



N&R INDUSTRIES, INC

Certification of Analysis

Product name	L-Proline	Country of Origin	China
CAS No	147-85-3	Reference standard	AJI92
Batch Size	1000KG	Batch Number	20120729
Manufacture Date	July 29, 2012	Expiry Date	July 28, 2014

Items	Specification (AJI 92 Standard)	Results
Description	White crystals or crystalline powder	conforms
Identification (IR)	Concordant with the reference spectrum	conforms
Assay	98.5%~101.0%	99.8%
Specific rotation$[\alpha]_D^{20}$	-84.5°~ -86.0°	-85.1°
pH	5.9 ~ 6.9	6.4
State of solution	≥98.0%(Transmittance T430)	99.4%
Chloride(Cl)	≤0.02%	<0.02%
Sulfate(SO4)	≤0.02%	<0.02%
Ammonium(NH4)	≤0.02%	<0.02%
Other amino acids	conforms	conforms
Loss on drying	≤0.30%	0.11%
Residue on ignition	≤0.10%	0.04%
Iron(Fe)	≤0.001%	<0.001%
Heavy metals(Pb)	≤0.001%	<0.001%
Arsenic(As)	≤0.0001%	<0.0001%

Conclusion: The product conforms with AJI92 standard.

Q.C.: Niu Lanlan

