

Certificate of Analysis (CoA)

Sep. 24, 2025

Product Name: Tungsten Diselenide Sputtering Target**Chemical Formula:** WSe₂**Purity:** 99.9% (3N)**Dimensions:** Ø76.2 mm × 3.0 mm (±0.1 mm)**Backing Plate:** Bonded to Cu backing plate Ø76.2 × 1.5 mm / Ø85.75 × 2.35 mm (with step)**Manufactured by:** Thin-Film Materials**Physical Description**

- Form: Ceramic/semiconducting sputtering target
- Appearance: Dark gray to black solid
- Crystal Structure: Layered hexagonal (2H-WSe₂)
- Theoretical Density: ~9.3 g/cm³
- Fabrication: Hot pressed, machined, bonded to copper plate

Chemical Composition (by ICP-OES / GDMS)

Element	Symbol	Max. Content (ppm)
Tungsten	W	Balance (>99.9%)
Selenium	Se	Balance (stoichiometric)
Oxygen	O	<50
Iron	Fe	<30
Silicon	Si	<30
Calcium	Ca	<20
Sodium	Na	<20
Magnesium	Mg	<20
Copper	Cu	<20
Nickel	Ni	<10
Lead	Pb	<5
Other trace elements (each)	—	<10
Total Impurities	—	<1000 ppm

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Handling & Storage

- WSe₂ is brittle; avoid mechanical shock.
- Store in vacuum-sealed or inert atmosphere packaging.
- Protect from moisture and temperature fluctuations.
- Handle with gloves to prevent contamination.

Declaration

We certify that the above product has been manufactured and tested in accordance with our quality control system and meets the specifications stated herein.

Authorized Signature:Inspection Certificate by: Nancy LiuApprover by: Chen Qiang