

Thermo Fisher Scientific Ward Hill, MA-Sites

30 Bond Street 220 Neck Road 38 Shelley Road Ward Hill Ward Hill Ward Hill MA 01835

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	044286	
Lot Number	T10L042	

Description Yttrium(III) oxide, REacton®, 99.9% (REO)

1314-36-9 CAS Number Quality Test/Release Date 10/Jul/2025 Suggested retest date 10/Jul/2030 Country of Origin Kyrgyzstan Declaration of Origin Synthetic

Not directly derived from or manufactured with any animal byproducts in any way BSE/TSE

(including but not limited to fermentation or nutrient broth, catalysts, enzymes).

Result Name	Units	Specifications	Test Value	
Total Rare Earth Oxide Impurities	%	0.1% max.	0.0040	

 $\begin{array}{l} \textbf{Additional Information} \ \ \, \text{Ag} < 1 \ , \, \text{Al} \ 1.5 \ , \, \text{As} < 1 \ , \, \text{B} \ 0.13 \ , \, \text{Ba} \ 0.15 \ , \, \text{Bi} < 0.05 \ , \, \text{Ca} \ 75 \ , \, \text{Ce} \ 1.5 \ , \, \text{Co} < 0.05 \ , \, \text{Cr} \ 1.2 \ , \, \text{Cu} \ 0.25 \ , \, \text{Dy} \\ 5.5 \ , \, \text{Er} \ 5.5 \ , \, \text{Eu} \ 0.45 \ , \, \text{F} \ 4.5 \ , \, \text{Fe} \ 3.8 \ , \, \text{Ga} < 0.5 \ , \, \text{Gd} \ 9 \ , \, \text{Ge} < 1 \ , \, \text{Hf} < 0.1 \ , \, \text{Ho} \ 8 \ , \, \text{K} \ 110 \ , \, \text{La} \ 1.2 \ , \, \text{Li} < 0.1 \ , \, \text{Lu} \ 0.4 \ , \, \text{Mg} \ 10 \ , \, \text{Mn} \ 1.4 \ , \\ \text{Mo} \ 0.1 \ , \, \text{Na} \ 6.7 \ , \, \text{Nb} < 0.5 \ , \, \text{Nd} \ 3.5 \ , \, \text{Ni} \ 0.35 \ , \, \text{P} \ 15 \ , \, \text{Pb} \ 0.1 \ , \, \text{Pr} \ 0.5 \ , \, \text{Sb} < 0.5 \ , \, \text{Sc} < 0.05 \ , \, \text{Sc} < 1 \ , \, \text{Si} \ 100 \ , \, \text{Sm} \ 1.3 \ , \, \text{Sn} < 0.5 \ , \, \text{Sr} \\ < 0.2 \ , \, \text{Ta} < 5 \ , \, \text{Tb} \ 0.6 \ , \, \text{Te} < 0.5 \ , \, \text{Th} < 0.01 \ , \, \text{Ti} \ 0.3 \ , \, \text{Tl} < 0.1 \ , \, \text{Tm} \ 0.35 \ , \, \text{U} \ 0.025 \ , \, \text{V} \ 0.1 \ , \, \text{W} < 0.5 \ , \, \text{Yb} \ 2.5 \ , \, \text{Zn} \ 0.38 \ , \, \text{Zr} \ 0.25 \ , \\ \text{Values given in ppm unless otherwise stated.} \end{array}$

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