


CERTIFICATE OF ANALYSIS

Product Name:	L-Cysteine HCl Monohydrate	Report Date:	Mar 20, 2017
Formula:	C ₃ H ₇ NO ₂ S•HCl•H ₂ O	Batch No.:	170317
CAS No.:	7048-04-6	Manu. Date:	Mar 17, 2017
Inspection Standard:	USP38	Exp. Date:	Mar 16, 2019

RESULTS OF ANALYSIS

Test Items	Specifications	Results	Test Methods
Appearance	White crystals or crystalline powder	Conforms	Visual
Identification	Infrared Absorption	Conforms	IR
Specific rotation $[\alpha]_{\text{D}}^{25\text{P}}$	+5.7 to +6.8°	+6.2°	USP-781S
Loss on drying	8.0% to 12.0%	10.0%	USP-731
Residue on ignition(Sulfated)	Not more than 0.4%	<0.05%	USP-281
Sulfate(SO ₄)	Not more than 0.03%	<0.03%	USP-221
Iron(Fe)	Not more than 30ppm	< 10ppm	USP-241
Heavy metals(Pb)	Not more than 15ppm	<15ppm	USP-231
Lead	Not more than 3ppm	<3ppm	AFS
Chromatographic purity	Not more than 0.5% of any individual impurity Not more than 2.0% of total impurities is found	Conforms	USP
Residue solvents	Meets the requirements	Meets the requirements	USP
Assay	98.5 to 101.5 %	100.1%	USP-ASSAY
Particle size	100% through 12 mesh	Conforms	Sieve
Conclusion:	Conforms to the specifications of USP38 		

Analyst: **侯健之**Auditor: **辽薛兰**Chief of QC: **于铁梅**