

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

## Certificate of Analysis

Date of Testing: 2023-02-16 16:15:19  
Date of Next Testing: 2027-02-15 16:15:19  
Product Name: **L-(+)-Tartaric acid**  
CAS Number: 87-69-4  
Specifications & Purity: ACS, ≥99.5%  
Lot #: B2306934  
SKU #: **T112460**  
**Analysis: 188639**  
Storage Temperature: Room temperature

Parameter	Limit Values	Result
Ignition Residue (as sulfate)	0-0.02 (%)	0.01 %
Iron(Fe)	0-5 (ppm)	0.00 ppm
Insoluble matter in H <sub>2</sub> O	0-0.005 (%)	0.00 %
Phosphate(PO <sub>4</sub> )	0-10 (ppm)	4.00 ppm
Chloride (Cl <sup>-</sup> )	0-10 (ppm)	2.98 ppm
Purity (Titration by NaOH)	99.5-100.5 (%)	99.80 %
Sulfate(SO <sub>4</sub> <sup>2-</sup> )	0-0.002 (%)	0.00 %
Enantiometric Excess	98.5-100 (%)	98.51 %
Heavy metal (as Pb)	0-5 (ppm)	0.00 ppm
Specific Rotation [α] <sub>20</sub> /D(c=20 in H <sub>2</sub> O)	10.4-14.4 (°)	12.91°
Appearance (T112460)	white crystal or crystal powder	white crystal or crystal powder
Infrared spectrum	Conforms to Structure	Conforms to Structure
Oxalate(C <sub>2</sub> O <sub>4</sub> ) (limit 0.1%)	Pass	Pass



John Su  
QA & QC Manager