

## CERTIFICATE OF ANALYSIS

Thermo Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2015 by ICG. Certificate Number. 110212Q

Catalogue Number	042250
Lot Number	62500619
Description	Manganese(IV) oxide, 99.9% (metals basis)
CAS Number	1313-13-9
Quality Test/Release Date	27/Oct/2025
Suggested retest date	27/Oct/2030
Country of Origin	INDIA
Declaration of Origin	Synthetic
BSE/TSE	Not directly derived from or manufactured with any animal byproducts in any way (including but not limited to fermentation or nutrient broth, catalysts, enzymes).

Result Name	Units	Specifications	Test Value
Vanadium (V)	PPM	ND	ND
Beryllium (Be)	PPM	ND	ND
Silicon (Si)	PPM	ND	ND
Bismuth (Bi)	PPM	ND	ND
Iridium (Ir)	PPM	ND	ND
Platinum (Pt)	PPM	0.14	0.14
Zirconium (Zr)	PPM	0.16	0.16
Tin (Sn)	PPM	0.21	0.21
Tungsten (W)	PPM	0.37	0.37
Cadmium (Cd)	PPM	0.41	0.41
Cobalt (Co)	PPM	0.42	0.42
Strontium (Sr)	PPM	0.44	0.44
Arsenic (As)	PPM	0.60	0.60
Barium (Ba)	PPM	0.63	0.63
Titanium (Ti)	PPM	0.80	0.80
Antimony (Sb)	PPM	0.85	0.85
Molybdenum (Mo)	PPM	1.08	1.08
Boron (B)	PPM	12.42	12.42
Sodium (Na)	PPM	127.20	127.20
Copper (Cu)	PPM	2.95	2.95
Iron (Fe)	PPM	22.55	22.55
Magnesium (Mg)	PPM	22.88	22.88
Lithium (Li)	PPM	3.56	3.56
Calcium (Ca)	PPM	36.88	36.88
Potassium (K)	PPM	5.28	5.28
Nickel (Ni)	PPM	6.26	6.26
Chromium (Cr)	PPM	6.75	6.75
Aluminium (Al)	PPM	8.92	8.92
Zinc (Zn)	PPM	80.49	80.49
Lead (Pb)	PPM	9.34	9.34
EDTA Titration	%	99.9% min.	100.08

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.

Appearance (Color)		Black	Black
Form		Free Flowing Powder	Free Flowing Powder
Total Metal Impurities	%	0.1% max.	0.035159
Particle Size	%	(-325 Mesh) 100% passing	100

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Ronald Becht  
Technical Support Manager

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.

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