

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 011181
Lot Number T01L019
Description Yttrium(III) oxide, REacton®, 99.99% (REO)
CAS Number 1314-36-9
Quality Test/Release Date 01/Jul/2025
Suggested retest date 01/Jul/2030
Country of Origin China

Result Name	Units	Specifications	Test Value
Assay (special)	%	≥99.99% of total rare earth oxides	>99.999
Chloride content	ppm	≤500ppm	0
Impurity content	ppm	Calcium oxide, CaO: ≤100ppm	1.3
Impurity content	ppm	Cerium oxide, CeO ₂ : ≤10ppm	0
Impurity content	ppm	Dysprosium oxide, Dy ₂ O ₃ : ≤50ppm	0
Impurity content	ppm	Erbium oxide, Er ₂ O ₃ : ≤100ppm	1
Impurity content	ppm	Europium oxide, Eu ₂ O ₃ : ≤10ppm	0
Impurity content	ppm	Gadolinium oxide, Gd ₂ O ₃ : ≤10ppm	0
Impurity content	ppm	Holmium oxide, Ho ₂ O ₃ : ≤500ppm	1
Impurity content	ppm	Iron oxide, Fe ₂ O ₃ : ≤10ppm	0
Impurity content	ppm	Lanthanum oxide, La ₂ O ₃ : ≤10ppm	0
Impurity content	ppm	Lutetium oxide, Lu ₂ O ₃ : ≤10ppm	0
Impurity content	ppm	Neodymium oxide, Nd ₂ O ₃ : ≤10ppm	0
Impurity content	ppm	Potassium oxide, K ₂ O: ≤100ppm	0
Impurity content	ppm	Praseodymium oxide, Pr ₆ O ₁₁ : ≤10ppm	0
Impurity content	ppm	Samarium oxide, Sm ₂ O ₃ : ≤10ppm	0
Impurity content	ppm	Silicon oxide, SiO ₂ : ≤100ppm	16
Impurity content	ppm	Sodium oxide, Na ₂ O: ≤100ppm	0
Impurity content	ppm	Terbium oxide, Tb ₄ O ₇ : ≤10ppm	1
Impurity content	ppm	Thulium oxide, Tm ₂ O ₃ : ≤10ppm	0
Impurity content	ppm	Total alkaline earths (Be, Mg, Ca, Sr, Ba, Ra): ≤75ppm	0
Impurity content	ppm	Ytterbium oxide, Yb ₂ O ₃ : ≤10ppm	0
Loss on ignition	%	≥1.0%	0.97
Total rare earth oxides	%	≥99.0%	99.44

John Astarita

John Astarita
Director, Quality

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