SLOVENSKI STANDARD
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Cigarete - Določanje vode v dimnem kondenzatu - 2. del: Karl Fischerjeva metoda

Cigarettes - Determination of water in smoke condensates - Part 2: Karl Fischer method

Cigarettes - Dosage de l'eau dans les condensats de fumée - Partie 2: Méthode de Karl Fischer

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INTERNATIONAL STANDARD

ISO 10362-2

Second edition
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Cigarettes — Determination of water in smoke condensates —

Part 2: Karl Fischer method

Cigarettes — Dosage de l'eau dans les condensats de fumée —

Partie 2: Méthode de Karl Fischer

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ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

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Contents

Page

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2. www.iso.org/directives

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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

The committee responsible for this document is ISO/TC 126, *Tobacco and tobacco products.*

This second edition cancels and replaces the first edition (ISO 10362-2:1994), which has been technically revised.

ISO 10362 consists of the following parts, under the general title *Cigarettes — Determination of water in smoke condensates*:

— *Part 1: Gas-chromatographic method*

— *Part 2: Karl Fischer method*

Introduction

No machine smoking regime can represent all human smoking behaviour:

— it is recommended that cigarettes also be tested under conditions of a different intensity of machine smoking than those specified in this International Standard;

— machine smoking testing is useful to characterize cigarette emissions for design and regulatory purposes, but communication of machine measurements to smokers can result in misunderstandings about differences in exposure and risk across brands;

— smoke emission data from machine measurements may be used as inputs for product hazard assessment, but they are not intended to be nor are they valid as measures of human exposure or risks. Communicating differences between products in machine measurements as differences in exposure or risk is a misuse of testing using ISO standards.

Cigarettes — Determination of water in smoke condensates —

Part 2: Karl Fischer method

1 Scope

This part of ISO 10362 specifies the use of the Karl Fischer method for the determination of water in cigarette smoke condensates. The smoking of cigarettes and collection of mainstream smoke are normally carried out in accordance with ISO 4387. However, the method is also applicable to the determination of water in smoke condensates obtained by non-standard smoking.

NOTE ISO 4387 specifies the use of gas chromatography for the determination of water in smoke condensate solutions (see also ISO 10362-1). In countries not in a position to use the gas-chromatographic method, the determination of water in smoke condensate can be performed by the method described in this part of ISO 10362 and an appropriate note made in the expression of the results.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 3308, *Routine analytical cigarette-smoking machine — Definitions and standard conditions*

ISO 4387, *Cigarettes — Determination of total and nicotine-free dry particulate matter using a routine analytical smoking machine*

ISO 3696, *Water for analytical laboratory use — Specification and test methods*

3 Principle

Dissolution of the smoke condensate from the mainstream smoke in a solvent. Determination of the water content of an aliquot of the solution by titration with standardized Karl Fischer reagent.

4 Reagents

Use only reagents of recognized analytical reagent grade and distilled water complying with grade 2 of ISO 3696 or better.

4.1 Propan-2-ol, $(CH_3)_2CHOH$, extraction solvent.

NOTE Propan-2-ol normally contains a small amount of water which is determined as a blank as outlined in the procedure. It is not recommended that specially dried solvent (e.g. using a molecular sieve) should be used since in this state it is extremely hygroscopic and further handling problems are introduced.

4.2 Karl Fischer reagent (KFR), which can be obtained commercially in two forms:

a) as a single reagent with an initial water equivalent of approximately 5 mg/ml; this value decreases on storage;

