

Certificate of Analysis

Date of Testing: 2023-01-15 20:25:41
 Date of Next Testing: 2025-01-04 20:25:41
 Product Name: **HEPES**
 CAS Number: 7365-45-9
 Specifications & Purity: for molecular biology, ≥99.5%(T)
 Lot #: D2117088
 SKU #: **H109408**
Analysis: **179130**
 Storage Temperature: Room temperature

| Parameter | Limit Values | Result |
|-----------------------------------|--------------|-----------|
| Cadmium(Cd) | 0-5 (ppm) | 2.80 ppm |
| (As)Arsenic | 0-0.1 (ppm) | 0.05 ppm |
| Sodium(Na) | 0-50 (ppm) | 16.00 ppm |
| Zinc(Zn) | 0-5 (ppm) | 2.20 ppm |
| Cobalt(Co) | 0-5 (ppm) | 3.10 ppm |
| Lithium(Li) | 0-5 (ppm) | 2.50 ppm |
| Magnesium(Mg) | 0-5 (ppm) | 1.90 ppm |
| Chromium(Cr) | 0-5 (ppm) | 2.60 ppm |
| UV Absorbance 260nm(0.5 M in H2O) | 0-0.1 | 0.02 |
| Iron(Fe) | 0-5 (ppm) | 1.50 ppm |
| Nickel(Ni) | 0-5 (ppm) | 2.20 ppm |
| Barium(Ba) | 0-5 (ppm) | 1.20 ppm |
| UV Absorbance 280nm(0.5 M in H2O) | 0-0.1 | 0.01 |
| Aluminum(Al) | 0-5 (ppm) | 2.30 ppm |
| useful PH range | 6.8-8.2 | 7.50 |
| Ignition Residue (as sulfate) | 0-0.1 (%) | 0.05 % |
| Sulfate(SO42-) | 0-50 (ppm) | 24.00 ppm |
| loss on drying, 110 °C | 0-0.5 (%) | 0.08 % |
| Calcium(Ca) | 0-10 (ppm) | 4.90 ppm |
| Molybdenum(Mo) | 0-5 (ppm) | 3.50 ppm |
| Strontium(Sr) | 0-5 (ppm) | 2.10 ppm |
| Copper(Cu) | 0-5 (ppm) | 1.30 ppm |
| (Pb)Lead | 0-5 (ppm) | 1.20 ppm |
| Chloride (Cl-) | 0-50 (ppm) | 26.00 ppm |
| Manganese(Mn) | 0-5 (ppm) | 1.50 ppm |
| Bismuth(Bi) | 0-5 (ppm) | 2.20 ppm |

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| Parameter | Limit Values | Result |
|--|--------------------------|--------------------------|
| PH(25 °C, 1 M in Water) | 5-6.5 | 5.44 |
| Potassium(K) | 0-50 (ppm) | 20.00 ppm |
| Purity (T) | 99.5-100.5 (%) | 99.63 % |
| Appearance (H109408) | white crystalline powder | white crystalline powder |
| DNases | none detected | none detected |
| Insoluble matter | pass | Pass |
| phosphatases | none detected | none detected |
| pKa | 6.8 | 6.8 |
| proteases | none detected | none detected |
| Proton NMR spectrum | Conforms to Structure | Conforms to Structure |
| RNases | none detected | none detected |
| Solubility in H ₂ O , soluble , 1M , 20°C, clear, colorless | pass | Pass |



John Su
QA & QC Manager