



# INDOFINE Chemical Company, Inc.

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## Certificate of Analysis

Catalogue Number 04-128  
Lot Number 121025-16140  
Product **D-Alanine *tert*-butyl ester hydrochloride**

D-Ala-OtBu•HCl

CAS Number 59531-86-1  
Molecular Formula  $C_7H_{15}NO_2 \cdot HCl$

Molecular Weight 181.7

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Appearance White powder  
Solubility Clear solution (0.3 gram in 2 ml H<sub>2</sub>O)  
Melting Point 207.9-210.6 °C  
Water Content (Karl Fisher) 0.24%  
Optical Rotation  $[\alpha]_D^{20} = -1.2^\circ$  (C=4 in EtOH)  
Infrared Spectrum Conforms to structure  
Loss on Drying 0.11% (40 °C for 2 hours)  
<sup>13</sup>C NMR Conforms to structure  
<sup>1</sup>H NMR Conforms to structure  
Purity by HPLC 99.85%  
Storage Store at 0-8 °C

Prepared by:

*Ramesh Mandadi*

Ramesh Mandadi  
Director of Operations

Reviewed and Approved by:

*Sujata Moton*

Sujata Moton  
VP