



CERTIFICATE OF ANALYSIS

(Nicotine)

No.	: 158/2016	Date of Issuing	: 14/07/2016
Product Name	: NICOTINE	Batch Number	: 469102707067
Date of Manufacturing	: 07/07/2016	Batch Size	: 620.000 Liter
Date of Expiry	: 06/07/2021	Dispatch Quantity	: 600.000 Liter

Analytical Protocol Reference: 4691.05/Y-Rev.00

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Test	Specification	Result
Character	Description (Visual test)	
	A colourless or brownish viscous liquid, volatile, hygroscopic	A colourless viscous liquid, volatile, hygroscopic
Identification	UV Spectrum (UV spectrophotometer)	
	UV Spectrum of sample should correspond to UV spectrum of standard.	UV Spectrum of sample corresponds to UV spectrum of standard.
Specific rotation (α)²⁵_D (Polarimeter)	(-) ^{130°} to (-) ^{143°} (calculated on anhydrous basis)	(-) ^{136.1°}
Water (Karl Fischer titration)	NMT 0.5%	0.09%
Related substances (Liquid Chromatography)		
Anatabine (EP Impurity A)	: NMT 0.3%	Less than 0.05%*
β -nicotyrine (EP Impurity B)	: NMT 0.3%	Less than 0.05%*
Cotinine (EP Impurity C)	: NMT 0.3%	Less than 0.05%*
Myosmine (EP Impurity D)	: NMT 0.3%	0.07%
Nicotine-N-Oxide (EP Impurity E)	: NMT 0.3%	Less than 0.05%*
Normicotine (EP Impurity F)	: NMT 0.3%	0.07%
Anabasine (EP Impurity G)	: NMT 0.3%	Less than 0.05%*
Unspecified impurities (for each impurity)	: NMT 0.10%	Less than 0.05%*
Total impurities	: NMT 0.8%	0.15%
Chromatographic Purity (by GC)		
i) Single impurity	: NMT 0.5%	Less than 0.5%
ii) Total impurities	: NMT 1.0%	Less than 1.0%
Assay (Potentiometer)	99.0% to 101.0% (calculated on anhydrous basis)	99.9%

* Disregard limit of impurity is 0.05%

Evaluation: Product corresponds with the requirements of the stipulated specification.

Storage Conditions: Store under nitrogen in well closed containers below 20 °C protected from light and moisture.

Transportation Temperature: Below 30°C.

14/07/16
Prepared by

14/07/16
Checked by

14/07/16
Manager Q.C.

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