

Certificate of Analysis

Date of Testing: 2025-04-16 14:37:01

Date of Next Testing: 2028-04-15 14:37:01

Product Name: **Choline chloride**

CAS Number: 67-48-1

Specifications & Purity: UltraBio™, ≥99%(AT)

Lot #: D2511106

SKU #: **C755647**

Version: **3**

Analysis #: **499027**

Storage Temperature: Room temperature, Argon charged

Parameter	Limit Values	Result
Assay(Titration by AgNO3)	99-101 (%)	100.00 %
Aluminum(Al)	0-5 (ppm)	0.00 ppm
Barium(Ba)	0-5 (ppm)	0.00 ppm
Bismuth(Bi)	0-5 (ppm)	0.00 ppm
Calcium(Ca)	0-10 (ppm)	2.30 ppm
Cadmium(Cd)	0-5 (ppm)	0.00 ppm
Cobalt(Co)	0-5 (ppm)	0.00 ppm
Chromium(Cr)	0-5 (ppm)	0.00 ppm
Copper(Cu)	0-5 (ppm)	0.00 ppm
Iron(Fe)	0-5 (ppm)	0.00 ppm
Potassium(K)	0-50 (ppm)	5.13 ppm
Lithium(Li)	0-5 (ppm)	0.00 ppm
Magnesium(Mg)	0-5 (ppm)	0.00 ppm
Manganese(Mn)	0-5 (ppm)	0.00 ppm
Molybdenum(Mo)	0-5 (ppm)	0.00 ppm
Sodium(Na)	0-50 (ppm)	17.60 ppm
Nickel(Ni)	0-5 (ppm)	0.00 ppm
Lead(Pb)	0-5 (ppm)	0.00 ppm
Strontium(Sr)	0-5 (ppm)	0.00 ppm
Arsenic(As)(MHS-AAS)	0-0.1 (ppm)	0.00000 ppm
Total sulfur as SO4 (ICP)	0-50 (ppm)	0.50 ppm
pH (1M in H2O)	5-7.5	6.80000
UV Absorbance 260nm	0-0.015	0.01
UV Absorbance 280nm	0-0.01	0.01
Appearance(C755647Z)	Colorless or White Powder or Crystals	Colorless or White Powder or Crystals



ALADDIN SCIENTIFIC CORPORATION

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Parameter	Limit Values	Result
Appearance of solution(1 M in Water)	Clear colorless	Clear Colorless
Residue (filter test)	no residue	no residue

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

John Su
QA & QC Manager