

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

Certificate of Analysis

| | |
|--------------------------|---------------------|
| Date of Testing: | 2022-04-28 16:04:10 |
| Date of Next Testing: | 2024-04-17 16:04:10 |
| Product Name: | Imidazole |
| CAS Number: | 288-32-4 |
| Specifications & Purity: | 99.5% , for buffer |
| Lot #: | C2226592 |
| SKU # | I108704 |
| Analysis: | 084615 |
| Storage Temperature: | Desiccated |

| Parameter | Limit Values | Result |
|-------------------------------|---|---|
| PH(25 °C, 50 mg/mL in Water) | 9.5-11 | 10.94 |
| Cobalt(Co) | 0-5 (ppm) | 3.00 ppm |
| Ignition Residue (as sulfate) | 0-0.1 (%) | 0.05 % |
| (Pb)Lead | 0-5 (ppm) | 3.00 ppm |
| Manganese(Mn) | 0-5 | 3.00 |
| Magnesium(Mg) | 0-5 (ppm) | 3.00 ppm |
| Melting point | 86-92 (°C) | 91.79000 °C |
| Copper(Cu) | 0-5 (ppm) | 2.50 ppm |
| Sulfate(SO42-) | 0-50 (ppm) | 25.00 ppm |
| Chromium(Cr) | 0-5 (ppm) | 2.50 ppm |
| Cadmium(Cd) | 0-5 (ppm) | 2.50 ppm |
| Sodium(Na) | 0-50 (ppm) | 25.00 ppm |
| Chloride (Cl-) | 0-50 (ppm) | 30.00 ppm |
| Calcium(Ca) | 0-10 (ppm) | 5.00 ppm |
| Purity(GC) | 99.5-100 (%) | 99.95 % |
| Zinc(Zn) | 0-5 (ppm) | 3.00 ppm |
| Iron(Fe) | 0-5 (ppm) | 2.00 ppm |
| Potassium(K) | 0-50 (ppm) | 30.00 ppm |
| Nickel(Ni) | 0-5 (ppm) | 2.00 ppm |
| UV Absorbance 260nm | 0-0.01 | 0.01 |
| UV Absorbance 280nm | 0-0.01 | 0.01 |
| Appearance (I108704) | white to off-white powder, crystals and/or chunks | white to off-white powder, crystals and/or chunks |
| Infrared spectrum | Conforms to Structure | Conforms to Structure |
| pKa | 6.8 | 6.8 |

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| Parameter | Limit Values | Result |
|--------------------------------------|--------------|--------|
| λ ,0.1 M in H ₂ O | Pass | Pass |

A handwritten signature in black ink that reads "John Su".

John Su
QA & QC Manager