



## Composition comments

This product contains Refractory Ceramic Fibers (RCF) or an RCF wrap or mat. IARC has classified RCFs as a possible human carcinogen, Group 2B. This classification was based on sufficient evidence of carcinogenicity in animals and no available data in humans. NTP classified respirable RCFs as reasonably anticipated carcinogens. Recent industry ongoing epidemiology studies show the general health of workers in the RCF industry was similar to that of workers in other dusty work environments. There have been no reports of mesothelioma, and the lung cancer rate appears similar to background rates, but the number of workers with a long latency period are too few for definitive conclusions. There was a small number of employees with an increased risk of developing pleural plaques (shadows along the inside of the chest wall). These plaques, however, are not known to cause symptoms or disability. HWI recommends that safe handling methods are followed, including air monitoring in areas wherever the potential exists for airborne fibers, minimizing airborne exposures through use of NIOSH approved respirators, and wearing protective clothing, gloves, and eye protection. For additional information please visit [www.htiwcoalition.org](http://www.htiwcoalition.org) Please review the workplace guidelines for additional handling information.

## 4. First aid measures

### First aid measures for different exposure routes

<b>Inhalation</b>	Move to fresh air. Call a physician if symptoms develop or persist.
<b>Skin contact</b>	Wash off with soap and water. Get medical attention if irritation develops and persists.
<b>Eye contact</b>	Rinse with water. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Rinse mouth. Get medical attention if symptoms occur.

**Most important symptoms and effects** Direct contact with eyes may cause temporary irritation.

**Personal protection for first-aid responders** IF exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

**Notes to physician** Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

## 5. Fire-fighting measures

**Extinguishing media** Use fire-extinguishing media appropriate for surrounding materials.

**Extinguishing media to avoid** None.

**Special fire fighting procedures** None.

**Protection of fire-fighters** None.

## 6. Accidental release measures

**Personal precautions** Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

**Environmental precautions** Avoid discharge into drains, water courses or onto the ground.

**Spill clean-up methods** Stop the flow of material, if this is without risk. Following product recovery, flush area with water. Put material in suitable, covered, labeled containers. For waste disposal, see section 13 of the SDS.

## 7. Handling and storage

### Handling

**Technical measures** No specific recommendations.

**Local and general ventilation** Provide adequate ventilation.

**Precautions** Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

**Safe handling advice** Avoid prolonged exposure. Should be handled in closed systems, if possible. Observe good industrial hygiene practices. Use personal protection recommended in Section 8 of the SDS.

### Storage

**Technical measures** No specific recommendations.

**Suitable storage conditions** Store locked up. Store away from incompatible materials (see Section 10 of the SDS).

**Incompatible materials** Acids. Fluorine. Chlorine. For further information, please refer to section 10 of the SDS.

**Safe packaging materials** Store in original tightly closed container.

## 8. Exposure controls/personal protection

### Exposure limits

Indonesia. OELs (Minister of Manpower and Transmigration Regulation No. Per.13/MEN/X/2011 concerning Threshold Limit Values, Annex II)

Components	Type	Value	Form
Aluminosilicate Refractory Ceramic Fiber (CAS 142844-00-6)	TWA	10 mg/m3	Inhalable particles.
		10 mg/m3	Dust.

### Exposure guidelines

Recommended Exposure Guideline 0.5 Fiber/CC There is no specific regulatory standard for RCF in the U.S. OSHA's "Particulate Not Otherwise Regulated (PNOR)" standard [29 CFR 1910.1000, Subpart Z, Air Contaminants] applies generally; Total Dust 15 mg/m3; Respirable Fraction 5 mg/m3. The High Temperature Insulation Wool Coalition (HTIW) has sponsored comprehensive toxicology and epidemiology studies to identify potential RCF-related health effects [see Section 11 for more details], consulted experts familiar with fiber and particle science, conducted a thorough review of the RCF-related scientific literature, and further evaluated the data in a state-of-the-art quantitative risk assessment. Based on these efforts and in the absence of an OSHA PEL, HTIW has adopted a recommended exposure guideline, as measured under NIOSH method 7400B. The manufacturers' REG is intended to promote occupational health and safety through prudent exposure control and reduction and it reflects relative technical and economic feasibility as determined by extensive industrial hygiene monitoring efforts undertaken pursuant to an agreement with the U.S. Occupational Safety and Health Administration (OSHA). OTHER OCCUPATIONAL EXPOSURE LEVELS (OEL) Non-regulatory OEL decisions also vary. The evaluation of occupational exposure limits and determining their relative applicability to the workplace is best performed, on a case-by-case basis, by a qualified Industrial Hygienist.

### Engineering measures

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

### Personal protective equipment

#### Respiratory protection

Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits.

#### Hand protection

Wear appropriate chemical resistant gloves.

#### Eye protection

If contact is likely, safety glasses with side shields are recommended.

#### Skin and body protection

Use of an impervious apron is recommended.



### Hygiene measures

Observe any medical surveillance requirements. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

## 9. Physical and chemical properties

### Appearance

#### Physical state

Solid.

#### Form

Solid. Pressed fibrous material panel

#### Color

Not available.

#### Odor

Not available.

#### Odor threshold

Not available.

#### pH

Not available.

#### Melting point/freezing point

Not available.

