

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

## Certificate of Analysis

Date of Testing: 2026-07-01 09:21:02  
 Date of Next Testing: 2030-06-30 09:21:02  
 Product Name: **L-Lactic Acid**  
 CAS Number: 79-33-4  
 Specifications & Purity: Moligand™, ≥90%, Chiral grade  
 Lot #: F2616392  
 SKU #: **L122090**  
 Version: **0**  
 Analysis #: **716619**  
 Storage Temperature: Store at 2-8°C, Argon charged

| Parameter   | Limit Values                 | Result                       |
|---|------------------------------|------------------------------|
| Methanol(CH <sub>3</sub> OH)  | 0-0.2 (%)                    | 0.10000 %                    |
| Chloride  | 0-0.001 (%)                  | 0.00050 %                    |
| (As)Arsenic   | 0-0.0001 (%)                 | 0.00005 %                    |
| Sulfate(SO <sub>4</sub> <sup>2-</sup> )                             | 0-0.001 (%)                  | 0.00025 %                    |
| Lead(Pb)  | <2(ppm)                      | 1.00000 ppm                  |
| Heavy metals  | 0-0.0005 (%)                 | 0.00020 %                    |
| Ignition Residue  | 0-0.05 (%)                   | 0.00500 %                    |
| Density (20°C)  | 1.2-1.22 (g/ml)              | 1.21400 g/ml                 |
| Cyanide   | 0-0.0001 (%)                 | 0.00004 %                    |
| Iron(Fe)  | 0-0.0005 (%)                 | 0.00002 %                    |
| Calcium(Ca)   | 0-0.0001 (%)                 | 0.00010 %                    |
| Purity(Neutralization titration)                                    | 89.5-110.5 (%)               | 90.40000 %                   |
| Refractive index n <sub>20</sub> /D                                 | 1.426-1.431                  | 1.42680                      |
| Specific Rotation [α] <sub>20</sub> /D(c=2.5 in 1.5mol/L NaOH sol.) | -15--10 (°)                  | -13.50000 °                  |
| Mercury   | 0-1 (ppm)                    | 0.50000 ppm                  |
| Optical purity  | 99.5-100 (%)                 | 99.80000 %                   |
| Citric acid, oxalic acid, tartaric acid, and phosphoric acid        | is not muddy                 | is not muddy                 |
| Easy carbon compounds   | does not change to dark gray | does not change to dark gray |
| Identification (Acidic aqueous solution)                            | lactate positive reaction    | lactate positive reaction    |
| Reducing sugars   | No red precipitate           | No red precipitate           |
| The ether insolubles  | by EP                        | by EP                        |
| Volatile fatty acids  | passes test                  | Passes test                  |
| Appearance (L122090)  | Colorless Liquid             | Colorless liquid             |



QualityAssurance@aladdinsci.com

---

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

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

John Su  
QA & QC Manager