

SAFETY DATA SHEET

Non-Oxide Ceramic Sputtering Targets

According to:

- OSHA Hazard Communication Standard (29 CFR 1910.1200)
- Globally Harmonized System (GHS)
- EU REACH Regulation

SECTION 1: Identification

Product Identifier

Non-Oxide Ceramic Sputtering Targets

Synonyms

Ceramic Targets, Carbide Targets, Boride Targets, Nitride Targets, Silicide Targets

Typical Products Include

TiB₂, ZrB₂, HfB₂, LaB₆, TaC, HfC, TiC, WC, TiN, AlN, BN, SiC, MoSi₂, WSi₂ and related non-oxide ceramic sputtering targets.

Recommended Use

Thin film deposition, vacuum coating, sputtering applications, scientific research, industrial use.

Supplier

Thin-Film Materials

Email: sales@thinfilmmaterials.com

Website: <https://www.thinfilmmaterials.com>

SECTION 2: Hazard(s) Identification

GHS Classification

Solid articles are generally not classified as hazardous under normal handling conditions.

Dust generated during grinding, machining, breaking, or sputtering residue handling may cause:

- Eye irritation
- Skin irritation
- Respiratory irritation

Certain metal-containing dusts may present additional hazards if inhaled in large quantities.

Signal Word

Warning

Hazard Statements

H335: May cause respiratory irritation.

Precautionary Statements

P261: Avoid breathing dust.

P271: Use only in well-ventilated areas.

P280: Wear protective gloves and eye protection.

P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.

Hazards Not Otherwise Classified

None known for intact solid targets.

SECTION 3: Composition / Information on Ingredients

Component	Content
Non-oxide ceramic materials	>99%
Trace impurities	<1%

Composition varies depending on product type.

SECTION 4: First-Aid Measures

Eye Contact

Flush eyes with water for at least 15 minutes.

Skin Contact

Wash thoroughly with soap and water.

Inhalation

Move affected person to fresh air.

Ingestion

Rinse mouth with water. Seek medical attention if symptoms persist.

SECTION 5: Fire-Fighting Measures

Suitable Extinguishing Media

- Water spray
- Dry chemical
- Foam
- Carbon dioxide

Specific Hazards

Product is non-flammable in solid form.

Some fine powders generated during processing may present combustible dust hazards.

Protective Equipment

Use standard firefighting protective equipment.

SECTION 6: Accidental Release Measures

Avoid generating airborne dust.

Collect fragments mechanically.

Wear appropriate personal protective equipment during cleanup.

Avoid environmental release of particulate matter.

SECTION 7: Handling and Storage

Store in a dry and clean environment.

Avoid excessive impact or mechanical damage.

Handle with gloves to prevent contamination.

Avoid prolonged exposure to moisture and oxidizing atmosphere where applicable.

SECTION 8: Exposure Controls / Personal Protection

Engineering Controls

Use local exhaust ventilation during machining or grinding operations.

Personal Protective Equipment

Eye Protection

Safety glasses or goggles

Skin Protection

Protective gloves

Respiratory Protection

Dust respirator if airborne particulates are generated

SECTION 9: Physical and Chemical Properties

Property	Value
Physical State	Solid
Appearance	Ceramic target
Color	Gray, black, metallic gray, or dark colored
Odor	Odorless
Solubility	Insoluble in water
Density	Varies by composition
Melting Point	High-temperature ceramic material

SECTION 10: Stability and Reactivity

Chemical Stability

Stable under recommended storage conditions.

Conditions to Avoid

- Excessive mechanical stress
- Dust generation
- Contact with strong oxidizers

Incompatible Materials

Strong oxidizing agents and strong acids.

Hazardous Decomposition Products

Metal oxides, carbon oxides, nitrogen oxides, or boron oxides may form under extreme thermal conditions.

SECTION 11: Toxicological Information

Likely Routes of Exposure

- Inhalation of dust
- Eye contact
- Skin contact

Symptoms

- Respiratory irritation
- Eye irritation
- Skin irritation

Chronic Effects

Long-term inhalation of airborne particulates should be avoided.

SECTION 12: Ecological Information

No known significant environmental hazards in solid form.

Avoid uncontrolled environmental release of dust or particulates.

SECTION 13: Disposal Considerations

Dispose in accordance with local, regional, and national regulations.

Industrial ceramic waste disposal methods are recommended.

SECTION 14: Transport Information

UN Number
Not regulated

Proper Shipping Name
Not classified as dangerous goods

Hazard Class
None

Packing Group
None

SECTION 15: Regulatory Information

This product is intended for industrial and research use only.

This SDS complies with:

- OSHA Hazard Communication Standard
 - GHS Classification System
 - EU REACH format requirements
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SECTION 16: Other Information

The information provided herein is believed to be accurate and reliable. However, no warranty is expressed or implied regarding its accuracy or completeness. Users are responsible for determining the suitability of this material for their specific applications.