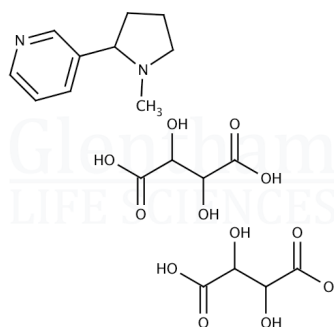


Certificate of Analysis

Product Name	(-)-Nicotine hydrogen tartrate salt
Glentham Code	GL9693
CAS Number	65-31-6
EINECS	200-607-2
MDL Number	MFCD00069368
Additional CAS	6019-06-3 ($\cdot 2\text{H}_2\text{O}$)
Additional CAS	2624-48-8
Additional CAS	54-11-5 (base)
PubChem SID	295369473
Batch Number	470RKB



Molecular Weight	462.41 (anhydrous)
Molecular Formula	$\text{C}_{10}\text{H}_{14}\text{N}_2 \cdot 2\text{C}_4\text{H}_6\text{O}_6$ (anhydrous)
Storage Temp.	+4°C

Property	Specification	Batch 470RKB
Physical Description	White to almost white powder	Conforms
Solubility	10% in water: Soluble	Conforms
	1% in 96% ethanol: Slightly soluble	Conforms
Identification	IR	Conforms
pH (10% in water)	3.0 - 3.4	3.02
Specific Optical Rotation	+21.0 - +23.0 ° (1% in water)	+21.6°
Related Substances (HPLC)	Any Specified Impurity: $\leq 0.3\%$	$\leq 0.05\%$ (each)
	(Continine, Myosmine, Nicotine-N-oxide, beta-Nicotyrine, Anatabine, Anabasine, Normicotine)	
	Unspecified Impurity: $\leq 0.1\%$	0.08%
	Total Impurities: $\leq 0.8\%$	0.14%
Water	6.9 - 8.0 %	7.6%
Sulphated Ash	$\leq 0.1\%$	0.05%
Assay (HPLC)	98.5 - 101.5 % (anhydrous basis)	100.8%
Residual Solvents	Ethanol: $\leq 5000\text{ppm}$, Methanol: $\leq 3000\text{ppm}$	Ethanol: 272ppm, Methanol: 81ppm
Pharmacopoeia Specification(s)	EP	Conforms

Specification Version	v1.1
Manufacture Date	2013-10-19
Re-Test Date	2026-09-11

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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