

## 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

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Catalogue Number	047399
Lot Number	X22F015
Description	Platinum-ruthenium black, 67:33
Quality Test/Release Date	14/May/2025
Suggested retest date	14/May/2030
Country of Origin	United States

Result Name	Units	Specifications	Test Value
Assay (unspecified)	%	Platinum: Reported	67
Assay (unspecified)	%	Ruthenium: Reported	33
Chloride content	ppm	Reported	<100
Composition	%	Platinum Reported	67
Composition	%	Ruthenium Reported	33
Iron content	ppm	Reported	<50
Particle Size	nm	Reported	4.0
Water Content	%	Reported	<2
Alkali Metals (Na,K,Mg,Ca)	ppm	Reported	<150

*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.