

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

Certificate of Analysis

| | |
|--------------------------|------------------------|
| Date of Testing: | 2024-12-28 13:16:40 |
| Date of Next Testing: | 2028-12-27 13:16:40 |
| Product Name: | Mannitol |
| CAS Number: | 69-65-8 |
| Specifications & Purity: | Ultra pure, ≥99%(HPLC) |
| Lot #: | L2416789 |
| SKU # | M108829 |
| Version | 0 |
| Analysis #: | 445646 |
| Storage Temperature: | Argon charged |

| Parameter | Limit Values | Result |
|--|--------------------------|--------------------------|
| Sulfate(SO42-) | 0-200 (ppm) | 0.00 ppm |
| Reducing sugars | 0-0.2 (%) | 0.00 % |
| Calcium(Ca) | 0-100 (ppm) | 0.00 ppm |
| Phosphorus (P) | 0-0.01 (%) | 0.00 % |
| Silicon(Si) | 0-0.02 (%) | 0.00 % |
| Melting point | 166-170 (°C) | 169.33000 °C |
| Chloride (Cl-) | 0-50 (ppm) | 0.00 ppm |
| Copper(Cu) | 0-50 (ppm) | 0.00 ppm |
| Sodium(Na) | 0-200 (ppm) | 0.00 ppm |
| Purity(HPLC) | 99-100 (%) | 99.64600 % |
| Zinc(Zn) | 0-10 (ppm) | 0.00 ppm |
| Specific Rotation[a] ₂₅ /D(c=1 in 1%acidified Molybdate&H2SO4 | 137-145 (°) | 139.37 ° |
| Potassium(K) | 0-50 (ppm) | 0.00 ppm |
| loss on drying, 105 °C | 0-0.5 (%) | 0.02 % |
| Iron(Fe) | 0-50 (ppm) | 0.00 ppm |
| Magnesium(Mg) | 0-50 (ppm) | 0.00 ppm |
| Lead(Pb) | 0-50 (ppm) | 0.00 ppm |
| Appearance (M108829) | White Powder or Crystals | White Powder or Crystals |
| Solubility in H2O | Almost transparency | almost transparency |
| Infrared spectrum | 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