

Certificate of Analysis (CoA)

Nov. 10, 2025

Product Name: Tantalum Nitride Pieces**Chemical Formula:** TaN**Purity:** 99.9% (3N)**Dimensions:** 2–8 mm Pieces**Quantity:** 150 g**Lot Number:** CSJM-251110HP**Manufactured by:** Thin-Film Materials

Physical Description

- Form: Metallic gray pieces
- Appearance: Dense, irregular fragments with metallic luster
- Crystal Structure: Cubic (NaCl-type TaN)
- Theoretical Density: $\sim 14.3 \text{ g/cm}^3$
- Fabrication Method: Direct nitridation of high-purity tantalum under controlled atmosphere

Chemical Composition (by XRF / ICP-OES)

Element	Symbol	Max. Content (ppm)
Tantalum	Ta	Balance (>99.9%)
Nitrogen	N	Balance (stoichiometric)
Iron	Fe	<30
Silicon	Si	<30
Aluminum	Al	<20
Nickel	Ni	<20
Copper	Cu	<10
Oxygen	O	<100
Carbon	C	<50
Other trace elements (each) –		<10
Total Impurities	–	<1000 ppm

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Handling & Storage

- Store in a dry, inert atmosphere or vacuum-sealed container.
 - Avoid exposure to moisture or oxidizing agents.
 - Handle with clean gloves to prevent surface contamination.
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Declaration

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

Authorized Signature:

Inspection Certificate by: Nancy LiuApprover by: Chen Qiang