

# Chem-Impex International, Inc.

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## Certificate of Analysis

<b>Catalogue Number</b>	04441
<b>Lot Number</b>	000424-140310-13308
<b>Product</b>	<b>L-Phenylalanine allyl ester 4-toluenesulfonate salt</b> L-Phe-OAll•TosOH
<b>CAS Number</b>	88224-00-4
<b>Molecular Formula</b>	C <sub>12</sub> H <sub>15</sub> NO <sub>2</sub> ·C <sub>7</sub> H <sub>8</sub> O <sub>3</sub> S
<b>Molecular Weight</b>	377.5

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<b>Appearance</b>	White powder
<b>Melting Point</b>	157.3-158.6 °C
<b>Water Content (Karl Fisher)</b>	0.081%
<b>Optical Rotation</b>	[α] <sub>D</sub> <sup>20</sup> = +11.4° (C=1 in DMF)
<b>Infrared Spectrum</b>	Conforms to standard
<b>Analysis by Mass Spectra</b>	Conforms to standard
<b>Loss on Drying</b>	0.66% (70 °C, 2h)
<b><sup>1</sup>H NMR</b>	Conforms to structure
<b>Purity by HPLC</b>	98.13%
<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