

## Certificate of Analysis

Date of Testing: 2023-06-25 17:19:51  
Date of Next Testing: 2027-06-24 17:19:51  
Product Name: **(S)-2-Chlorobutyric Acid**  
CAS Number: 32653-32-0  
Specifications & Purity: 95%  
Lot #: F23061673  
SKU #: **S161173**  
Analysis: **214035**

Parameter	Limit Values	Result
Optical purity(GC)	90-100 (%)	95.20%
Refractive index n <sub>20</sub> /D	1.436-1.443	1.44
Purity(GC)	95-100 (%)	96.60%
NMR Spectrum 1H	Conforms to Structure	Conforms to Structure
Appearance(S161173)	Colorless to Almost colorless clear liquid	Colorless to almost colorless clear liquid



John Su  
QA & QC Manager