

## Certificate of Analysis

Date of Testing: 2023-06-14 16:12:29

Date of Next Testing: 2027-06-13 16:12:29

Product Name: **L-Serine**

CAS Number: 56-45-1

Specifications & Purity: 99%

Lot #: F23131266

SKU #: **S103483**

**Analysis:** **241109**

Storage Temperature: Desiccated

| Parameter                                        | Limit Values              | Result                    |
|--------------------------------------------------|---------------------------|---------------------------|
| Carbon by Elemental Analysis                     | 33.6-35 (%)               | 34.50 %                   |
| Nitrogen by Elemental Analysis                   | 13-13.6 (%)               | 13.20 %                   |
| Purity(HPLC)                                     | 99-100 (%)                | 99.64000 %                |
| Specific rotation(20°C, C = 10 in 2 M HCl, EP)   | 14.4-15.5 (°)             | 15.25000 °                |
| Appearance (S103483)                             | White to Off-White Powder | White to Off-White Powder |
| Infrared spectrum                                | Conforms to Structure     | Conforms to Structure     |
| Solubility in H2O , Colorless and clear,50 mg/mL | pass                      | Pass                      |



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