

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

Certificate of Analysis

Date of Testing: 2022-07-11 15:32:43
 Date of Next Testing: 2026-07-10 15:32:43
 Product Name: **L-Lactic Acid**
 CAS Number: 79-33-4
 Specifications & Purity: High purity grade, 90%
 Lot #: G2207316
 SKU #: **L107596**
Analysis: **105296**
 Storage Temperature: Store at 2-8°C, Argon charged

| Parameter | Limit Values | Result |
|---|----------------------------------|----------------------------------|
| Chloride | 0-0.001 (%) | 0.00 % |
| Sulfate(SO42-) | 0-0.001 (%) | 0.00 % |
| Calcium(Ca) | 0-0.0001 (%) | 0.00 % |
| Ignition Residue | 0-0.01 (%) | 0.01 % |
| Cyanide | 0-0.0001 (%) | 0.00 % |
| Mercury | 0-1 (ppm) | 0.50 ppm |
| (As)Arsenic | 0-0.0001 (%) | 0.00 % |
| Methanol(CH3OH) | 0-0.05 (%) | 0.03 % |
| Iron(Fe) | 0-0.0001 (%) | 0.00 % |
| Density (20°C) | 1.2-1.22 (g/ml) | 1.21 g/ml |
| Purity (T) | 89.5-90.5 (%) | 90.50 % |
| Lead(Pb) | 0-0.5 (ppm) | 0.50 ppm |
| Color test (APHA) | 0-10 (APHA) | 10.00 APHA |
| Heavy metals | 0-0.0005 (%) | 0.00 % |
| Specific Rotation [α] ₂₀ /D(c=2.5 in 1.5mol/L NaOH sol.) | -15--10 (°) | -10.11 ° |
| Appearance (L107596) | Colorless to light yellow liquid | Colorless to light yellow liquid |
| 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 |
| Infrared spectrum | Conforms to Structure | Conforms to Structure |
| Reducing sugars | No red precipitate | No red precipitate |
| The ether insolubles | by EP | by EP |
| Volatile fatty acids | passes test | Passes test |



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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