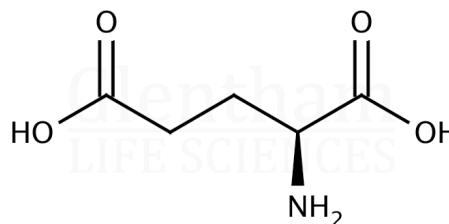


## Product Specification

Product Name	L-Glutamic acid, GlenCell™, suitable for cell culture
Glenthams Code	GM8976
CAS Number	56-86-0
EINECS	200-293-7
MDL Number	MFCD00002634
Molecular Weight	147.13
Molecular Formula	C <sub>5</sub> H <sub>9</sub> NO <sub>4</sub>
Storage Temp.	+20°C



Property	Specification
Physical Description	White crystalline powder
Identification	To pass tests
Solubility (5% in water)	Clear, colourless solution
pH (1% in water)	3.0 - 3.5
Transmittance	≥ 98.0% (5% in water, 430nm, 10mm cell)
Specific Optical Rotation ([α] <sub>20</sub> /D)	+31.5 - +32.2 °
Chloride (Cl)	≤ 0.02%
Sulphate (SO <sub>4</sub> )	≤ 0.02%
Ammonium (NH <sub>4</sub> )	≤ 0.02%
Iron (Fe)	≤ 10ppm
Arsenic (As <sub>2</sub> O <sub>3</sub> )	≤ 1ppm
Heavy Metals (as Pb)	≤ 5ppm
Any Individual Impurity	≤ 0.2%
Total Impurities	≤ 0.6%
Sulphated Ash	≤ 0.1%
Loss on Drying	≤ 0.5%
Endotoxins	≤ 6EU/g
Assay	99.0 - 101.0 % (dried basis)
Pharmacopoeia Specification(s)	EP
Origin	Non-animal origin

Specification Version	-	v1.0
Date Created	-	2017-12-22

Glenthams Life Sciences confirm that the above referenced product conformed to the information displayed in this document on the quality release date. Please check [www.glenthams.com](http://www.glenthams.com) or contact us using the details above for the current version of this document.

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