



Chemical name	Common name and synonyms	CAS number	%
Amorphous Silica	SILICA, AMORPHOUS, FUMED SILICA (CRYSTALLINE FREE)	7631-86-9	2.5 - 10
Other components below reportable levels			60 - 80

  

Additional components			
Chemical name		CAS number	%

\*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

**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

**Inhalation** Move to fresh air. Call a physician if symptoms develop or persist.

**Skin contact** Wash off with soap and water. Get medical attention if irritation develops and persists.

**Eye contact** Rinse with water. Get medical attention if irritation develops and persists.

**Ingestion** Rinse mouth. Get medical attention if symptoms occur.

**Most important symptoms/effects, acute and delayed** Direct contact with eyes may cause temporary irritation.

**Indication of immediate medical attention and special treatment needed** Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

**General information** If concerned: Get medical advice. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

#### 5. Fire-fighting measures

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

**Unsuitable extinguishing media** Not available.

**Specific hazards arising from the chemical** Not applicable.

**Special protective equipment and precautions for firefighters** Not available.

#### 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures** 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.

**Methods and materials for containment and cleaning up** Stop the flow of material, if this is without risk. Following product recovery, flush area with water. For waste disposal, see section 13 of the SDS.

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

#### 7. Handling and storage

**Precautions for safe handling** Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid prolonged exposure. Should be handled in closed systems, if possible. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

**Conditions for safe storage, including any incompatibilities**

Store locked up. Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

## 8. Exposure controls/personal protection

### Occupational exposure limits

#### US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value
Amorphous Silica (CAS 7631-86-9)	TWA	0.8 mg/m3 20 mppcf

#### US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Aluminosilicate Refractory Ceramic Fiber (CAS 142844-00-6)	TWA	3 fibers/cm3	Dust.
		3 fibers/cm3	Fiber.
		5 mg/m3	Fiber, total
		5 mg/m3	fibers, total dust
Amorphous Silica (CAS 7631-86-9)	TWA	6 mg/m3	

### Biological limit values

No biological exposure limits noted for the ingredient(s).

### 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 Refractory Ceramic Fibers Coalition (RCFC) 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, RCFC 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.

### Appropriate engineering controls

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.

### Individual protection measures, such as personal protective equipment

#### Eye/face protection

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

#### Skin protection

##### Hand protection

Wear appropriate chemical resistant gloves.

##### Other

Use of an impervious apron is recommended.

#### Respiratory protection

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

#### Thermal hazards

Wear appropriate thermal protective clothing, when necessary.



### General hygiene considerations

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

<b>Physical state</b>	Solid.
<b>Form</b>	Solid
<b>Color</b>	Not available.
<b>Odor</b>	Not available.
<b>Odor threshold</b>	0
<b>pH</b>	Not available.
<b>Melting point/freezing point</b>	Not available.
<b>Initial boiling point and boiling range</b>	Not available.
<b>Flash point</b>	Not available.
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not available.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	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>Relative density</b>	2.6 g/cm <sup>3</sup>
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	0
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.
<b>Other information</b>	
<b>Flammability</b>	0

## 10. Stability and reactivity

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

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	Prolonged inhalation may be harmful.
<b>Skin contact</b>	No adverse effects due to skin contact are expected.
<b>Eye contact</b>	Direct contact with eyes may cause temporary irritation.
<b>Ingestion</b>	Expected to be a low ingestion hazard.
<b>Symptoms related to the physical, chemical and toxicological characteristics</b>	Direct contact with eyes may cause temporary irritation.

## Information on toxicological effects

<b>Acute toxicity</b>	Not available.
<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>IARC Monographs. Overall Evaluation of Carcinogenicity</b>	
Aluminosilicate Refractory Ceramic Fiber (CAS 142844-00-6)	2B Possibly carcinogenic to humans.
Amorphous Silica (CAS 7631-86-9)	3 Not classifiable as to carcinogenicity to humans.
<b>US. National Toxicology Program (NTP) Report on Carcinogens</b>	Not available.
<b>US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)</b>	Not listed.
<b>Reproductive toxicity</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.

## 12. Ecological information

<b>Ecotoxicity</b>	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.
<b>Persistence and degradability</b>	No data is available on the degradability of this product.
<b>Bioaccumulative potential</b>	No data available.
<b>Mobility in soil</b>	No data available.
<b>Other adverse effects</b>	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

<b>Disposal instructions</b>	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.
<b>Hazardous waste code</b>	Not applicable.
<b>Waste from residues / unused products</b>	Not available.
<b>Contaminated packaging</b>	Not available.

## 14. Transport information

<b>DOT</b>	Not regulated as dangerous goods.
<b>IATA</b>	Not regulated as dangerous goods.
<b>IMDG</b>	Not regulated as dangerous goods.
<b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	Not applicable.

## 15. Regulatory information

### US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

One or more components are not listed on TSCA.

Toxic Substances Control Act (TSCA) Section 12(b) - This product has been assigned a CAS number; however, it is an "article" under TSCA and therefore exempt from listing on the TSCA inventory. All chemical substances in this product are listed on the TSCA chemical substance inventory where required.

#### TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

#### CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

#### SARA 304 Emergency release notification

Not regulated.

#### US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

### Superfund Amendments and Reauthorization Act of 1986 (SARA)

#### Hazard categories

Immediate Hazard - No

Delayed Hazard - Yes

Fire Hazard - No

Pressure Hazard - No

Reactivity Hazard - No

#### SARA 302 Extremely hazardous substance

Not listed.

**SARA 311/312 Hazardous chemical** No

#### SARA 313 (TRI reporting)

Not regulated.

### Other federal regulations

#### Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

#### Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.

### US state regulations

#### US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

#### US. Massachusetts RTK - Substance List

Aluminosilicate Refractory Ceramic Fiber (CAS 142844-00-6)

Amorphous Silica (CAS 7631-86-9)

#### US. New Jersey Worker and Community Right-to-Know Act

Aluminosilicate Refractory Ceramic Fiber (CAS 142844-00-6)

Amorphous Silica (CAS 7631-86-9)

#### US. Pennsylvania Worker and Community Right-to-Know Law

Aluminosilicate Refractory Ceramic Fiber (CAS 142844-00-6)

Amorphous Silica (CAS 7631-86-9)

#### US. Rhode Island RTK

Not regulated.

#### US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

### International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

## 16. Other information, including date of preparation or last revision

<b>Issue date</b>	03-06-2015
<b>Revision date</b>	11-10-2015
<b>Version #</b>	02
<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>Revision Information</b>	Composition/information on ingredients: Composition comments Exposure controls/personal protection: Exposure guidelines Regulatory information: US federal regulations