

 Thermo Fisher Scientific

 Ward Hill, MA-Sites

 30 Bond Street
 220 Neck Road
 38 Shelley Road

 Ward Hill
 Ward Hill
 Ward Hill

 MA 01835
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## **CERTIFICATE OF ANALYSIS**

Thermo Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2015 by TUV SUD America Inc. Certificate Number. 951001163

Catalogue Number	000320			
Lot Number	S23L020			
Description	Terbium ingot, 99.9% (REO), Ta <0.4%			
CAS Number	7440-27-9			
Quality Test/Release Date	23/Jun/2025 23/Jun/2030			
Suggested retest date				
Country of Origin	Georgia			
Result Name	Units	Specifications	Test Value	
Appearance (Color)		Silver	Silver	
Form		Ingot	Ingot	
Impurity content	%	Ta < 0.4%	0.0850	
Total Rare Earth Oxide Impurities	%	0.1% max.	0.0935	

 $\begin{array}{l} \textbf{Additional Information} \ \ Al \ 0.0080 \ , \ Ca \ 0.0085 \ , \ Ce \ 0.0004 \ , \ Cu \ 0.0063 \ , \ Dy \ 0.0260 \ , \ Er \ 0.0010 \ , \ Eu \ 0.0002 \ , \ Fe \ 0.0165 \ , \ Gd \ 0.0085 \ , \ Ho \ 0.0045 \ , \ La \ 0.0005 \ , \ Lu \ 0.0008 \ , \ Mg \ 0.0065 \ , \ Nd \ 0.0006 \ , \ Pr \ 0.0001 \ , \ Sm \ 0.0005 \ , \ Ta \ 0.0850 \ , \ Tm \ 0.0002 \ , \ Y \ 0.0005 \ , \ Y \ 0.0005 \ , \ Yb \ 0.0005 \ , \ Ta \ 0.0850 \ , \ Tm \ 0.0002 \ , \ Y \ 0.0005 \ , \ Yb \ 0.0005 \ , \ Ta \ 0.0850 \ , \ Tm \ 0.0002 \ , \ Y \ 0.0005 \ , \ Yb \ 0.0005 \ , \ Ta \ 0.0850 \ , \ Tm \ 0.0002 \ , \ Y \ 0.0005 \ , \ Yb \ 0.0005 \ , \ Ta \ 0.0850 \ , \ Tm \ 0.0002 \ , \ Y \ 0.0005 \ , \ Yb \ 0.0005 \ , \ Ta \ 0.0850 \ , \ Tm \ 0.0002 \ , \ Y \ 0.0005 \ , \ Tm \ 0.0005 \ , \ 0.0005 \$ 

John Astarita

John Astarita Director, Quality

Products are processed under ISO 9001:2015 quality management systems and samples are tested for conformance to the noted specifications. Certain data may have been supplied by third parties. We disclaim the implied warranties of merchantability and fitness for a particular purpose, and the accuracy of third-party data or information associated with the product. Products are for research and development use only. Products are not for direct administration to humans or animals. It is the responsibility of the final formulator or end user to determine suitability, and to qualify and/or validate each product for its intended use.

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of the catalogue number listed above.