

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

Headquarters: No. 1 Yanjiang Road, Gong An, Jingzhou, Hubei, 434300 P. R. China  
Tel: +86-27 8578 6222 Fax: +86-27 8578 6555  
E-mail: sales@Shine-Star.com.cn www.Shine-Star.com.cn

## CERTIFICATE OF ANALYSIS

Product Name:	L-Arginine	CAS No.:	74-79-3
Quantity:	Sample	Manufacture Date:	Dec. 15, 2011
Batch No.:	52111207	Analysis Date:	Dec. 20, 2011
Quality Standard:	USP31	Expiry Date:	Dec. 14, 2013
Test Items	Limit	Result	
Appearance	white or almost white crystalline powder or colorless crystals	conform	
Identification	as per USP31	conform	
Specific rotation	+26.3° to +27.7°	+27.2°	
Loss on drying	not more than 0.5%	0.2%	
Residue on ignition	not more than 0.3%	0.04%	
Chloride	not more than 0.05%	<0.05%	
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%	99.5%	
Conclusion: The products conform to USP31 standard.			
Analyst: 李静 胡昌清 张冰 万东静		Verifier: 郭刚	
Storage: Preserve in well-closed containers and protected from light			