

	Zircar Zirconia, Inc. P.O. Box 287 Florida, NY 10921-0287 (845)651-3040 Emergency (845)258-9148 www.zircarzirconia.com	Safety Data Sheet HfBF, HfF, HfK, HfW	Document #:	Rev.:	Date:
			SDS-306	01	9/22/2017

1. Product Identification

Product Types: HfBF, HfF, HfK, HfW
Synonym: Hafnia Ceramic Fiber

2. Hazards Identification

Classification of Substance or Mixture
Classification (GHS-US): None.
Hazards not otherwise classified: None

3. Composition

Component	Synonyms	CAS Number	% by Weight	Classification (GHS-US)
Hafnium Oxide	HfO ₂	12055-23-1	100	None.

4. First Aid Measures

Inhalation: Remove to fresh air. Rinse mouth to clear throat and expel liquid. Blow nose to evacuate dust. Consult a physician if irritation persists.
Eye Contact: Do not rub eyes. Keep hands or contaminated body parts away from eyes. Remove contact lenses. Flush with water. If irritation persists, consult a physician.
Skin Contact: Wash with soap and water. For dryness, a skin cream may be helpful. Do not apply anything to a rash. Consult a physician if irritation persists.
Ingestion: Do not induce vomiting without advice of a physician. Seek medical attention.

5. Fire-Fighting Measures: Product is not flammable.

Special Hazards arising from the substance: None
Advice for firefighters: None

6. Accidental Release Measures: Clean up procedures should minimize formation of airborne dusts. Remove dust by vacuuming using HEPA filtration where possible.

Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Avoid contact with skin, eyes, or clothing. Avoid breathing dust.
For Non-Emergency Personnel: Use appropriate personal protection equipment (PPE), gloves, glasses, dust mask.
For Emergency Responders: Equip cleanup crew with proper protection. Ventilate area.
Environmental Precautions: None.

References to Other Sections: See section 8. Exposure Controls/ Personal Protection. For waste disposal refer to section 13.

7. Handling and Storage

Precautions for Safe Handling

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.
Machining and cutting: These materials may produce nuisance dust when machined or cut.

Conditions for Safe Storage, Including any Incompatibilities

Storage conditions: These materials are stable and may be stored indefinitely.
Incompatible Products: Strong acids
Specific End Use: Insulation

8. Exposure Controls/ Personal Protection

Control Parameters

There is no specific OSHA Permissible Exposure Limit (PEL) or ACGHI Threshold Limit Value (TVL) for Hafnia fibers, CAS#12055-23-1. Because Zircar hafnia fibers have diameters of 6-10 microns they are larger than respirable.

Exposure Controls

Appropriate Engineering Controls: Ensure adequate ventilation. Emergency eye wash should be available. Ensure regulations are observed.
Personal Protective Equipment: Protective goggles, gloves, protective clothing. Dust formation: dust mask type N95.
Environmental Exposure Controls: Do not allow the product to be released into the environment.
Consumer Exposure Controls: Do not eat, drink or smoke during use.

9. Physical and Chemical Properties

Physical State	Solid: cloth, felt, or fibers	Auto ignition Temperature	No data available
Color	White	Decomposition Temperature	
Odor	Odorless	Flammability (solid, gas)	
Odor Threshold	No data available	Vapor Pressure	
pH		Relative Vapor Density at 20C	
Evaporation Rate		Relative Density	
Melting/ Freezing Point	2812 C	Solubility	
Boiling Point	No data available	Partition Coefficient: N-Octanol/ Water	
Flash Point		Viscosity	

10. Stability and Reactivity

Reactivity: Hazardous reactions will not occur under normal conditions.
Chemical Stability: Stable under normal conditions.
Possibility of Hazardous Reactions: Hazardous polymerization will not occur.
Incompatible Materials: Strong acids
Hazardous Decomposition Products: None.

11. Toxicological Information: No Information available

Epidemiology: No Information Available
Distribution: Hafnium Oxide occurs naturally with zirconium oxide in concentrations of 1-2% and is widely distributed in this form.
Chemical Fate Information: The relative inertness of this material indicates that it may be highly persistent in the environment. No information regarding any negative effects of this persistence has been noted

12. Ecological Information: Ecological data are not available.

13. Disposal Considerations: Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations.

14. Transportation Information: Not regulated hazardous substances, no specific regulations apply.

15. Regulatory Information

WHMIS Status: Ceramic fibers with ≤3µm diameter are Class D2 controlled product based on an IARC 2B Classification. Zircar hafnia fibers are 6-10µm diameter and are not respirable and not controlled.

California Proposition 65: Zircar hafnia fibers are 6-10µm diameter and are not respirable and not controlled.

SARA Section 313 Supplier Notification: This product does not contain toxic chemicals subject to the reporting requirements of the Superfund Amendments and Reauthorization Act of 1986 Section 313 (40 CFR 372).

16. Other Information: The information contained herein is based on data considered to be accurate as of the preparation or revision date. It is provided in good faith and in compliance with state and federal regulations. No warranty or representation, express or implied is made as to the accuracy or completeness of this information. Other national, state and/or local regulations may apply.