

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

Certificate of Analysis

Date of Testing: 2023-08-19 16:45:13
 Date of Next Testing: 2026-08-18 16:45:13
 Product Name: **MES monohydrate**
 CAS Number: 145224-94-8
 Specifications & Purity: UltraBio™, Suitable for molecular biology, Ultra pure, ≥99.5%(T)
 Lot #: H2309554
 SKU #: **M432121**
 Version: **1**
 Analysis #: **254611**
 Storage Temperature: Room temperature

Parameter	Limit Values	Result
Purity(Titration by 0.1M NaOH)	99-100.5 (%)	100.05000 %
Water by Karl Fischer	0-9 (%)	3.19720 %
Sulfated Ash	0-0.05 (%)	0.04000 %
Aluminium(Al)	0-5 (ppm)	0.00000 ppm
Barium(Ba)	0-5 (ppm)	0.00000 ppm
Bismuth(Bi)	0-5 (ppm)	0.00000 ppm
Calcium(Ca)	0-20 (ppm)	0.00000 ppm
Cadmium(Cd)	0-5 (ppm)	0.00000 ppm
Cobalt(Co)	0-5 (ppm)	0.00000 ppm
Chromium(Cr)	0-5 (ppm)	0.00000 ppm
Copper(Cu)	0-5 (ppm)	0.00000 ppm
Iron(Fe)	0-5 (ppm)	0.00000 ppm
Potassium(K)	0-50 (ppm)	7.60000 ppm
Lithium(Li)	0-5 (ppm)	0.00000 ppm
Magnesium(Mg)	0-5 (ppm)	0.00000 ppm
Manganese(Mn)	0-5 (ppm)	0.00000 ppm
Molybdenum(Mo)	0-5 (ppm)	0.00000 ppm
Sodium(Na)	0-50 (ppm)	17.60000 ppm
Nickel(Ni)	0-5 (ppm)	0.00000 ppm
Lead(Pb)	0-5 (ppm)	0.00000 ppm
Strontium(Sr)	0-5 (ppm)	0.00000 ppm
Zinc(Zn)	0-5 (ppm)	0.00000 ppm
Arsenic traces(MHS-AAS)	0-0.1 (ppm)	0.00000 ppm
Chloride (Cl-)	0-50 (ppm)	34.00000 ppm
Sulfate(SO ₄)	0-50 (ppm)	0.00000 ppm

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Parameter	Limit Values	Result
PH(25 °C, 0.5 M in Water)	2.5-4	3.01000
UV Absorbance 260nm	0-0.03	0.00000
UV Absorbance 280nm	0-0.02	0.00000
Appearance(M432121)	Colorless Or White Powder Or Crystals	Colorless or White Powder or Crystals
Extraneous Activities(DNAses, RNAses, Proteases, Phosphatases)	Not Detectable	not detectable
Proton NMR spectrum	Conforms to Structure	Conforms to Structure
Residue (filter test)	no residue	no residue



John Su
QA & QC Manager