

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

Certificate of Analysis

Date of Testing: 2023-02-17 12:36:51

Date of Next Testing: 2027-02-16 12:36:51

Product Name: (R)-(-)-1,3-Butanediol

CAS Number: 6290-03-5

Specifications & Purity: $\geq 98\%$ (GC)

Lot #: B2311934

SKU #: R160960

Version: 0

Analysis #: 138392

Storage Temperature: Argon charged

Parameter	Limit Values	Result
Refractive index n ₂₀ /D	1.439-1.441	1.44
Purity(GC)	98-100 (%)	99.30 %
Specific Rotation [α] ₂₀ /D(c=1 in EtOH)	-32--25 (°)	-31.40°
Appearance (R160960)	Colorless to light yellow liquid	Colorless to light yellow liquid
Proton NMR spectrum	Conforms to Structure	Conforms to Structure

John Su
QA & QC Manager