

## Certificate of Analysis

Date of Testing: 2023-07-10 13:42:18

Date of Next Testing: 2027-07-09 13:42:18

Product Name: **Manganese sulfate monohydrate**

CAS Number: 10034-96-5

Specifications & Purity: ACS, 98.0%

Lot #: 11923095

SKU #: **M111712**

Analysis: **249362**

| Parameter                            | Limit Values                                  | Result                                        |
|--------------------------------------|-----------------------------------------------|-----------------------------------------------|
| loss on ignition(700°C)              | 10-12 (%)                                     | 10.50 %                                       |
| Calcium(Ca)                          | 0-0.005 (%)                                   | 0.00 %                                        |
| Heavy metal (as Pb)                  | 0-0.002 (%)                                   | 0.00 %                                        |
| Sodium(Na)                           | 0-0.05 (%)                                    | 0.02 %                                        |
| Potassium(K)                         | 0-0.01 (%)                                    | 0.00 %                                        |
| Magnesium(Mg)                        | 0-0.005 (%)                                   | 0.00 %                                        |
| Nickel(Ni)                           | 0-0.02 (%)                                    | 0.00 %                                        |
| Assay(Complexometric EDTA)           | 98-101 (%)                                    | 98.01 %                                       |
| Zinc(Zn)                             | 0-0.005 (%)                                   | 0.00 %                                        |
| Chloride Content                     | 0-0.005 (%)                                   | 0.00 %                                        |
| Iron(Fe)                             | 0-0.002 (%)                                   | 0.00 %                                        |
| Insoluble matter in H <sub>2</sub> O | 0-0.01 (%)                                    | 0.00 %                                        |
| Appearance (M111712)                 | white to light pink crystal or crystal powder | white to light pink crystal or crystal powder |
| Substances reducing MnO <sub>4</sub> | Pass                                          | Pass                                          |
| X-Ray Diffraction                    | Conforms to Structure                         | Conforms to Structure                         |



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