


CERTIFICATE OF ANALYSIS

Product Name:	L-Serine	Report Date:	Jun 04, 2017
Formula:	C ₃ H ₇ NO ₃	Batch No.:	170601
CAS No.:	56-45-1	Manu. Date:	Jun 01, 2017
Inspection Standard:	USP38	Exp. Date:	May 31, 2019

RESULTS OF ANALYSIS

Test Items	Specifications	Results
Appearance	White crystalline powder	Conforms
Identification	Infrared Absorption	Conforms
Specific rotation $[\alpha]_D^{25}$	+14.0 to +15.6°	+14.4°
Loss on drying	Not more than 0.2%	0.03%
Residue on ignition(sulfated)	Not more than 0.1%	0.05%
Chloride (Cl)	Not more than 0.03%	<0.02%
Sulfate (SO ₄)	Not more than 0.05%	<0.03%
Iron(Fe)	Not more than 30ppm	< 30ppm
Heavy metals (Pb)	Not more than 15ppm	<15ppm
Lead	Not more than 3ppm	<3ppm
Chromatographic purity	Not more than 0.5% of any individual impurity is found Not more than 2.0% of total impurities is found	Conforms
Residual Solvents	Meet the Requirements	Conforms
Assay	98.5 to 101.5%(Calculated on the dried basis)	99.3%
Conclusion:	Conforms to the specifications of USP38 	

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