

## Certificate of Analysis

Date of Testing: 2023-08-07 12:35:54  
Date of Next Testing: 2027-08-06 12:35:54  
Product Name: **N-Carbobenzoxy-L-pyroglutamic Acid**  
CAS Number: 32159-21-0  
Specifications & Purity: 98%  
Lot #: H2303834  
SKU #: **P111011**  
**Analysis: 188690**  
Storage Temperature: Store at -20°C

Parameter	Limit Values	Result
Melting point	139-143 (°C)	139.70000 °C
Purity(HPLC)	98-100 (%)	99.76600 %
Specific Rotation [α] <sub>20</sub> /D(c=1 in MeOH)	-37--34 (°)	-36.98 °
Appearance (P111011)	White to Off-White Powder or Crystals	White to Off-White Powder or Crystals
Solubility in MeOH , Clear Colorless(100 mg/ml)	pass	Pass
Proton NMR spectrum	Conforms to structure	Conforms to Structure



John Su  
QA & QC Manager