

Certificate of Analysis

Date of Testing: 2024-11-08 13:41:40
Date of Next Testing: 2025-11-08 13:41:40
Product Name: **Ammonia solution**
CAS Number: 1336-21-6
Specifications & Purity: Chromatographic grade, $\geq 25\%$ in H₂O
Lot #: K2406225
SKU #: **A112080**
Version: **1**
Analysis #: **433463**

| Parameter | Limit Values | Result |
|---|---------------------------|-------------------|
| Germanium (Ge) | 0-0.01 (ppm) | 0.00 ppm |
| Indium (In) | 0-0.01 (ppm) | 0.00 ppm |
| Stannum(Sn) | 0-0.01 (ppm) | 0.00 ppm |
| Magnesium(Mg) | 0-0.01 (ppm) | 0.00 ppm |
| Lithium(Li) | 0-0.01 (ppm) | 0.00 ppm |
| Titanium(Ti) | 0-0.01 (ppm) | 0.00 ppm |
| Potassium(K) | 0-0.01 (ppm) | 0.00 ppm |
| Gallium(Ga) | 0-0.01 (ppm) | 0.00 ppm |
| Zirconium(Zr) | 0-0.01 (ppm) | 0.00 ppm |
| Manganese(Mn) | 0-0.01 (ppm) | 0.00 ppm |
| Evaporation Residue concentration (as NH ₃) | 0-0.001 (%) 25-100 (%) | 0.00 % 29.01 % |
| Copper(Cu) | 0-0.01 (ppm) | 0.00 ppm |
| Chromium(Cr) | 0-0.01 (ppm) | 0.00 ppm |
| As, Sb (as As): | 0-0.01 (ppm) | 0.00 ppm |
| Nickel(Ni) | 0-0.01 (ppm) | 0.00 ppm |
| Vanadium(V) | 0-0.01 (ppm) | 0.00 ppm |
| Strontium(Sr) | 0-0.01 (ppm) | 0.00 ppm |
| Boron(B) | 0-0.01 (ppm) | 0.00 ppm |
| Aurum(Au) | 0-0.01 (ppm) | 0.00 ppm |
| Chloride (Cl-) | 0-0.2 (ppm) | 0.03 ppm |
| Cobalt(Co) | 0-0.01 (ppm) | 0.00 ppm |
| Zinc(Zn) | 0-0.01 (ppm) | 0.00 ppm |
| Molybdenum(Mo) | 0-0.01 (ppm) | 0.00 ppm |
| Silver(Ag) | 0-0.01 (ppm) | 0.00 ppm |
| Bismuth(Bi) | 0-0.01 (ppm) | 0.00 ppm |

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

| Parameter | Limit Values | Result |
|----------------------|-----------------------|-----------------------|
| Iron(Fe) | 0-0.01 (ppm) | 0.00 ppm |
| Platinum(Pt) | 0-0.01 (ppm) | 0.00 ppm |
| Calcium(Ca) | 0-0.5 (ppm) | 0.00 ppm |
| Sulfate(SO42-) | 0-1 (ppm) | 0.01 ppm |
| Cadmium(Cd) | 0-0.01 (ppm) | 0.00 ppm |
| Sodium(Na) | 0-0.01 (ppm) | 0.00 ppm |
| (Pb)Lead | 0-0.01 (ppm) | 0.00 ppm |
| Beryllium(Be) | 0-0.01 (ppm) | 0.00 ppm |
| Appearance (A112080) | Colorless Liquid | Colorless liquid |
| Infrared spectrum | Conforms to Structure | Conforms to Structure |

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

John Su
QA & QC Manager