

CERTIFICATE OF ANALYSIS

Product	ACETYL-L-CARNITINE HCL
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Batch	Manufacturer	Manufactured	Expiration
ALC241205	35ZAIX	30/11/2024	29/11/2028

Parameter	Specification	Result
Appearance	White crystal or white crystalline powder	White crystalline powder
Identification	IR: conform to the reference IR spectrum	Conforms
PH	2.3-2.6	2.5
Specific rotation (°)	-27.0~-28.5	-28.1
Loss on drying (%)	≤0.5	0.2
Residue on ignition (%)	≤0.5	0.05
Heavy metals (ppm)	≤10	<10
Cd (ppm)	≤1	<1
Pb (ppm)	≤3	<3
Hg (ppm)	≤0.1	<0.1
As (ppm)	≤1	<1
Total plate count (cfu/g)	≤1,000	<10
Yeast and moulds (cfu/g)	≤100	<10
E.Coli	Negative	Negative
Salmonella	Negative	Negative
Enterobacteriaceaes	Negative	Negative
Staphylococcus aureus	Negative	Negative
Croton Betaine HCl (%)	≤0.2	0.030
L-Carnitine Hydrochloride (%)	≤1.0	0.17
Assay (%)	98.0-102.0	99.2
Sum of ethylene oxide, ppm	≤0.01	<0.01
D-Carnitine (%)	≤0.1	Not detected