

# Shine Star (Hubei) Biological Engineering Co., Ltd.

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## CERTIFICATE OF ANALYSIS

Product Name:	L-Cysteine Hydrochloride		
CAS No.:	7048-04-6		
Quantity:	Sample	Manufacture Date:	Dec. 15, 2011
Batch No.:	57113697	Analysis Date:	Dec. 19, 2011
Quality Standard:	USP31	Expiry Date:	Dec. 14, 2012
Test Items	Limit	Result	
Appearance	white crystalline powder or colourless crystals	conform	
Identification	as per USP31	conform	
Specific rotation	+5.7° to +6.8°	+6.34°	
Loss on drying	8.0% to 12.0%	10.11%	
Residue on ignition	not more than 0.4%	0.04%	
Sulfate	not more than 0.03%	<0.03%	
Iron	not more than 0.003%	<0.003%	
Heavy metals	not more than 0.0015%	<0.0015%	
Chromatographic purity	as per USP31	conform	
Organic volatile impurities	as per USP31	conform	
Residual solvents	as per USP31	conform	
Assay	98.5% to 101.5%	99.93%	
Conclusion: The products conform to USP31 standard.			
Analyst: 涂静 胡昌清 张冰 万东静		Verifier: 郭刚	
Storage: Preserve in well-closed containers and protected from light			