

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	03891
Lot Number	000424-160401-21148
Product	Z-L-pyroglutamic acid N-hydroxysuccinimide ester Z-L-Pyr-OSu
CAS Number	40291-26-7
Molecular Formula	C ₁₇ H ₁₆ N ₂ O ₇
Molecular Weight	360.33
<hr/>	
Appearance	White crystalline powder
Solubility	Clear Solution (0.3 g in 2 mL DMF)
Melting Point	136.0-136.7°C
Water Content (Karl Fisher)	0.10%
Optical Rotation	[α] _D ²⁴ = -31.5° (C=1, DMF)
Infrared Spectrum	Conforms to structure
Analysis by Mass Spectra	Conforms to the standard
Loss on Drying	0.28% (80°C, 2h)
¹H NMR	Conforms to the structure
Chiral HPLC	99.980% L-enantiomer
Purity by HPLC	98.61%
Purity by TLC	> 98%
Storage	Store at 0-8°C

Certificate of Analysis

Catalog Number: 03891

Lot Number: 000424-160401-21148

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

A handwritten signature in black ink, appearing to read 'Bala Kumar', with a stylized flourish at the end.

Bala Kumar
Quality Control Manager