

## Certificate of Analysis

Date of Testing: 2022-07-28 13:13:51  
 Date of Next Testing: 2026-07-27 13:13:51  
 Product Name: **L-Asparagine Monohydrate**  
 CAS Number: 5794-13-8  
 Specifications & Purity: non-animal source, for cell culture, ≥99.0%  
 Lot #: G2226072  
 SKU #: **A119452**  
**Analysis:** **097333**  
 Storage Temperature: Protected from light

Parameter	Limit Values	Result
Iron(Fe)	0-10 (ppm)	5.30 ppm
Ignition Residue(Ash)	0-0.1 (%)	0.04 %
Chloride	0-0.02 (%)	0.01 %
Sulfate(SO42-)	0-0.02 (%)	0.01 %
Ammonia (NH4)	0-0.1 (%)	0.05 %
Purity(HPLC)	99-100 (%)	99.79400 %
Loss on drying	11.5-12.5 (%)	11.92 %
Heavy metal (as Pb)	0-10 (ppm)	4.60 ppm
Specific Rotation [α] <sub>20</sub> /D(c=10 in 6M HCl in dried basis)	33-36.5 (°)	33.01 °
Endotoxin Assay	0-1 (EU/mg)	0.50 EU/mg
Appearance (A119452)	white crystalline powder	white crystalline powder
Infrared spectrum	Conforms to Structure	Conforms to Structure
Ninhydrin-Positive Substances	Conforms	Conforms
Solubility in H <sub>2</sub> O , Colorless, Clear, 1g/50ml	pass	Pass
Cell Culture Test	pass	Pass



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ALADDIN SCIENTIFIC CORPORATION

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A handwritten signature in black ink that reads "John Su". The signature is written in a cursive, flowing style.

John Su  
QA & QC Manager