



大连汉德姆精细化学品有限公司

**DALIAN HANDOM CHEMICALS CO.,LTD.**

### Certificate of Analysis

**Product Name:** L-Carnitine

**CAS No.:** 541-15-1

**Molecular Formula:** C<sub>7</sub>H<sub>15</sub>NO<sub>3</sub>

**Molecular Weight:** 161.2

**Batch No.:** HDC20231110

**Manufacturing Date:** Nov 10<sup>th</sup>, 2023

**Packing:** 25Kg/Drum

**Batch Quantity:** 602.13kg

**Report Date:** Nov 18<sup>th</sup>, 2023

**Retest Date:** Nov 9<sup>th</sup>, 2025

Test Item	Specification	Test Result	Test Method
Appearance	White crystalline powder	Conforms	Visual
Identification	Meets the requirements	Conforms	Chemical
	Meets the requirements	Conforms	IR
Specific Rotation	-29°~ -32°	-30.6°	USP
pH Value	5.5 ~ 9.5	8.2	USP
Residue on Ignition	Not more than 0.5%	0.03%	USP
Water	Not more than 4.0%	0.2%	USP
Residual Solvents	Ethanol: Not more than 0.5%	0.02%	GC
	Acetone: Not more than 0.5%	Not detected	GC
Assay	97% ~ 103%	100.0%	USP
Heavy Metals	Not more than 10 ppm	<10 ppm	USP
Lead (Pb)	Not more than 1 ppm	Not detected	USP
Mercury (Hg)	Not more than 0.1 ppm	Not detected	USP
Cadmium (Cd)	Not more than 1 ppm	Not detected	USP
Chloride	Not more than 0.4%	<0.4%	USP
Arsenic (As)	Not more than 1 ppm	Not detected	USP
Potassium (K)	Not more than 0.2%	Not detected	USP
Sodium (Na)	Not more than 0.1%	Not detected	USP
Microorganisms	Total aerobic microbial count: Not more than 1000 CFU/g	10 CFU/g	USP
	Total number of moulds and yeasts: Not more than 100 CFU/g	10 CFU/g	USP
	Escherichia coli, Salmonella: Negative	Not detected	USP

**Conclusion:** The testing results of this batch are complied with the USP Specification.