ISO 23922:2020 (E)

Cigarettes — Determination of selected carbonyls in the mainstream smoke of cigarettes with an intense smoking regime — Method using high performance liquid chromatography

Contents

Foreword

Introduction

1 Scope

2 Normative references

3 Terms and definitions

4 Principle

5 Apparatus

6 Reagents

7 Preparation

7.1 Preparation of glassware
7.2 Preparation of solutions
7.3 Preparation of standards
7.3.1 HPLC calibration standards and working solutions
7.3.1.1 Primary carbonyl standards
7.3.1.2 Secondary carbonyl standards
7.3.2 Carbonyl working standards

8 Sampling

9 Tobacco product preparation

10 Sample generation — Smoking of cigarettes

10.1 General
10.2 Smoking machine setup
10.3 Smoking
10.3.1 General
10.3.2 Linear smoking
10.3.3 Rotary smoking

11 Sample analysis

11.1 Preparation of mainstream smoke extract solution
11.2 Reversed phase high performance liquid chromatography
11.2.1 Chromatographic conditions
11.2.2 Mobile phase reagents
11.2.3 HPLC separation conditions
11.3 Calculation
11.3.1 Calibration curve
11.3.2 Sample quantification

12 Repeatability and reproducibility

12.1 General
12.2 Results from the 2012 collaborative study

13 Test report

Annex A **(informative) Recrystallization of 2,4-dinitrophenylhydrazine**

Annex B **(normative) Example of calibration standards preparation**

Annex C **(informative) HPLC chromatogram of a typical combined carbonyl calibration standard**

Annex D **(informative) HPLC chromatogram of carbonyls in DNPH extract of mainstream cigarette smoke**

Page count: 18