

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

## Certificate of Analysis

Date of Testing: 2023-04-19 12:04:38  
 Date of Next Testing: 2024-04-18 12:04:38  
 Product Name: **Ammonia solution**  
 CAS Number: 1336-21-6  
 Specifications & Purity: for HPLC,  $\geq 25\%$  in H<sub>2</sub>O  
 Lot #: D2312309  
 SKU #: **A112080**  
**Analysis: 211801**

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 <sub>3</sub> )	0-0.001 (%) 25-100 (%)	0.00 % 28.95 %
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 <sup>-</sup> )	0-0.2 (ppm)	0.10 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
Iron (Fe)	0-0.01 (ppm)	0.00 ppm

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Parameter	Limit Values	Result
Platinum(Pt)	0-0.01 (ppm)	0.00 ppm
Calcium(Ca)	0-0.5 (ppm)	0.00 ppm
Sulfate(SO42-)	0-1 (ppm)	0.20 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