

# Chem-Impex International, Inc.

---

Tel: (630) 766-2112

E-mail: sales@chemimpex.com

Shipping and Correspondence:

935 Dillon Drive

Wood Dale, IL 60191

Fax: (630) 766-2218

Web site: www.chemimpex.com

Manufacturing site:

825 Dillon Drive

Wood Dale, IL 60191

---

## Certificate of Analysis

**Catalogue Number** 02163  
**Lot Number** 000424-130927-11502  
**Product** **Z-L-glutamic acid**

Z-L-Glu-OH

**CAS Number** 1155-62-0  
**Molecular Formula** C<sub>13</sub>H<sub>15</sub>NO<sub>6</sub>

**Molecular Weight** 281.26

---

**Appearance** White powder  
**Solubility** Clear solution (0.3 gram in 2 mL DMF)  
**Melting Point** 119.7-120.4 °C  
**Optical Rotation** [α]<sub>D</sub><sup>20</sup> = - 6.9 ° (C=2 in AcOH)  
**Infrared Spectrum** Conforms to structure  
**Analysis by Mass Spectra** Conforms to structure  
**<sup>1</sup>H NMR** Conforms to structure  
**D-Enantiomer** 0.0256%  
**Purity by HPLC** 98.97%  
**Storage** Store at 0-8°C

**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