Chem-Impex International, Inc.

Tel: (630) 766-2112 Fax: (630) 766-2218

E-mail: sales@chemimpex.com Web site: www.chemimpex.com

Shipping and Correspondence:935 Dillon Drive
825 Dillon Drive

Wood Dale, IL 60191 Wood Dale, IL 60191

Certificate of Analysis

Catalogue Number 02146

Lot Number 121124-12401

Product N^{α} -Z-L-asparagine 4-nitrophenyl ester

Z-L-Asn-ONp

CAS Number 3256-57-3 Molecular Formula C₁₈H₁₇N₃O₇

Molecular Weight 387.3

Appearance White to off-white powder

Solubility Clear solution (0.3 g in 2mL DMF)

Melting Point 141.7-144.4 °C

Optical Rotation $[a]_{D^{20}} = -30 \pm 2^{\circ} (C=2 \text{ in DMF})$

Infrared Spectrum Conforms to structure
Analysis by Mass Spectra Conforms to standard

Loss on Drying 0.37% (60 °C, 2h)

¹H NMR Conforms to structure

Purity by HPLC 98.01%

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