SIGARETID
Nikotiinisisalduse määramine suitsukondensaatides
Gaaskromatograafiline meetod

Cigarettes
Determination of nicotine in smoke condensates
Gas-chromatographic method
(ISO 10315:2013)

EVS

EESTI STANDARDIKESKUS
ESTONIAN CENTRE FOR STANDARDISATION

EESTI STANDARDI EESSÕNA	NATIONAL FOREWORD
See Eesti standard EVS-ISO 10315:2013 „Sigaretid. Nikotiinisisalduse määramine suitsukondensaatides. Gaaskromatograafiline meetod“ sisaldab rahvusvahelise standardi ISO 10315:2013 „Cigarettes – Determination of nicotine in smoke condensates – Gas-chromatographic method“ identset ingliskeelset teksti.	This Estonian Standard EVS-ISO 10315:2013 consists of the identical English text of the International Standard ISO 10315:2013 „Cigarettes – Determination of nicotine in smoke condensates – Gas-chromatographic method“.
Ettepaneku rahvusvahelise standardi ümbertrüki meetodil ülevõtuks on esitanud Sotsiaalministeeriumi rahvatervise osakond, standardi avaldamist on korraldanud Eesti Standardikeskus.	Proposal to adopt the International Standard by reprint method has been presented by the Public Health Department of the Ministry of Social Affairs, the Estonian standard has been published by the Estonian Centre for Standardisation.
Standard EVS-ISO 10315:2013 on jõustunud sellekohase teate avaldamisega EVS Teataja 2013. aasta novembrikuu numbris.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Käsitlusala

See rahvusvaheline standard kirjeldab, kuidas määrata nikotiinisisaldust sigaretisuitsu kondensaatides gaaskromatograafilisel meetodil. Sigarettide suitsetamine ja suitsuvoo kogumine käib tavaliselt vastavalt standardile ISO 4387.

MÄRKUS 1 Selles rahvusvahelises standardis kirjeldatud meetod kehtib ka ebastandardsel suitsetamisel kogutud sigaretisuitsu kondensaatides nikotiinisisalduse kindlaks määramisel.

MÄRKUS 2 Riikides, kus ei kasutata gaaskromatograafilist meetodit, tuleks nikotiinsete alkaloidide kogusisalduse määramisel lähtuda standardist ISO 3400. Sellistel juhtudel võib standardis ISO 3400 kirjeldatud meetodil kogutud väärtusi kasutada tulemuste esitamisel koos vastava lisamärkusega.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 65.160

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 10315 was prepared by Technical Committee ISO/TC 126, *Tobacco and tobacco products*.

This third edition cancels and replaces the second edition (ISO 10315:2000), which has been technically revised. It also incorporates the Amendment ISO 10315:2000/Amd 1:2011 and the Technical Corrigendum ISO 10315:2000/Cor 1:2000.

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Introduction

This International Standard may be considered as part of a set produced by ISO/TC 126 which describes the determination of total and nicotine-free dry particulate matter (NFDPM) in cigarette smoke condensates. The set comprises:

ISO 3308, ISO 3402, ISO 4387, ISO 8243, ISO 10315, and ISO 10362-1.

A related International Standard, ISO 3400, determines total alkaloids, whereas this International Standard determines only nicotine by virtue of the gas-chromatographic separation. Occasionally, differences can occur because of minor amounts of alkaloids other than nicotine in some types of tobacco.

Annex A provides information about the use of this method in conjunction with or simultaneously with the gas-chromatographic method of water determination specified in ISO 10362-1.

A bibliography is provided.

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.

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Cigarettes — Determination of nicotine in smoke condensates — Gas-chromatographic method

WARNING — The use of this International Standard can involve hazardous materials, operations, and equipment. This International Standard does not purport to address all the safety problems associated with its use. It is the responsibility of the user of this International Standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

1 Scope

This International Standard specifies a method for the gas-chromatographic determination of nicotine in cigarette smoke condensates. The smoking of cigarettes and the collection of mainstream smoke are normally carried out in accordance with ISO 4387.

NOTE 1 The method specified in this International Standard is also applicable to the determination of nicotine in cigarette smoke condensates obtained by non-standard smoking.

NOTE 2 In countries not in a position to use the gas-chromatographic method, reference should be made to ISO 3400 for the determination of total nicotine alkaloids. In such cases, values obtained using the method described in ISO 3400 may be used with the addition of a note in the expression of 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 4387, *Cigarettes — Determination of total and nicotine-free dry particulate matter using a routine analytical smoking machine*

3 Principle

The smoke condensate from the mainstream smoke is dissolved in a solvent containing an internal standard. The nicotine content of an aliquot of the solution is determined by gas chromatography, and the nicotine content of the whole of the smoke condensate is calculated.

4 Reagents

Use only reagents of recognized analytical reagent grade.

4.1 Carrier gas: helium (CAS: 7440-59-7) or nitrogen (CAS: 7727-37-9) of high purity (at least 99,999 %).

4.2 Auxiliary gases: air and hydrogen (CAS: 1333-74-0) of high purity (at least 99,999 %) for the flame ionization detector.

4.3 Propan-2-ol (CAS: 67-63-0), with maximum water content of 1,0 mg/ml.

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