

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

## Certificate of Analysis

Date of Testing: 2023-03-20 11:52:38  
 Date of Next Testing: 2027-03-19 11:52:38  
 Product Name: **Manganese chloride**  
 CAS Number: 13446-34-9  
 Specifications & Purity: Analytical Reagent,99.0%  
 Lot #: C2314274  
 SKU #: **M112542**  
**Analysis:** **103057**  
 Storage Temperature: Desiccated

Parameter	Limit Values	Result
Sodium(Na)	0-0.05 (%)	0.05 %
PH (5%, water) 25 ° C	3.5-6	5.29
Iron(Fe)	0-5 (ppm)	0.00 ppm
Insoluble matter(C = 20g in 150ml H2O)	0-0.005 (%)	0.00 %
Zinc(Zn)	0-0.005 (%)	0.00 %
Water by Karl Fischer	33-39 (%)	36.46 %
Heavy metals(as Pb)	0-50 (ppm)	35.95 ppm
Assay(Complexometric EDTA)	98.5-101.5 (%)	99.11 %
Potassium(K)	0-0.01 (%)	0.00 %
Sulfate(SO42-)	0-0.005 (%)	0.00 %
Magnesium(Mg)	0-0.005 (%)	0.01 %
Appearance (M112542)	Faint Red to Dark Red and Pink Powder or Crystals	Faint Red to Dark Red and Pink Powder or Crystals
X-Ray Diffraction	Conforms to Structure	Conforms to Structure



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A handwritten signature in black ink that reads "John Su". The signature is written in a cursive, flowing style.

John Su  
QA & QC Manager