

Certificate of Analysis

Date of Testing: 2024-03-25 10:59:35
Date of Next Testing: 2026-03-25 10:59:35
Product Name: **Diethyl L-(-)-Malate**
CAS Number: 691-84-9
Specifications & Purity: $\geq 97.0\%$ (GC)
Lot #: C2409193
SKU #: **D136832**
Analysis: **316310**

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 (%)	98.99%
Specific Rotation [α] ₂₀ /D(c=Neat)	-13--10 (°)	-11.76°
Infrared spectrum	Conforms to Structure	Conforms to Structure
Proton NMR spectrum	Conforms to Structure	Conforms to Structure
Appearance (D136832)	Colorless to light yellow liquid	Colorless to light yellow liquid



John Su
QA & QC Manager