## Chem-Impex International, Inc.

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## Certificate of Analysis

Catalogue Number 02245

935 Dillon Drive

**Lot Number** 130704-21108

Product Z-D-pyroglutamic acid

Z-D-Pyr-OH

CAS Number 78339-57-8 Molecular Formula C<sub>13</sub>H<sub>13</sub>NO<sub>5</sub>

**Molecular Weight** 263.2

**Appearance** White powder

**Solubility** Clear, colorless solution (0.3g in 2mL DMF)

**Melting Point** 141.5-141.9 °C

**Optical Rotation** [a] $_{D}^{24} = +31 \pm 2^{\circ}$  (C=1% in methanol)

Infrared Spectrum

Analysis by Mass Spectra

Conforms to structure

Conforms to structure

Conforms to structure

Purity by HPLC 99.43%

**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**