

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	036221
Lot Number	U21K022
Description	Manganese pieces, irregular, 99.95% (metals basis)
CAS Number	7439-96-5
Quality Test/Release Date	23/Oct/2024
Suggested retest date	23/Oct/2029
Country of Origin	United States

Result Name	Units	Specifications	Test Value
Total Metal Impurities	%	0.05% max.	0.0110

Additional Information Ag 0.78 , Al 2.48 , As 0.01 , Au <0.1 , B 0.29 , Be <0.1 , Bi <0.1 , Br <0.1 , C 11 , Ca 0.26 , Cd 0.1 , Ce <0.1 , Cl 0.91 , Co 1.11 , Cr 0.14 , Cs <0.1 , Cu 0.54 , Dy <0.1 , Er <0.1 , Eu <0.1 , F <0.1 , Fe 2.4 , Ga 0.01 , Gd <0.1 , Ge 1.07 , Hf <0.1 , Hg 0.01 , Ho <0.1 , I <0.1 , In 0.02 , Ir <0.1 , K 2.66 , La <0.1 , Li 0.01 , Lu <0.1 , Mg 14.75 , Mo <0.1 , N 22.0 , Na 1.73 , Nb 0.06 , Nd <0.1 , Ni 2.67 , O 1339.0 , Os <0.1 , P 5.55 , Pb 0.03 , Pd <0.1 , Pr <0.1 , Pt 0.84 , Rb 0.01 , Re <0.1 , Rh <0.1 , Ru <0.1 , S 151.5 , Sb <0.1 , Sc <0.1 , Se 47.93 , Si 12.64 , Sm <0.1 , Sn 0.02 , Sr 0.19 , Ta <0.1 , Tb <0.1 , Te <0.1 , Th <0.1 , Ti 0.01 , Tl 0.02 , Tm <0.1 , U <0.1 , V 0.08 , W <0.1 , Y 0.02 , Yb <0.1 , Zn 30.31 , Zr <0.1 , Values given in ppm unless otherwise stated.



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.