

# Chem-Impex International, Inc.

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## Certificate of Analysis

<b>Catalogue Number</b>	03043
<b>Product</b>	<b>L-Aspartic acid di-tert-butyl ester hydrochloride</b>
<b>Lot Number</b>	000424-150613-16412 L-Asp(OtBu)-OtBu•HCl
<b>CAS Number</b>	1791-13-5
<b>Molecular Formula</b>	C <sub>12</sub> H <sub>23</sub> NO <sub>4</sub> •HCl
<b>Molecular Weight</b>	281.8
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<b>Appearance</b>	White powder
<b>Solubility</b>	Clear solution (0.3 g in 2 mL DMF)
<b>Water Content (Karl Fisher)</b>	0.46%
<b>Optical Rotation</b>	[α] <sup>20</sup> <sub>D</sub> = + 10.5° (C=2 in EtOH)
<b>Infrared Spectrum</b>	Conforms to structure
<b>Analysis by Mass Spectra</b>	Conforms to standard
<b>Loss on Drying</b>	0.42% (60 °C, 2h)
<b><sup>1</sup>H NMR</b>	Conforms to structure
<b>Purity by HPLC</b>	99.64%
<b>Purity by TLC</b>	> 98%
<b>Storage</b>	Store at 0-8 °C
<b>Remarks</b>	See material safety data sheet for additional information For laboratory use only

The foregoing is a copy of the Certificate of Analysis as provided by our supplier



**Bala Kumar**  
Quality Control Manager