#### Boiling point, initial boiling point, and boiling range

Not available.

#### Flash point

Not available.

#### Auto-ignition temperature

Not available.

#### Flammability (solid, gas)

Not available.

### Upper/lower flammability or explosive limits

#### Flammability limit - lower (%)

Not available.

<b>Flammability limit - upper (%)</b>	Not available.
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	Not available.
<b>Vapor density</b>	Not available.
<b>Evaporation rate</b>	Not available.
<b>Relative density</b>	Not available.
<b>Density</b>	Not available.
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Not available.
<b>Solubility (other)</b>	Not available.
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.
<b>Other data</b>	
<b>Explosive properties</b>	Not explosive.
<b>Oxidizing properties</b>	Not oxidizing.

## 10. Stability and reactivity

<b>Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>Stability</b>	Material is stable under normal conditions.
<b>Conditions to avoid</b>	Contact with incompatible materials.
<b>Incompatible materials</b>	Acids. Fluorine. Chlorine. Incompatibility is based strictly upon potential theoretical reactions between chemicals and may not be specific to industrial application exposure.
<b>Hazardous decomposition products</b>	No hazardous decomposition products are known.
<b>Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.

## 11. Toxicological information

<b>Acute toxicity</b>	Not known.
<b>Routes of exposure</b>	Inhalation.
<b>Symptoms</b>	Direct contact with eyes may cause temporary irritation.
<b>Skin corrosion/irritation</b>	Prolonged skin contact may cause temporary irritation.
<b>Serious eye damage/eye irritation</b>	Direct contact with eyes may cause temporary irritation.
<b>Respiratory or skin sensitization</b>	
<b>Respiratory sensitization</b>	Not a respiratory sensitizer.
<b>Skin sensitization</b>	This product is not expected to cause skin sensitization.
<b>Germ cell mutagenicity</b>	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
<b>Carcinogenicity</b>	Suspected of causing cancer.
<b>ACGIH Carcinogens</b>	
Aluminosilicate Refractory Ceramic Fiber (CAS 142844-00-6)	A2 Suspected human carcinogen.
<b>IARC Monographs. Overall Evaluation of Carcinogenicity</b>	
Aluminosilicate Refractory Ceramic Fiber (CAS 142844-00-6)	2B Possibly carcinogenic to humans.
<b>Toxic to reproduction</b>	This product is not expected to cause reproductive or developmental effects.
<b>Specific target organ toxicity - single exposure</b>	Not classified.
<b>Specific target organ toxicity - repeated exposure</b>	Not classified.
<b>Aspiration hazard</b>	Not an aspiration hazard.
<b>Chronic effects</b>	Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

**Interactive effects** Not available.  
**Other information** Not available.

## 12. Ecological information

**Ecotoxicity** The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.  
**Persistence and degradability** No data is available on the degradability of this product.  
**Bioaccumulation** No data available.  
**Mobility in soil** No data available for this product.  
**Other hazardous effects** No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

## 13. Disposal considerations

**Disposal methods/information** Not available.  
**Local disposal regulations** This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste.

## 14. Transport information

**ADR**  
Not regulated as dangerous goods.

**IATA**  
Not regulated as dangerous goods.

**IMDG**  
Not regulated as dangerous goods.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not applicable.

## 15. Regulatory information

### Applicable regulations

**CWC (Law of RI No. 9 of 2008 re: Prohibition on the Use of Chemicals as Chemical Weapon, March 10, 2008)**  
Not regulated.

**Dangerous Substances that Must be Registered (Regulation of the Minister of Health of the Republic of Indonesia, No. 472/Menkes/Per/V/1996)**  
Not regulated.

**Import and Distribution Control of Hazardous Materials (Minister of Trade Regulation No. 75/M-DAG/PER/10/2014, Annex I)**  
Not listed.

**Precursor Chemicals (Ministry of Industry and Trade Decree No. 647/MPP/Kep/10/2004 concerning Regulation on Import of Precursors, Attachment 1, Oct. 18, 2004)**  
Not regulated.

**Prohibited Substances (Government Regulation No. 74 of 2001 regarding Management of Hazardous and Poisonous Substances, Attachment II, Table 1)**  
Not regulated.

**Restricted Substances (Government Regulation No. 74 of 2001 regarding Management of Hazardous and Poisonous Substances, Attachment II, Table 2)**  
Not regulated.

**Toxic and Hazardous Materials List (Decree of the Ministry of Industry on the Safeguarding of Toxic and Hazardous Materials in Industrial Plants, No. 148/M/SK/4/1985)**  
Not regulated.

**Hazardous Substances Approved for Use (Government Regulation No. 74 of 2001 regarding Management of Hazardous and Poisonous Substances, Attachment I)**

**Listed substances**  
Not regulated.

**Listed substances / Allowed until 2040**  
Not regulated.

## 16. Other information

**Issued by** Not available.

<b>Disclaimer</b>	This information is based on our present knowledge on creation date. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.
<b>Issue date</b>	08-28-2017
<b>Legend to abbreviations and acronyms used in the SDS</b>	Not available.
<b>References and sources for data used to compile the SDS</b>	Not available.
<b>Revision information</b>	Product and Company Identification: Product and Company Identification Composition / Information on Ingredients: Ingredients