



# INDOFINE Chemical Company, Inc.

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## Certificate of Analysis

Catalog Number	04-2402
Product Name	<b>Z-Pyr-OH</b> Z-L-pyroglutamic acid
Lot Number	0571716
CAS Registry Number	32159-21-0
Molecular Formula	C <sub>13</sub> H <sub>13</sub> NO <sub>5</sub>
Molecular Weight	263.20
Appearance	White powder
Solubility	Clear, colorless solution (50 mg/ml in MeOH)
Melting Point	142°C
Specific Optical Rotation	$\alpha^24_D = -35.2^\circ$ (1% in MeOH)
CHN-Analysis	
Elemental Analysis (Theory)	C 59.3% H 5.0% N 5.3%
Elemental Analysis (Found)	C 59.4% H 5.1% N 5.3%
Assay (Elemental Analysis)	100.1% Based on Carbon content
Assay (Elemental Analysis)	Theory C 59.31% Found C 59.36%
Identification (TLC)	Conforms with authentic material
Assay by TLC	> 98%
Chloroform/methanol/toluene/H <sub>2</sub> O 8/8/8/1	Detected by: UV, Ninhydrin, Chlorine-Tolidine
Ethylacetate/pyridine/acetic acid/H <sub>2</sub> O 60/20/6/11	
Chloroform/methanol/acetic acid 77.5/15/7.5	
Plate: Silicagel 60 F <sub>254</sub>	
Enantiomer Content (GC)	0.1% Z-D-Pyr-OH
Storage	Store at RT.