

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

## Certificate of Analysis

Date of Testing: 2023-10-19 11:04:28  
 Date of Next Testing: 2027-10-18 11:04:28  
 Product Name: **Manganese sulfate monohydrate**  
 CAS Number: 10034-96-5  
 Specifications & Purity: AR, ≥99%  
 Lot #: J2311549  
 SKU #: **M111707**  
 Version: **0**  
 Analysis #: **287408**  
 Storage Temperature: Room temperature

| Parameter                                  | Limit Values              | Result                    |
|--------------------------------------------|---------------------------|---------------------------|
| Magnesium(Mg)                              | 0-200 (ppm)               | 100.00000 ppm             |
| Iron(Fe)                                   | 0-20 (ppm)                | 12.30000 ppm              |
| Calcium(Ca)                                | 0-0.02 (%)                | 0.00610 %                 |
| loss on ignition(700°C)                    | 10-12 (%)                 | 10.84000 %                |
| Chloride (Cl-)                             | 0-100 (ppm)               | 58.00000 ppm              |
| Purity Titration by EDTA                   | 99-100 (%)                | 99.99000 %                |
| Zinc(Zn)                                   | 0-50 (ppm)                | 23.60000 ppm              |
| Appearance (M111707)                       | White to Pale Pink Powder | White to Pale Pink Powder |
| Potassium permanganate reducing substances | Pass                      | Pass                      |
| Solubility , 1g in 13ml of water           | Clear light pink solution | Clear light pink solution |
| X-Ray Diffraction                          | Conforms to Structure     | Conforms to Structure     |



John Su  
QA & QC Manager