

## Certificate of Analysis

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Ingredient Name: Acetyl-L-Carnitine HCl  
Batch Number: 10100420171106  
Quantity: 1000KGS  
Country of Origin: China  
Date of Manufacture: Nov.06, 2017  
Date of Re-Test : Nov.05, 2019

Item	Standard	Results	Method
Appearance	White crystalline powder	White crystalline powder	Organoleptic
Identification	IR	Positive	USP
Appearance of Solution	Clear and Colourless	Clear and Colourless	Ph.Eur.
Specific Rotation	-26.0°~-29.0°	-27.99°	USP
pH	2.3~2.6	2.36	USP
Loss on Drying	≤0.5%	0.37%	USP
Assay	98.5%~102.0%	100.40%	Titration
Residue on Ignition	≤0.5%	0.05%	USP
Heavy Metals	≤10ppm	<10ppm	USP
Arsenic	≤1ppm	<1ppm	USP
Cyanide	Absent	Absent	Ch.P.
Lead	≤3ppm	<3ppm	USP
Mercury	≤0.1ppm	<0.1ppm	USP
Cadmium	≤1ppm	<1ppm	USP
Particle Size	Report only	100.0%Through 20 mesh	USP
Bulk Desity	Report only	0.63g/ml	USP
Tapped Desity	Report only	0.73g/ml	USP

We certify that this batch of Acetyl-L-Carnitine HCl conforms to Inhouse Standards.