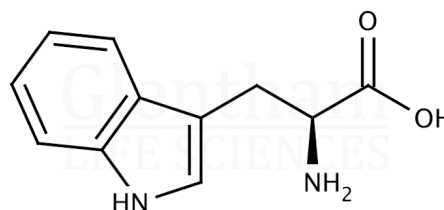


## Certificate of Analysis

Product Name L-Tryptophan  
Glentham Code GM0674  
CAS Number 73-22-3  
EINECS 200-795-6  
MDL Number MFCD00064340  
PubChem SID 310281481  
Batch Number 982EZF

Molecular Weight 204.23  
Molecular Formula  $C_{11}H_{12}N_2O_2$   
Storage Temp. +20°C



Property	Specification	Batch 982EZF
Physical Description	White to off-white powder	White powder
Identification (IR)	To conform to standard	Conforms
pH (1% in water)	5.5 - 7.0	5.96
Specific Optical Rotation ( $[\alpha]_{25/D}$ )	-29.4 - -32.8 ° (10mg/ml, water)	-30.9°
Loss on Drying	≤ 0.3% (105°C, 3h)	0.05%
Residue on Ignition	≤ 0.1%	0.05%
Lead (Pb)	≤ 3ppm	Conforms
Arsenic (As)	≤ 1ppm	Conforms
Cadmium (Cd)	≤ 1ppm	Conforms
Mercury (Hg)	≤ 0.1ppm	Conforms
Chloride	≤ 0.05%	≤ 0.02%
Sulphate	≤ 0.03%	≤ 0.03%
Iron (Fe)	≤ 30ppm	≤ 30ppm
Heavy Metals	≤ 15ppm	Conforms
Organic Impurities	≤ 0.01% of total impurities prior to peak and ≤ 0.03% of total impurities after peak	Conforms
Related Compound A	To pass test	Conforms
Assay	98.5 - 101.5 % (dried basis)	99.23%
Pharmacopoeia Specification(s)	USP	Conforms

Specification Version v1.2  
Manufacture Date 2022-02-23  
Re-Test Date 2030-07-05

Glentham Life Sciences confirm that the above referenced product conformed to the information displayed in this document on the quality release date. Please check [www.glentham.com](http://www.glentham.com) or contact us using the details above for the current version of this document.

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