

## Certificate of Analysis

Date of Testing: 2023-11-03 09:41:36  
Date of Next Testing: 2027-11-02 09:41:36  
Product Name: **Manganese nitrate solution**  
CAS Number: 10377-66-9  
Specifications & Purity: Analytical Reagent, 50 wt. % in H<sub>2</sub>O  
Lot #: J2325688  
SKU #: **M112457**  
Analysis: **283525**

Parameter	Limit Values	Result
Alkali and alkali earth metals	0-0.1 (%)	0.00 %
Zinc(Zn)	0-0.02 (%)	0.00 %
Sulfate(SO <sub>4</sub> <sup>2-</sup> )	0-0.01 (%)	0.00 %
Heavy metal (as Pb)	0-0.001 (%)	0.00 %
Chloride (Cl <sup>-</sup> )	0-0.001 (%)	0.00 %
Iron(Fe)	0-0.0005 (%)	0.00 %
Insoluble matter in H <sub>2</sub> O	0-0.005 (%)	0.00 %
Assay[Mn(NO <sub>3</sub> ) <sub>2</sub> ]	49-51 (%)	50.90 %
Appearance (M112457)	colorless to clear , pink to red liquid	colorless to clear , pink to red liquid



John Su  
QA & QC Manager