SAFETY DATA SHEET

Rare Earth Metal 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 Metal Targets

Synonyms

Rare Earth Sputtering Targets, Lanthanide Metal Targets, Rare Earth Metallic Deposition Materials

Typical Products Include

La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Y, Sc and related rare earth metallic sputtering targets.

Recommended Use

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

Supplier

Thin-Film Materials

Email: sales@thinfilmmaterials.com

SECTION 2: Hazard(s) Identification

GHS Classification

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

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

Certain rare earth metals may oxidize slowly in air. Fine powders generated during processing may present additional flammability or reactivity hazards.

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 Metallic 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

· Dry sand
· Dry chemical powder
· Class D fire extinguishing agent

Specific Hazards

Bulk rare earth metal targets are generally stable under normal conditions.

Fine metal particles or powders generated during machining may present combustible dust hazards.

Avoid use of water directly on burning metal dust.

Protective Equipment

Use appropriate protective equipment and self-contained breathing apparatus.

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 away from moisture and oxidizing atmosphere.

Avoid prolonged exposure to humid air where applicable.

SECTION 8: Exposure Controls / Personal Protection

Engineering Controls

Use local exhaust ventilation during machining, grinding, or polishing 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

Metallic target

Color

Silver-gray or characteristic rare earth metallic color

Odor

Odorless

Solubility

Insoluble in water

Density

Varies by composition

Melting Point

Varies by rare earth metal type

SECTION 10: Stability and Reactivity

Chemical Stability

Stable under recommended storage conditions.

Conditions to Avoid

· Excessive mechanical stress
· Dust generation
· Moisture exposure
· Contact with strong oxidizers

Incompatible Materials

Strong oxidizing agents, strong acids.

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 metal 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

Metal recycling is 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.

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