

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

## Certificate of Analysis

Date of Testing: 2022-06-22 15:13:59  
 Date of Next Testing: 2023-06-22 15:13:59  
 Product Name: **Ammonia solution**  
 CAS Number: 1336-21-6  
 Specifications & Purity: for LC-MS, ≥25% in H<sub>2</sub>O  
 Lot #: F2217285  
 SKU #: **A112084**  
**Analysis: 104742**

Parameter	Limit Values	Result
Sodium(Na)	0-0.01 (ppm)	0.00 ppm
Beryllium(Be)	0-0.01 (ppm)	0.00 ppm
(Pb)Lead	0-0.01 (ppm)	0.00 ppm
Sulfate(SO <sub>4</sub> <sup>2-</sup> )	0-1 (ppm)	0.00 ppm
Potassium(K)	0-0.01 (ppm)	0.00 ppm
Platinum(Pt)	0-0.01 (ppm)	0.00 ppm
Iron(Fe)	0-0.01 (ppm)	0.00 ppm
Gallium(Ga)	0-0.01 (ppm)	0.00 ppm
Barium(Ba)	0-0.01 (ppm)	0.00 ppm
Cobalt(Co)	0-0.01 (ppm)	0.00 ppm
Vanadium(V)	0-0.01 (ppm)	0.00 ppm
Nickel(Ni)	0-0.01 (ppm)	0.00 ppm
Boron(B)	0-0.01 (ppm)	0.00 ppm
Evaporation Residue	0-0.001 (%)	0.00 %
Cadmium(Cd)	0-0.01 (ppm)	0.00 ppm
concentration (as NH <sub>3</sub> )	24.5-25.5 (%)	25.47 %
Chromium(Cr)	0-0.01 (ppm)	0.00 ppm
Manganese(Mn)	0-0.01 (ppm)	0.00 ppm
Phosphate(PO <sub>4</sub> )	0-0.2 (ppm)	0.00 ppm
Bismuth(Bi)	0-0.01 (ppm)	0.00 ppm
Calcium(Ca)	0-0.5 (ppm)	0.00 ppm
Zirconium(Zr)	0-0.01 (ppm)	0.00 ppm
Titanium(Ti)	0-0.01 (ppm)	0.00 ppm
Molybdenum(Mo)	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

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Parameter	Limit Values	Result
Zinc(Zn)	0-0.01 (ppm)	0.00 ppm
Germanium (Ge)	0-0.01 (ppm)	0.00 ppm
As, Sb (as As):	0-0.01 (ppm)	0.00 ppm
Indium (In)	0-0.01 (ppm)	0.00 ppm
Strontium(Sr)	0-0.01 (ppm)	0.00 ppm
Copper(Cu)	0-0.01 (ppm)	0.00 ppm
Silver (Ag)	0-0.01 (ppm)	0.00 ppm
Aurum(Au)	0-0.01 (ppm)	0.00 ppm
Chloride (Cl-)	0-0.2 (ppm)	0.00 ppm
Appearance (A112084)	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