into three general groups: fibrous glass (glasswool and glass filament), mineral wool (rockwool and slagwool), and refractory ceramic fibers (RCF). Devitrification (conversion of fibers to a crystalline state) may occur when SVF materials are exposed to high temperatures producing disordered crystalline silica forms.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS No	EC No	Weight-%	New Zealand - GHS Classifications - HSNO CCID
Refractory Ceramic Fibre (RCF)	142844-00-6	n/a	> 99%	

All other ingredients determined not to be hazardous according to GHS/HSNO CCID criteria

4. FIRST AID MEASURES

General advice	If symptoms persist, call a physician. Show this safety data sheet to the doctor in attendance.
Inhalation	Remove to fresh air. If symptoms persist, call a physician.
Skin Contact	Remove and wash contaminated clothing before re-use. Wash off with soap and water. Treat irritated or desiccated skin with hydrating skin cream. If skin irritation persists, call a physician.
Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.
Ingestion	Clean mouth with water and drink afterwards plenty of water. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary.
Aggravated Medical Conditions	Respiratory disorder. Skin disorders.

Protection of first-aiders Use personal protective equipment

Notes to Physician Treat symptomatically.

For advice, contact Poisons Information Centre
In New Zealand, Tel: 034747000
In Australia, Tel: 13 1126

5. FIRE-FIGHTING MEASURES

Flammable properties	Not flammable.
Suitable Extinguishing Media	Water, Water spray, Carbon dioxide (CO ₂), Dry powder, pellets
Unsuitable Extinguishing Media	None known.
Special exposure hazards in a fire	No information available.
Specific hazards arising from the chemical	None known.
Protective equipment and precautions for firefighters	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
Aus/NZ HAZCHEM Code	None known

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Use personal protective equipment. Avoid dust formation.
Environmental Precautions	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Avoid dust formation. Vacuum or wet sweep.
Other Information	Do not create a powder cloud by using a brush or compressed air.

7. HANDLING AND STORAGE

Handling	Use only in area provided with appropriate exhaust ventilation. Wear personal protective equipment. Avoid dust formation. Frequently clean the work area with HEPA filtered vacuum or wet sweeping to minimize the accumulation of ceramic fibers.
Storage	Keep containers tightly closed in a cool, well-ventilated place. Keep in properly labelled containers.
Materials to avoid	Hydrofluoric acid. Phosphoric acid. Alkaline solutions.

8. Exposure Controls/Personal Protection

Exposure Guidelines

Chemical name	NZ Occupational Exposure Limits	NZ Tolerable Exposure Limits (TELs) - Air	NZ Workplace Exposure Limits - Ceilings	NZ Ambient Air Quality Standards
Refractory Ceramic Fibre (RCF)	TWA: 0.3 Respirable fibre per millilitre air and 0.1mg/m ³ Inhalable dust			

Biological standards No biological limit allocated

Occupational exposure controls

Engineering Controls Ensure adequate ventilation, especially in confined areas when mist is present.

Environmental exposure controls Do not allow material to contaminate ground water system.

PPE

If exposure limits are exceeded or irritation is experienced, the user must determine if any locally approved respiratory protection must be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Proper skin and eye protection should also be determined by the user. Respiratory, skin and eye protection must be provided in accordance with current local regulations. Considerations to aid the user in PPE assessments follow.

Eye Protection tightly fitting safety goggles.

Skin Protection Long sleeved clothing.

Respiratory protection Respirator must be worn if exposed to dust. Dust mask EN149 - P3/FFP3 or (P2/FFP2) under dusty conditions.

General industrial hygiene practice When using, do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Solid
Appearance	Blanket
Color	White
Odor	acidic
pH - VALUE 1	No data available
Water solubility	Insoluble in water
Specific gravity	2.50 - 2.75
Vapor pressure	No data available
Vapor density	No data available
Boiling point / boiling range	No data available
Melting point/range	1760 °C 3200 °F
Flash point	No data available
Autoignition temperature	No data available
Upper explosion limit	No data available
Lower explosion limit	No data available

10. STABILITY AND REACTIVITY

Stability Stable.

Conditions to Avoid Avoid dust formation.

Materials to avoid Hydrofluoric acid. Phosphoric acid. Alkaline solutions.

Hazardous Decomposition Products Initial exposure to temperatures up to 600°C will cause outgassing products of water, carbon dioxide and/or carbon monoxide depending upon condition of combustion and very small quantities of Nitrogen Oxides.

