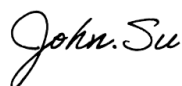


Shanghai Aladdin Biochemical Technology Co., LTD
809 Chuhua Branch Road, Fengxian District, Shanghai 201400, China

Certificate of Analysis

Date of Testing: 2023-02-16 17:14:25
Date of Next Testing: 2027-02-15 17:14:25
Product Name: **Thulium oxide**
CAS Number: 12036-44-1
Specifications & Purity: 99.9% metals basis
Lot #: B2309367
SKU #: **T105901**
Analysis: **061655**

Parameter	Limit Values	Result
Trace Rare Earth Analysis	0-2000 (ppm)	900.00000 ppm
Compleximetric EDTA (% Tm)	85.8-89.3 (%)	87.29000 %
Purity(Based On Trace Rare Earth Analysis)	99.9-100 (%)	99.99060 %
Appearance (T105901)	White to Off-White Powder	White to Off-White Powder
ICP Assay	Confirmed to structure	Confirmed to structure
X-Ray Diffraction	Conforms to Structure	Conforms to Structure



John Su
QA & QC Manager