

## Certificate of Analysis

Date of Testing: 2023-04-14 14:24:22  
Date of Next Testing: 2027-04-13 14:24:22  
Product Name: **D-Alanine tert-Butyl Ester Hydrochloride**  
CAS Number: 59531-86-1  
Specifications & Purity: 98%  
Lot #: E2311047  
SKU #: **A113262**  
**Analysis:** **211458**  
Storage Temperature: Argon charged

Parameter	Limit Values	Result
Specific Rotation [α] <sub>20</sub> /D(c=2 in EtOH)	-2--1 (°)	-1.64°
Carbon by Elemental Analysis	44.8-46.7 (%)	46.68%
Purity (Argentometric Titration)	97.5-102.5 (%)	101.01%
Appearance (A113262)	White to Off-White Powder or Solid or Chunks	White to Off-White Powder or Solid or Chunks
Proton NMR spectrum	Conforms to Structure	Conforms to Structure



John Su  
QA & QC Manager