



HAIHANG INDUSTRY CO., LTD.
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CERTIFICATE OF ANALYSIS

Product Name:	L-Pyroglutamic acid		
CAS No.:	98-79-3	Quantity	100KG
Rep Date	Jan.02.2014	Batch NO.	201400102
MFG. Date	Jan.02.2014	Expiry Date	Jan.01.2016

Item	Specifications	Results
Appearance	Off-White crystalline powder	Conforms
Specific rotation (α) D20 (C=2, H2O)	-10.5° to -11.8°	-11.6°
Melting point (°C)	158°C to 161°C	159.5°C
Chloride (Cl)	Not more than 0.02%	0.01%
Ammonium (NH ₄)	Not more than 0.02%	<0.02%
Sulfate (SO ₄)	Not more than 0.05%	0.005%
Heavy metals (Pb)	Not more than 10ppm	10ppm
Iron (Fe)	Not more than 20ppm	8ppm
Arsenic (As ₂ O ₃)	Not more than 1ppm	< 1ppm
Loss on drying	Not more than 0.50%	0.39%
Residue on ignition	Not more than 0.2%	0.07%
Assay	98.0-101.0%	99.3%
Conclusion	The results conforms with enterprise standards	

Analyst:Liya

Checker:Weichen

Q.C.Director:Xuleilei

For and on behalf of
HAIHANG INDUSTRY CO., LTD.


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Authorized Signature(s)