



Ceramic Fiber Blanket

Revision Date: 2019-03-04

Revision Number: 7

Classification	PPE	Transport Symbols
		

1. Identification of the Substance/Preparation and of the Company/Undertaking

Product identifier

Product Name Ceramic Fiber Blanket

Other means of identification

Commodity code 04002 - RCF
Synonym Insulation Blanket; RCF Blanket M-4, M-6, M-8; Wet Felt; Ladle Liner

Recommended use of the chemical and restrictions on use

Product use Insulated blanket.
Uses advised against Not fit for use in anything related to human consumption.

Details of the supplier

Corporate office:
 Pyrotek Inc.
 705 West 1st Ave
 Spokane, WA 99201-3909
 United States

Phone 1: (509) 926-6212
 Phone 2: 1-800-PYROTEK
 Fax: (509) 927-2408
 Email: SDS@pyrotek.com

Emergency Telephone Number

CHEMTREC North America (800) 424-9300, CHEMTREC Outside North America +1 703 527 3887

2. Hazards Identification

Classification

Carcinogenicity	Category 1B
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Label Elements

Warning

Hazard statements

May cause cancer



Precautionary Statements - Prevention

Obtain special instructions before use
 Do not handle until all safety precautions have been read and understood
 Use personal protective equipment as required

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 IF ON SKIN: Gently wash with plenty of soap and water
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician
 Rinse mouth

Hazards not otherwise classified (HNOC)

None known

Other Information

3. Composition/information on Ingredients

Chemical name	CAS No	Weight-%	Classification
Refractory Ceramic Fibre (RCF)	142844-00-6	100 %	Carc. 1B (H350i)

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.

The exact percentage (concentration) of composition is not shown due to component range variations, withheld or trade secret ingredients.

4. First Aid Measures

General advice	If symptoms persist, call a physician. Show this safety data sheet to the doctor in attendance.
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.
Inhalation	Remove to fresh air. 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.
Notes to Physician	Treat symptomatically.
Protection of first-aiders	Use personal protective equipment.

5. Fire-Fighting Measures

Flammable properties

Not flammable.

Suitable Extinguishing Media

Water. Water spray. Carbon dioxide (CO₂). Dry powder. pellets.

Unsuitable Extinguishing Media

None known.

Specific hazards arising from the chemical

No information available.

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.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

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 and material for containment and 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

Precautions for safe 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.

Conditions for safe storage, including any incompatibilities

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

Control parameters

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH	Mexico
Refractory Ceramic Fibre (RCF)	TWA: 0.2 fiber/cm ³	0.1 f/cm ³	Not Listed	Not Listed

Chemical name	Canada - Alberta	Canada - British	Canada - Ontario	Canada - Quebec

		Columbia		
Refractory Ceramic Fibre (RCF)	TWA: 0.2 fibre/cm3	TWA: 0.2 fibre/cm3	TWA: 0.5 fibre/cm3	TWA: 1 fibre/cm3

Chemical name	Argentina	Brazil	Chile	Venezuela
Refractory Ceramic Fibre (RCF)	TWA: 0.2 fiber/cm3	Not Listed	Not Listed	Not Listed

Appropriate engineering controls

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

Individual protection measures, such as personal protective equipment

Eye Protection	Tightly fitting safety goggles.
Hand Protection	Protective gloves.
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**Information on basic physical and chemical properties**

Physical state	Solid	Odor	Odorless
Appearance	Blanket	Odor threshold	Not applicable
Color	White		

<u>Property</u>	<u>Values</u>	<u>Remarks • Methods</u>
pH	Not applicable	
Melting point / freezing point	1760 °C / 3200 °F	
Boiling point / boiling range	Not applicable	
Flash point	Not flammable	None known
Evaporation rate		

Flammability Limit in Air

Upper flammability limit:	Not applicable
Lower flammability limit:	Not applicable
Vapor pressure	Not applicable
Vapor density	
Specific gravity	2.50 - 2.75
Water solubility	Insoluble in water
Solubility(ies)	Not applicable
Partition coefficient	
Autoignition temperature	Not applicable
Decomposition temperature	No data available
Kinematic viscosity	
Dynamic viscosity	
Explosive properties	Non explosive

Other Information

VOC Content (%)	Not applicable
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10. Stability and Reactivity

Reactivity

Chemical stability

Stable.

Possibility of Hazardous Reactions

Hazardous polymerization does not occur.

Conditions to Avoid

Avoid dust formation.

Incompatible materials

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.

11. Toxicological Information

Information on likely routes of exposure

Eye Contact	Contact with eyes may cause irritation.
Skin Contact	May cause eye/skin irritation.
Ingestion	Ingestion may cause irritation to mucous membranes.
Inhalation	May cause irritation of respiratory tract.

Information on toxicological effects

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Mutagenic effects	None known.
Aggravated Medical Conditions	Respiratory disorder. Skin disorders.
STOT - single exposure	None known.
STOT - repeated exposure	None known.
Chronic Toxicity	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.

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.

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.

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 RCFC recommended REG of 0.5 f/cc for humans.

Numerical measures of toxicity
Product Information

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Refractory Ceramic Fibre (RCF)	-	-	-

Carcinogenicity

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

Chemical name	IARC	NTP	OSHA	Mexico
Refractory Ceramic Fibre (RCF)	Group 2B	Reasonably Anticipated	Present	Not Listed

Chemical name	Argentina	Chile	Venezuela
Refractory Ceramic Fibre (RCF)	A2	Not Listed	Present

IARC (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

Group 2A - Probably Carcinogenic to Humans

Group 2B - Possibly Carcinogenic to Humans

NTP (National Toxicology Program)

Known - Known Carcinogen

Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

X - Present

12. Ecological Information

Ecotoxicity

100 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Component	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Refractory Ceramic Fibre (RCF) 142844-00-6 (100 %)	No data available			No data available

Persistence and degradability

No information available.

Bioaccumulation

No information available.

Mobility in Environmental Media

No information available.

Ozone depletion potential (ODP)

Not applicable.

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

DOT

Not regulated

15. Regulatory Information

International Inventories

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

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances
 IECSC - China Inventory of Existing Chemical Substances
 KECL - Korean Existing and Evaluated Chemical Substances
 PICCS - Philippines Inventory of Chemicals and Chemical Substances
 AICS - Australian Inventory of Chemical Substances

USA**Federal Regulations****SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product may contain a chemical or chemicals, if listed below, which are subject to the reporting requirements of the Act and Title 40n of the Code of Federal Regulations, Part 372:

SARA 311/312 Hazardous Categorization

Chemical name	CERCLA/SARA 302 TPQ	OSHA PRINT THRESHOLD
Refractory Ceramic Fibre (RCF) (CAS #: 142844-00-6)		0.1

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product contains the following HAPs:

State Regulations**California Proposition 65**

This product contains the following Proposition 65 chemicals:

State Right-to-Know**CANADA**

Chemical name	WHMIS
Refractory Ceramic Fibre (RCF) (CAS #: 142844-00-6)	Non-controlled

16. Other Information**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.

Revision Date:

2019-03-04

Reason for Revision

Routine review with applicable updates to better reflect product.

Disclaimer:

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End of SDS

United States of America
 California Proposition 65