

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

## Certificate of Analysis

Date of Testing: 2023-04-21 16:51:50  
 Date of Next Testing: 2027-04-20 16:51:50  
 Product Name: **MES**  
 CAS Number: 4432-31-9  
 Specifications & Purity: for molecular biology, ≥99.5%(T)  
 Lot #: D2311778  
 SKU #: **M108951**  
**Analysis:** **215815**  
 Storage Temperature: Room temperature

Parameter	Limit Values	Result
Strontium(Sr)	0-5 (ppm)	0.00 ppm
Copper(Cu)	0-5 (ppm)	0.00 ppm
Sulfate(SO42-)	0-50 (ppm)	2.36 ppm
Molybdenum(Mo)	0-5 (ppm)	3.23 ppm
Barium(Ba)	0-5 (ppm)	0.00 ppm
(Pb)Lead	0-5 (ppm)	0.00 ppm
Cadmium(Cd)	0-5 (ppm)	0.00 ppm
PH(25 °C, 0.5 M in Water)	2.5-4	3.29
Ignition Residue (as sulfate)	0-0.05 (%)	0.00 %
Chromium(Cr)	0-5 (ppm)	0.00 ppm
Magnesium(Mg)	0-5 (ppm)	0.00 ppm
Lithium(Li)	0-5 (ppm)	0.00 ppm
(As)Arsenic	0-0.1 (ppm)	0.00 ppm
Cobalt(Co)	0-5 (ppm)	0.00 ppm
Calcium(Ca)	0-20 (ppm)	0.00 ppm
Aluminum(Al)	0-5 (ppm)	1.18 ppm
UV Absorbance 260nm	0-0.025	0.01
Manganese(Mn)	0-5 (ppm)	0.00 ppm
Chloride (Cl-)	0-50 (ppm)	1.02 ppm
Sodium(Na)	0-50 (ppm)	14.08 ppm
Purity(Neutralization titration)	99.5-100.5 (%)	99.68 %
Potassium(K)	0-50 (ppm)	0.00 ppm
Nickel(Ni)	0-5 (ppm)	0.00 ppm
Iron(Fe)	0-5 (ppm)	0.00 ppm
Zinc(Zn)	0-5 (ppm)	0.00 ppm
UV Absorbance 280nm	0-0.02	0.01

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Parameter	Limit Values	Result
Water by Karl Fischer	0-5 (%)	1.05 %
Bismuth(Bi)	0-5 (ppm)	0.00 ppm
Appearance (M108951)	White Powder or Crystals	White Powder or Crystals
DNases	none detected	none detected
Infrared spectrum	Conforms to Structure	Conforms to Structure
Insoluble matter	pass	Pass
phosphatases	none detected	none detected
proteases	none detected	none detected
RNases	none detected	none detected
Solubility in H <sub>2</sub> O , soluble , 1M , 20°C, clear, colorless	pass	Pass
λ,0.5 M in H <sub>2</sub> O	Pass	Pass
pKa	6.1	6.1

John Su  
QA & QC Manager