

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

## Certificate of Analysis

Date of Testing: 2025-10-11 11:35:55  
 Date of Next Testing: 2029-10-10 11:35:55  
 Product Name: **L-Phenylalanine**  
 CAS Number: 63-91-2  
 Specifications & Purity: Animal Free, USP, JP, Moligand™, Ph.Eur., for cell culture, ≥98.5%  
 Lot #: L2115036  
 SKU #: **P110425**  
 Version: **3**  
 Analysis #: **579353**  
 Storage Temperature: Protected from light, Desiccated

| Parameter                                                           | Limit Values          | Result                |
|---------------------------------------------------------------------|-----------------------|-----------------------|
| Bacterial endotoxins                                                | 0-1000 (EU/g)         | 10.50 EU/g            |
| (As)Arsenic                                                         | 0-2 (ppm)             | 0.50 ppm              |
| specific Rotation $[\alpha]_{20/D(c=2 \text{ in H}_2\text{O EP})}$  | -35--33.5 (°)         | -34.56 °              |
| PH test                                                             | 5.4-6                 | 5.60                  |
| Chloride                                                            | 0-0.02 (%)            | 0.00 %                |
| Sulfate(SO <sub>4</sub> <sup>2-</sup> )                             | 0-0.02 (%)            | 0.01 %                |
| Ammonia (NH <sub>4</sub> )                                          | 0-0.02 (%)            | 0.01 %                |
| Other amino acids                                                   | 0-0.5 (%)             | 0.36 %                |
| specific Rotation $[\alpha]_{25/D(c=2 \text{ in H}_2\text{O USP})}$ | -34.7--32.7 (°)       | -34.06 °              |
| Heavy metal (as Pb)                                                 | 0-10 (ppm)            | 2.60 ppm              |
| Ignition Residue (as sulfate)                                       | 0-0.1 (%)             | 0.05 %                |
| Iron(Fe)                                                            | 0-10 (ppm)            | 6.30 ppm              |
| Assay(Titration by HClO <sub>4</sub> )                              | 98.5-101 (%)          | 99.90 %               |
| Loss on drying                                                      | 0-0.3 (%)             | 0.02 %                |
| Appearance (P110425)                                                | White crystal powder  | White crystal powder  |
| Cell Culture Test                                                   | pass                  | Pass                  |
| Infrared spectrum                                                   | Conforms to Structure | Conforms to Structure |
| Ninhydrin-positive substances (other amino acids)                   | Conforms              | Conforms              |
| Origin                                                              | non-animal source     | non-animal source     |
| Residual solvents                                                   | complies              | complies              |
| Solubility in hot Water, almost transparency, Clear colorless       | pass                  | Pass                  |



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

John Su  
QA & QC Manager