

ISO 19290:2016-12 (E)

Cigarettes - Determination of tobacco specific nitrosamines in mainstream cigarette smoke - Method using LC-MS/MS

Contents	Page
Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Principle	2
5 Apparatus	2
6 Reagents	2
7 Preparation	3
7.1 Preparation of glassware	3
7.2 Preparation of solutions	3
7.3 Preparation of standards	4
7.3.1 General	4
7.3.2 Preparation of internal standard solutions	4
7.3.3 Preparation of calibration standard solutions	4
8 Sampling	6
9 Tobacco product preparation	6
10 Sample generation -- Smoking of cigarettes	6
10.1 General	6
10.2 Linear smoking	6
10.3 Rotary smoking	6
11 Sample analysis	6
11.1 Preparation of sample	6
11.1.1 General	6
11.1.2 Extraction for linear smoking (44 mm pad)	6
11.1.3 Extraction for rotary smoking (92 mm pad)	6
11.1.4 Final sample preparation	6
11.2 Reversed phase high performance liquid chromatography	7
11.2.1 General	7
11.2.2 HPLC set-up parameters (Example)	7
11.2.3 Mobile phase (Example)	7
11.2.4 Mobile phase: Gradient (Example)	7
11.2.5 MS/MS Set-up parameters (Example)	7
11.3 Calculation	8
11.3.1 Calibration curve	8
11.3.2 Determination of the TSNA concentrations	9
11.3.3 Sample quantification	9
11.3.4 Determination of mainstream smoke TSNA deliveries	9

12	Repeatability and reproducibility	9
13	Test report	11
	Annex A (informative) Example of typical chromatograms	12
	Bibliography	14