

## Certificate of Analysis

Product Name	L-Tryptophan		
Batch No	21090101	Standard	USP
Production Date	2021-09-01	Expiration Date	2024-08-31
Quantity	500KGS	Packing	25 KG/DRUM

Item	Specification	Result
Appearance	White crystalline or crystalline powder	Conforms
Identification	Infrared Absorption	Conforms
Specific rotation $[\alpha]_{D20}$	-29.4 to -32.8°	-30.4°
pH	5.5 to 7.0	6.3
Loss on drying	Not more than 0.3%	0.16%
Residue on ignition	Not more than 0.10%	0.05%
Chloride (Cl)	Not more than 0.05%	Conforms
Sulfate(SO <sub>4</sub> )	Not more than 0.03%	Conforms
Iron(Fe)	Not more than 30ppm	Conforms
Heavy metals	Not more than 15ppm	Conforms
Lead	Not more than 3ppm	Conforms
Arsenic(as As <sub>2</sub> O <sub>3</sub> )	Not more than 1ppm	Conforms
Mercury	Not more than 0.1ppm	Conforms
Cadmium	Not more than 1ppm	Conforms
Assay	98.5% to 101.5%	99.7%
Total Plate Count	Not more than 1000cfu/g	Conforms
Yeast and Mould	Not more than 100cfu/g	Conforms
E.Coli	Negative	Negative
Salmonella	Negative	Negative
S.aureus	Negative	Negative
Conclusion	Conforms	

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