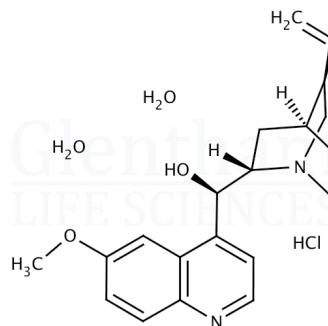


## Certificate of Analysis

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	690UFJ

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 690UFJ
Physical Description	White or almost white crystalline powder	Almost white crystalline powder
Identification	Identification tests A, B, C, D, E	Conforms
Appearance of Solution	Clear, and colour $\leq$ Y6	Conforms
pH (1% in water)	6.0 - 6.8	6.2
Specific Optical Rotation	-245 - -258 °	-250°
Other Cinchona Alkaloids	Dihydroquinine hydrochloride: $\leq$ 10.0%	5.2%
	Any impurity eluted before quinine: $\leq$ 5.0%	1.6%
	Any Other Impurity: $\leq$ 2.5%	0.0%
Loss on Drying	6.0 - 10.0 %	7.4%
Sulphated Ash	$\leq$ 0.1%	Conforms
Sulphates	$\leq$ 500ppm	Conforms
Barium Test	No turbidity produced	Conforms
Heavy Metals	$\leq$ 10ppm	Conforms
Assay	99.0 - 101.0 %	99.8%
Pharmacopoeia Specification(s)	Conforms to BP, EP	Conforms

Specification Version	v1.0
Manufacture Date	2023-06-30
Re-Test Date	2033-05-28

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](http://www.glentham.com) or contact us using the details above for the current version of this document.

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