

Test report no. AR-14-JK-025656-01

Name and address of the Client:

CHEMNOVATIC

Ławecki Gęca Sp. j.
Dobrzańskiego 3, lok. BS002
20-262 Lublin

Sample received: 14.01.2014

Analysis finished: 20.03.2014

Sample

Sample description: PHARMACEUTICAL GRADE NICOTINE 51/13/NIC

Batch: 131125/NIC

Production date: 20.11.2013

Expiry date: 19.11.2015

Type: nicotine

Sample weight: no data

Sample condition: no data

Reception temperature: no data

Internal sample code: P20.01.14

Client order no.: no data

Client order date: 03.12.2013

Sampled by the Client/ **Contractor***

Delivered by the Client/ **Contractor***

No.	Type of analysis	Method	Results
1.	Appearance (visual)	EP 8.0, visual	PA brownish viscous liquid
	Appearance of solution		
2.	Colour	EP 8.0, method 2.2.1 + 2.2.2	PA < BY5
3.	Clarity		PA clear against water
4.	Identification (IR) - infrared spectrum	EP 8.0, method 2.2.24	PA corresponds
5.	Specific optical rotation	USP36 / NF31, method <781S>	PA -143°
6.	Specific optical rotation	EP 8.0, method 2.2.7	PA -149°
7.	Water	EP 8.0, method 2.5.12	PA 0,1 %
8.	Heavy metals (as Lead)	USP36 / NF31, <231>, method II	PA passes test
	Related substances		PA corresponds/see below
9.	Impurity A- Anatabin	EP 8.0, method 2.2.29	PA < 0,3 %
10.	Impurity B- Beta-nicotyrin		PA < 0,3 %
11.	Impurity C- Cotinin		PA < 0,3 %
12.	Impurity D- Myosmin		PA < 0,3 %
13.	Impurity E- Nicotin N'-oxid		PA < 0,3 %
14.	Impurity F- Nornicotin		PA < 0,3 %
15.	Impurity G- Anabasin		PA < 0,3 %
16.	Impurity A, B, C, D, E, F, G		PA < 0,3 %
17.	individual impurity		PA < 0,10 %
18.	All impurities (total)		PA < 0,8 %
19.	Chromatographic purity	USP36 / NF31, monograph, GC	PA corresponds

„PA” – accredited tests done by a subcontractor, „PN” – unaccredited tests done by a subcontractor.

The test results refer exclusively to the sample analyzed. Test reports without written permission of the Nuscana company can be duplicated only as a whole. The Client has the right to complain in 14 days after receiving the test report. Test report was made in two copies (one for the Client, second for Nuscana).

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20.	individual impurity		PA	< 0,5 %
21.	total impurity		PA	< 1,0 %
22.	Assay calculated on the anhydrous substance	EP 8.0, titration, according to monograph	PA	99,9 %
23.	Identification UV (Ultraviolet Absorption)	USP36 / NF31, <197U>	PA	corresponds

NOTES:

The report contains 23 test results.

Document preparation date: 25.03.2014	Verified by: <i>Julia Cychnerska</i>
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NUSCANA F.H.P.
Aleksandra Szeńko - Dąbrowska
60-184 Poznań, ul. Miastkowska 9
tel.: 61/867 1943
NIP 779-104-22-62, Regon 639614517

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