

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

Certificate of Analysis

Date of Testing: 2023-05-11 16:32:01
 Date of Next Testing: 2025-05-10 16:32:01
 Product Name: **D-(+)-Apple Acid Diethyl Ester**
 CAS Number: 7554-28-1
 Specifications & Purity: $\geq 98\%$ (GC)
 Lot #: H2109132
 SKU #: **D134433**
 Version: **0**
 Analysis #: **222109**
 Storage Temperature: Store at 2-8°C

Parameter	Limit Values	Result
Specific Rotation $[\alpha]_{20/D}(c=1 \text{ in EtOH})$	10-13 (°)	12.43700°
Refractive index $n_{20/D}$	1.433-1.437	1.43550
Purity(GC)	98-100 (%)	99.78200 %
Density (20°C)	1.127-1.131	1.13080
Appearance (D134433)	Colorless to light yellow liquid	Colorless to light yellow liquid
Infrared spectrum	Conforms to Structure	Conforms to Structure



John Su
QA & QC Manager