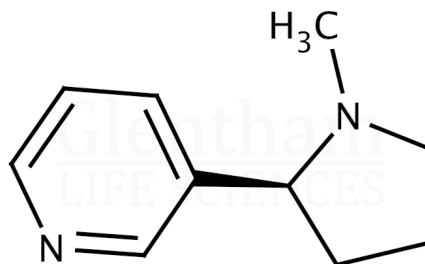


Certificate of Analysis

Product Name S-(-)-Nicotine
Glentham Code GK9991
CAS Number 54-11-5
EINECS 200-193-3
MDL Number MFCD00006369
PubChem SID 310277761
Batch Number 796UEZ

Molecular Weight 162.24
Molecular Formula $C_{10}H_{14}N_2$
Storage Temp. +4°C



Property	Specification	Batch 796UEZ
Physical Description	Colourless or brownish viscous liquid	Clear, colourless to light-yellow liquid
Assay	99.0 - 101.0 % (anhydrous)	99.45%
Solubility	Soluble in water, miscible with anhydrous ethanol	Conforms
Appearance of Solution	1g/10ml in water, Colour: < Y5, BY5 or R5	Conforms
Specific Optical Rotation	-140 - -152 ° (1g/50ml in ethanol)	-143 °
Water	≤ 0.5%	0.12%
Identification	IR	Conforms
	UV	Conforms
Ethanol	≤ 0.5%	Conforms
Hexane	≤ 0.03%	Conforms
Heavy Metals	≤ 10ppm	Conforms
Heavy Metals	≤ 10ppm	Conforms
Sulphated Ash	≤ 0.1%	Conforms
Impurities	Nicotine-trans-N-oxide: ≤ 0.2%	Not detected
	Nicotine-cis-N-oxide: ≤ 0.2%	Not detected
	Myosmine: ≤ 0.5%	0.056%
	Continine: ≤ 0.2%	Not detected
	beta-Nicotyrine: ≤ 0.2%	Not detected
	Nornicotine: ≤ 0.5%	0.020%
	Anabasine: ≤ 0.3%	0.026%
	Anatabine: ≤ 0.3%	0.023%
	Total Nicotine-N-oxides: ≤ 0.3%	Not detected
Any Unspecified Impurity	≤ 0.1%	Not detected
Total Impurities	≤ 1.0%	0.12%
Pharmacopoeia Specification(s)	EP	Conforms to EP

Specification Version v1.0
Manufacture Date 2019-10-05

Certificate of Analysis

Re-Test Date 2027-09-25

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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