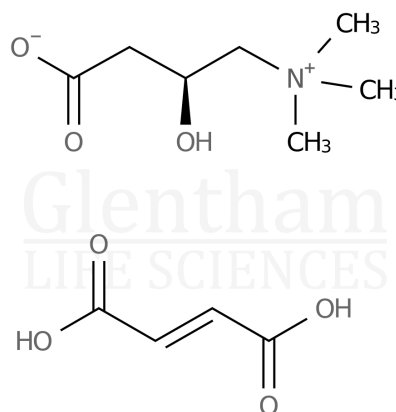


Certificate of Analysis

Product Name L-Carnitine fumarate
Glentham Code GX6145
CAS Number 90471-79-7
EINECS 291-749-4
MDL Number MFCD01631178
Additional CAS 541-15-1
Batch Number 454YSD

Molecular Weight 277.27
Molecular Formula $C_{15}H_{25}NO_7$
Storage Temp. +20°C



Property	Specification	Batch 454YSD
Physical Description	White crystalline powder	White crystalline powder
Solubility (5% in water)	Clear, colourless solution	Conforms
pH	3.0 - 4.0	3.3
Specific Optical Rotation	-18.5 - -16.5 °	-17.3°
Residue on Ignition	≤ 0.5%	0.05%
Heavy Metals	≤ 10ppm	≤ 10ppm
Cadmium (Cd)	≤ 1ppm	≤ 1ppm
Lead (Pb)	≤ 3ppm	≤ 3ppm
Mercury (Hg)	≤ 0.1ppm	≤ 0.1ppm
Arsenic (As)	≤ 1ppm	≤ 1ppm
Water	≤ 1.0%	0.058%
D-Enantiomer	≤ 1.0%	0.044%
L-Carnitine Content	56.5 - 60.5 %	58.1%
Assay	97.5 - 102.5 % (L-Carnitine + Fumaric acid, dried basis)	99.8%

Specification Version v1.0
Manufacture Date 2020-03-16
Re-Test Date 2029-01-05

Glentham Life Sciences confirm that the above referenced product conformed to the information displayed in this document on the quality release date. Please check www.glentham.com or contact us using the details above for the current version of this document.

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