SAFETY DATA SHEET

Rare Earth Oxide Sputtering Targets

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

SECTION 1: Identification

Product Identifier

Rare Earth Oxide Sputtering Targets

Synonyms

Rare Earth Oxide Targets, Lanthanide Oxide Targets, Rare Earth Ceramic Sputtering Targets

Typical Products Include

Y_2O_3, CeO_2, Gd_2O_3, La_2O_3, Dy_2O_3, Er_2O_3, Nd_2O_3, Sc_2O_3, Yb_2O_3, Eu_2O_3, Tb_4O_7, Sm_2O_3, Ho_2O_3, Lu_2O_3 and related rare earth oxide sputtering targets.

Recommended Use

Thin film deposition, vacuum coating, optical coatings, semiconductor processing, scientific research, industrial use.

Supplier

Thin-Film Materials

Email: sales@thinfilmmaterials.com

SECTION 2: Hazard(s) Identification

GHS Classification

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

Dust or particles generated during grinding, machining, breakage, or sputtering residue handling may cause eye irritation, skin irritation, and respiratory irritation.

Signal Word

Warning

Hazard Statements

Not applicable for solid articles under normal handling conditions.

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

Rare Earth Oxide Ceramic Materials

CAS Number

Various

Content

99%

Component

Trace Impurities

CAS Number

Various

Content

<1%

Product composition varies depending on target material.

SECTION 4: First-Aid Measures

Eye Contact

Flush 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
· Foam
· Dry chemical
· Carbon dioxide

Specific Hazards

Product is non-flammable in solid form.

Protective Equipment

Use standard firefighting protective equipment.

SECTION 6: Accidental Release Measures

Personal Precautions

Avoid generating airborne dust. Use appropriate personal protective equipment during cleanup.

Cleanup Methods

Collect fragments mechanically.

Environmental Precautions

Avoid environmental release of particulate matter.

SECTION 7: Handling and Storage

Handling

Avoid impact, dropping, and mechanical damage. Handle with gloves to prevent contamination.

Storage

Store in a dry, clean environment. Avoid prolonged exposure to moisture.

SECTION 8: Exposure Controls / Personal Protection

Engineering Controls

Use local exhaust ventilation during machining or grinding operations.

Eye Protection

Safety glasses or goggles.

Skin Protection

Protective gloves.

Respiratory Protection

Dust respirator if airborne particles are generated.

SECTION 9: Physical and Chemical Properties

Physical State

Solid

Appearance

Ceramic target

Color

White, pale yellow, gray, black, or characteristic oxide color

Odor

Odorless

Solubility

Generally 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 acids

Incompatible Materials

Strong acids and strong reducing agents.

Hazardous Decomposition Products

Metal 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 ceramic dust should be avoided.

SECTION 12: Ecological Information

Ecotoxicity

No known significant environmental hazards in solid form.

Environmental Precautions

Avoid uncontrolled release of particulate matter into the environment.

SECTION 13: Disposal Considerations

Disposal Method

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

Recycling

Ceramic recycling or industrial waste disposal methods are recommended where applicable.

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

Regulatory Statement

This product is intended for industrial and research use only.

Compliance Reference

This SDS complies with:
· OSHA Hazard Communication Standard
· GHS Classification System
· EU REACH requirements (format reference)

SECTION 16: Other Information

Disclaimer

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.