

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

Certificate of Analysis

Date of Testing: 2023-08-15 15:57:25
Date of Next Testing: 2025-08-14 15:57:25
Product Name: **Diethyl L-(-)-Malate**
CAS Number: 691-84-9
Specifications & Purity: $\geq 97.0\%$ (GC)
Lot #: H2308450
SKU #: **D136832**
Analysis: **252707**

Parameter	Limit Values	Result
Density (20°C)	1.127-1.131	1.13
Refractive index n ₂₀ /D	1.433-1.437	1.44
Purity(GC)	97-100 (%)	99.26 %
Specific Rotation [α] ₂₀ /D(c=Neat)	-13--10 (°)	-11.69°
Appearance (D136832)	Colorless liquid	Colorless liquid
Infrared spectrum	Conforms to Structure	Conforms to Structure
Proton NMR spectrum	Conforms to Structure	Conforms to Structure



John Su
QA & QC Manager