

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

## Certificate of Analysis

Date of Testing: 2023-02-20 13:09:40  
 Date of Next Testing: 2027-02-19 13:09:40  
 Product Name: (-)-Ethyl L-lactate  
 CAS Number: 687-47-8  
 Specifications & Purity: photoresist grade, ≥99%  
 Lot #: B2314095  
 SKU #: E104553  
 Version: 1  
 Analysis #: 033112  
 Storage Temperature: Room temperature

| Parameter                                      | Limit Values                     | Result                           |
|------------------------------------------------|----------------------------------|----------------------------------|
| Purity(Based On Trace Metals Analysis)         | 99.9999-100 (%)                  | 99.99990 %                       |
| Free acid                                      | 0-0.025 (%)                      | 0.02100 %                        |
| Water by Karl Fischer                          | 0-0.1 (%)                        | 0.09170 %                        |
| Trace Metal Analysis                           | 0-1 (ppm)                        | 1.00000 ppm                      |
| Refractive index n <sub>20/D</sub>             | 1.412-1.414                      | 1.41320                          |
| Evaporation Residue                            | 0-0.01 (%)                       | 0.00000 %                        |
| Purity(sum of enantiomers)(GC)                 | 99-100 (%)                       | 99.04600 %                       |
| Specific Rotation [α] <sub>20/D</sub> (c=Neat) | 9.5-11.5 (°)                     | 9.61000 °                        |
| Appearance (E104553)                           | Colorless to light yellow liquid | Colorless to light yellow liquid |



John Su  
QA & QC Manager