

## Certificate of Analysis

Date of Testing: 2023-04-15 17:41:08

Date of Next Testing: 2024-04-14 17:41:08

Product Name: **Ammonia solution**

CAS Number: 1336-21-6

Specifications & Purity: for HPLC, ≥25% in H2O

Lot #: D2312312

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 NH3)	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-)	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