

SAFETY DATA SHEET (SDS)

1. Identification

Product Name: BiSbTe Target (Bi_{0.5}Sb_{1.5}Te₃, 4N, P-Type, Ø76.2 x 5 mm)

Product Form: Solid Sputtering Target

Recommended Use: Thin film deposition, research and industrial vacuum coating applications

2. Hazard Identification

Classification: Not classified as hazardous in solid form.

Potential hazards may arise if material is machined, ground, or melted producing dust or fumes.

Inhalation of dust/fumes may cause irritation to respiratory tract.

3. Composition / Information on Ingredients

Bismuth (Bi) ~10 at%

Antimony (Sb) ~30 at%

Tellurium (Te) ~60 at%

Purity: 99.99%

4. First Aid Measures

Inhalation: Move to fresh air. Seek medical attention if symptoms persist.

Skin Contact: Wash with soap and water.

Eye Contact: Rinse cautiously with water for several minutes.

Ingestion: Rinse mouth. Seek medical advice.

5. Fire-Fighting Measures

Suitable Extinguishing Media: Dry chemical, CO₂, sand.

Avoid water on molten material.

Hazardous Combustion Products: Metal oxides, selenium oxides (if decomposed).

6. Accidental Release Measures

Collect solid pieces mechanically.

If dust is generated, avoid inhalation and use appropriate PPE.

7. Handling and Storage

Handle with care to avoid physical damage.

Store in dry, well-ventilated area.

Avoid generating dust.

8. Exposure Controls / Personal Protection

Engineering Controls: Local exhaust ventilation when machining.

Personal Protective Equipment: Safety glasses, gloves, dust mask when necessary.

9. Physical and Chemical Properties

Appearance: Metallic solid disk

Odor: Odorless

Solubility: Insoluble in water

Melting Point: > 500°C (approx., composition dependent)

10. Stability and Reactivity

Stable under normal conditions.

Avoid strong oxidizing agents.

11. Toxicological Information

Chronic exposure to dust or fumes of bismuth, tellurium, selenium, or antimony compounds may cause irritation and systemic effects.

12. Ecological Information

Avoid release of powders or fumes into environment.

13. Disposal Considerations

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

14. Transport Information

Not regulated as dangerous goods in solid form.

15. Regulatory Information

Components may be subject to local chemical inventory regulations.

16. Other Information

Prepared for industrial and laboratory use. Information based on available data for constituent elements.
