

## Certificate of Analysis

Date of Testing: 2023-11-27 13:40:07  
Date of Next Testing: 2027-11-26 13:40:07  
Product Name: **L-Glutamine**  
CAS Number: 56-85-9  
Specifications & Purity: 99%  
Lot #: K2320162  
SKU #: **G105425**  
**Analysis:** **290437**  
Storage Temperature: Protected from light, Room temperature

Parameter	Limit Values	Result
Carbon by Elemental Analysis	40.3-41.9 (%)	40.88 %
Nitrogen by Elemental Analysis	18.8-19.6 (%)	19.05 %
Purity(HPLC)	99-100 (%)	99.01100 %
Ammonia (NH <sub>3</sub> )	0-0.2 (%)	0.20 %
Specific Rotation [α] <sub>20</sub> /D(c=4 in H <sub>2</sub> O)	6.3-7.3 (°)	6.36 °
Appearance (G105425)	White to Off-White Powder	White to Off-White Powder
Solubility in 1 M HCl , Colorless, Clear to Slightly Hazy, 50 mg/ml	pass	Pass
Infrared spectrum	Conforms to Structure	Conforms to Structure



John Su  
QA & QC Manager