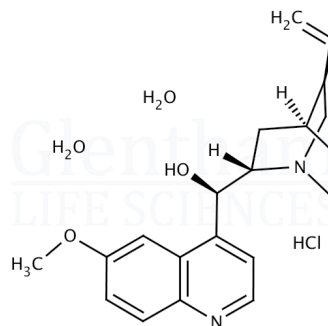


Certificate of Analysis

Product Name	Quinine hydrochloride dihydrate
Glentham Code	GA8217
CAS Number	6119-47-7
EINECS	205-001-1
MDL Number	MFCD00078498
Additional CAS	130-89-2
Additional CAS	60-93-5 ($\cdot 2\text{HCl}$)
PubChem SID	310279542
Batch Number	093VWX

Molecular Weight	396.91
Molecular Formula	$\text{C}_{20}\text{H}_{24}\text{N}_2\text{O}_2 \cdot \text{HCl} \cdot 2\text{H}_2\text{O}$
Storage Temp.	+20°C



Property	Specification	Batch 093VWX
Physical Description	White or almost white crystalline powder	Conforms
Identification	Identification tests A, B, C, D, E	Conforms
Appearance of Solution	Clear, and colour $\leq \text{Y6}$	Conforms
pH (1% in water)	6.0 - 6.8	6.3
Specific Optical Rotation	-245 - -258 °	-251°
Other Cinchona Alkaloids	Dihydroquinine hydrochloride: $\leq 10.0\%$	5.3%
	Any impurity eluted before quinine: $\leq 5.0\%$	1.9%
	Any Other Impurity: $\leq 2.5\%$	0.0%
Loss on Drying	6.0 - 10.0 %	7.0%
Sulphated Ash	$\leq 0.1\%$	$\leq 0.1\%$
Sulphates	$\leq 500\text{ppm}$	Conforms
Barium Test	No turbidity produced	Conforms
Heavy Metals	$\leq 10\text{ppm}$	Conforms
Assay	99.0 - 101.0 %	99.4%
Pharmacopoeia Specification(s)	Conforms to BP, EP	Conforms to BP2019, Ph. Eur. 9.0

Specification Version	v1.0
Manufacture Date	2017-11-13
Re-Test Date	2028-04-30

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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