

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

Certificate of Analysis

Date of Testing: 2024-09-10 09:26:25
Date of Next Testing: 2028-09-09 09:26:25
Product Name: **L-(-)-Malic acid**
CAS Number: 97-67-6
Specifications & Purity: Chemically Pure
Lot #: I2406544
SKU #: **M105696**
Version: **0**
Analysis #: **409733**
Storage Temperature: Protected from light, Desiccated

Parameter	Limit Values	Result
Specific Rotation [α] ₂₀ /D(c=8.5 in H ₂ O)	-2.6--1.6 (°)	-2.03°
(As)Arsenic	0-2 (ppm)	0.10 ppm
Melting point	99-107 (°C)	104.25000 °C
Sulfate(SO ₄ ²⁻)	0-300 (ppm)	280.00 ppm
Chloride (Cl ⁻)	0-100 (ppm)	92.00 ppm
Purity(Neutralization titration)	98-102 (%)	99.27%
fumaric acid	0-0.2 (%)	0.15%
Sulfate Ash	0-0.2 (%)	0.05%
Heavy metal (as Pb)	0-20 (ppm)	11.00 ppm
Appearance (M105696)	White Powder or Crystals	White Powder or Crystals
Solubility in H ₂ O, Solution transparent	pass	Pass



John Su
QA & QC Manager