

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-Leucine	CAS No.:	61-90-5
Quantity:	Sample	Manufacture Date:	Dec. 06, 2011
Batch No.:	55111120	Analysis Date:	Dec. 10, 2011
Quality Standard:	AJ192	Expiry Date:	Dec. 05, 2013
Test Items	Limit	Result	
Identification	as per AJ192	conform	
Appearance	White crystals or crystalline powder	conform	
Specific rotation $[\alpha]^{20}_D$	+14.9° to +16.0°	+15.5°	
State of solution	clear and colorless	99.1%	
	not less than 98.0%		
Chloride (Cl)	not more than 0.02%	<0.02%	
Ammonium (NH ₄)	not more than 0.02%	<0.02%	
Sulfate (SO ₄)	not more than 0.02%	<0.02%	
Iron (Fe)	not more than 10ppm	<10ppm	
Heavy metals (Pb)	not more than 10ppm	<10ppm	
Arsenic (As ₂ O ₃)	not more than 1ppm	<1ppm	
Other amino acids	conforms	conform	
Loss on drying	not more than 0.2%	0.14%	
Residue on Ignition	not more than 0.1%	0.04%	
Assay	99.0% to 100.5%	99.79%	
pH	5.5 to 6.5	6.0	
Conclusion: The products conform to AJ192 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			