Possibility of Hazardous Reactions Hazardous polymerization does not occur

11. TOXICOLOGICAL INFORMATION

Local effects	No information available.
Target organ effects	No information available.
Acute Toxicity	
<u>Potential Health Effects</u>	
Inhalation	May cause irritation of respiratory tract.
Eye Contact	Contact with eyes may cause irritation.
Skin Contact	May cause eye/skin irritation.
Ingestion	Ingestion may cause irritation to mucous membranes.
Chronic Toxicity	<p>There has been no increased incidence of respiratory disease in studies examining occupationally exposed RCF workers. In animal studies, long-term laboratory exposure to doses hundreds of times higher than normal occupational exposures has produced fibrosis, lung cancer, and mesothelioma in rats or hamsters. The fibers used in those studies were specially sized to maximize rodent respirability.</p> <p>RCF HEALTH DATA SUMMARY: Epidemiological studies of RCF production workers have indicated no increased incidence of respiratory disease nor other significant health effects. In animal studies, long-term, high-dose inhalation exposure resulted in the development of respiratory disease in rats and hamsters.</p> <p>RCF EPIDEMIOLOGY: In order to determine possible human health effects following RCF exposure, the University of Cincinnati in the United States and the Institute of Occupational Medicine (IOM) in Europe have conducted medical surveillance studies on RCF workers in U.S. and European manufacturing facilities. The University of Cincinnati study has been in progress for over 20-years, collecting data from respiratory questionnaires, lung function tests, chest X-rays, exposure monitoring, and worker mortality. The results of this study of RCF plant workers exposed from 1953 to the present have shown (LeMasters et al, 2003): The initial cross-sectional spirometry studies in the U.S. (LeMasters et al. 1998) and Europe (Cowie et al. 2001) revealed lung function decrements in the RCF-exposed cohort that were associated with heavier historical exposures. Subsequently, longitudinal studies have revealed no RCF exposure related decrements in lung function associated with current exposure levels. Through 1996, pleural plaques seen on chest X-rays in 2.7% of the workers. Pleural plaques are considered a marker of exposure and not disease. The prevalence of pleural plaques has remained relatively constant over time, perhaps as a result of lower current exposure levels. Thus, this long term epidemiology study has demonstrated an absence of interstitial fibrosis, no increased mortality risk and no decrement in lung function associated with current exposures.</p> <p>RCF TOXICOLOGY: Early animal studies of RCF effects by intraperitoneal and intrapleural injections, as well as by inhalation, resulted in mostly negative results. In an effort to eliminate any questions posed by the results of these early studies, a definitive Maximum Tolerated Dose Study (MTD) by nose only, lifetime inhalation in rats and hamsters, was designed in the 1980s. The MTD study appeared to confirm that RCF was an animal carcinogen under certain test conditions, e.g., extremely high concentrations of approximately 200 f/cc inhaled directly into the lungs. A later review of the MTD pathology indicated that the animals, lungs were likely overloaded because of large quantities of non-fibrous particles, and that this overload condition was likely responsible for the disease observed. In fact, evaluation of the aerosol samples used confirmed the presence of significant quantities of particulate matter. In a subsequent multi-dose animal inhalation study at 25 f/cc, 75 f/cc, and 115 f/cc; a no observed effect level (NOEL) was found at 25 f/cc. This level is 50 times the RCF recommended REG of 0.5 f/cc for humans.</p>
Aggravated Medical Conditions	Respiratory disorder. Skin disorders.
<u>Specific effects</u>	

Carcinogenic effects

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	New Zealand - GHS - Carcinogenicity	IARC	Australia
Refractory Ceramic Fibre (RCF) 142844-00-6 (> 99%)	Carc. 1B	Group 2B	Carc. Cat. 2

Mutagenic effects

No information available.

Reproductive Toxicity

No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity effects

No information available.

Persistence and degradability

None known

Mobility in Environmental Media

None known

Bioaccumulation

None known

13. DISPOSAL CONSIDERATIONS

Waste disposal methods

Dispose of in accordance with federal, state and local regulations.

Contaminated packaging

Empty containers should be taken for local recycling, recovery or waste disposal.

Other information

According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

14. TRANSPORT INFORMATION

Not regulated for transport according to criteria of NZS5433:2012 or UN/IMDG/IATA

15. REGULATORY INFORMATION

International Inventories

International Inventories

Chemical name	EINECS	ELINCS	PICCS	ENCS	DSL	NDSL	TSCA	China	AICS	KECL
Refractory Ceramic Fibre (RCF)	-	-	-	-	-	-	-	X	-	-

Carcinogenic substances

Contains substances considered carcinogenic according to the following regulatory classifications

Chemical name	New Zealand - Carcinogens	European Union	IARC	Australia
Refractory Ceramic Fibre (RCF)	Carc. 1B	Carc. 1B	Group 2B	Carc. Cat. 2

16. OTHER INFORMATION

Revision Date:

2018-07-05

Reason for Revision

Routine review with applicable updates to better reflect product.

After Service Removal

High concentrations of fibers and other dusts may be generated when after-service products are mechanically disturbed during operations such as wrecking and removal. Take measures to reduce dust emissions, and wear appropriate respirator to minimize dust exposure and comply with local regulatory limits.

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Literary reference

Information taken from reference works and the literature.

Key Legend Information

HSNO - Hazardous Substances and New Organisms Act 1996 [NZ]

CCID - Chemical Classification and Information Database [NZ]

TWA - Time Weighted Average [Int]

STEL - Short Term Exposure Limit [Int]

AS/NZS 1715 - Selection, use and maintenance of respiratory protective devices [Aust/NZ]

IATA - International Aviation Transport Authority [Int]

IMDG - International Maritime Dangerous Goods [Int]

United Nations Recommendations for the Transport of Dangerous Goods and Globally Harmonized System (GHS) for the classification and labelling of Chemicals [Int]

EINECS - European Inventory of Existing Commercial Chemical Substances [Int]

ELINCS - European List of Notified Chemical Substances [Int]

EU - European Union [Int]

ADR/RID - European Road & Rail Transportation Union - [Int]

[Aust/NZ] = Australian / New Zealand [Int] = International

End of SDS