

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

## Certificate of Analysis

Date of Testing:	2024-06-04 17:17:13
Date of Next Testing:	2026-05-25 17:17:13
Product Name:	<b>HEPES</b>
CAS Number:	7365-45-9
Specifications & Purity:	for molecular biology, ≥99.5%(T)
Lot #:	E2429003
SKU #	<b>H109408</b>
Version	<b>1</b>
<b>Analysis #:</b>	<b>156880</b>
Storage Temperature:	Room temperature

Parameter	Limit Values	Result
Cadmium(Cd)	0-5 (ppm)	1.35 ppm
(As)Arsenic	0-0.1 (ppm)	0.03 ppm
Sodium(Na)	0-50 (ppm)	12.27 ppm
Zinc(Zn)	0-5 (ppm)	2.59 ppm
Cobalt(Co)	0-5 (ppm)	2.59 ppm
Lithium(Li)	0-5 (ppm)	1.58 ppm
Magnesium(Mg)	0-5 (ppm)	2.48 ppm
Chromium(Cr)	0-5 (ppm)	1.58 ppm
UV Absorbance 260nm(0.5 M in H <sub>2</sub> O)	0-0.1	0.03
Iron(Fe)	0-5 (ppm)	0.00 ppm
Nickel(Ni)	0-5 (ppm)	1.36 ppm
Barium(Ba)	0-5 (ppm)	2.48 ppm
UV Absorbance 280nm(0.5 M in H <sub>2</sub> O)	0-0.1	0.03
Aluminum(Al)	0-5 (ppm)	2.06 ppm
useful PH range	6.8-8.2	7.25
Ignition Residue (as sulfate)	0-0.1 (%)	0.02 %
Sulfate(SO <sub>4</sub> <sup>2-</sup> )	0-50 (ppm)	6.85 ppm
loss on drying, 110 °C	0-0.5 (%)	0.03 %
Calcium(Ca)	0-10 (ppm)	5.82 ppm
Molybdenum(Mo)	0-5 (ppm)	1.53 ppm
Strontium(Sr)	0-5 (ppm)	2.65 ppm
Copper(Cu)	0-5 (ppm)	2.52 ppm
(Pb)Lead	0-5 (ppm)	3.15 ppm
Chloride (Cl <sup>-</sup> )	0-50 (ppm)	12.85 ppm
Manganese(Mn)	0-5 (ppm)	1.85 ppm

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Parameter	Limit Values	Result
Bismuth(Bi)	0-5 (ppm)	2.08 ppm
PH(25 °C, 1 M in Water)	5-6.5	5.23
Potassium(K)	0-50 (ppm)	8.62 ppm
Purity (T)	99.5-100.5 (%)	99.77 %
Appearance (H109408)	white crystalline powder	white crystalline powder
DNases	none detected	none detected
phosphatases	none detected	none detected
proteases	none detected	none detected
Proton NMR spectrum	Conforms to Structure	Conforms to Structure
RNases	none detected	none detected
Solubility in H <sub>2</sub> O , soluble , 1M , 20°C, clear, colorless	pass	Pass
Insoluble matter	pass	Pass
pKa	6.8	6.8

John Su  
QA & QC Manager