

# Chem-Impex International, Inc.

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## Certificate of Analysis

<b>Catalogue Number</b>	01403
<b>Lot Number</b>	000424-140324-10922
<b>Product</b>	<b>L-Glutamic acid <math>\gamma</math>-<i>tert</i>-butyl ester</b>
	L-Glu(OtBu)-OH
	L-Glutamic acid 5- <i>tert</i> -butyl ester
<b>CAS Number</b>	2419-56-9
<b>Molecular Formula</b>	C <sub>9</sub> H <sub>17</sub> NO <sub>4</sub>
<b>Molecular Weight</b>	203.2

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<b>Appearance</b>	White powder
<b>Solubility</b>	Clear solution (0.3 g in 2 mL AcOH)
<b>Melting Point</b>	171.0-172.5 °C
<b>Water Content (Karl Fisher)</b>	0.566%
<b>Optical Rotation</b>	$[\alpha]_D^{20} = +20.3^\circ$ (C=1 in AcOH)
<b>Infrared Spectrum</b>	Conforms to structure
<b>Analysis by Mass Spectra</b>	Conforms to standard
<b>Loss on Drying</b>	1.22% (70 °C, 2h)
<b><sup>1</sup>H NMR</b>	Conforms to structure
<b>Purity by HPLC</b>	99.03%
<b>Purity by TLC</b>	> 98%
<b>Storage</b>	Store at 0-8 °C

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**Remarks**

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**