SLOVENSKI STANDARD
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Notranji zrak - 38. del: Določevanje aminov v notranjem zraku in preskusni komori - Aktivno vzorčenje z vzorčevalniki s filtri, impregniranimi s fosforjevo kislino

Indoor air - Part 38: Determination of amines in indoor and test chamber air - Active sampling on samplers containing phosphoric acid impregnated filters

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Part 38: Determination of amines in indoor and test chamber air — Active sampling on samplers containing phosphoric acid impregnated filters

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Foreword

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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 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 146, *Air quality*, Subcommittee SC 6, *Indoor air*.

A list of all parts in the ISO 16000 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

ISO 16000 (all parts) describe general requirements relating to the measurement of indoor air pollutants and the important conditions to be observed before or during the sampling of individual pollutants or groups of pollutants, as well as the measurements procedures themselves.

The definition of indoor environment is given by ISO 16000-1. Dwellings [living rooms, bedrooms, do-it-yourself (DIY) rooms, sport rooms and cellars, kitchens and bathrooms], workrooms or workplaces in buildings which are not subject to health and safety inspections with respect to air pollutants (e.g. offices, salesrooms), public buildings (e.g. restaurants, theatres, cinemas and other meeting rooms) and passenger cabins of motor vehicles and public transportation are among the most important types of indoor environment.

Indoor air —

Part 38: Determination of amines in indoor and test chamber air — Active sampling on samplers containing phosphoric acid impregnated filters

1 Scope

This document specifies a method for the determination of primary, secondary and tertiary aliphatic and aromatic amines in indoor air using accumulated sampling and high-performance liquid-chromatography (HPLC) coupled with tandem mass spectrometry (MS-MS) or high resolution mass spectrometry (HRMS). It specifies the sampling procedure for determining the mass concentration of amines as mean values by sampling the amines on phosphoric acid impregnated filters. The analytical procedure of the measurement method is covered by ISO 16000-39.

Measurements, performed with samplers containing phosphoric acid-impregnated inert supporting material and operating at specified flow rates for specified sampling periods are described in this document. Requirements regarding sample volume are also defined.

The range of application of this document concerning the concentrations of amines in indoor air depends on the linear range of the calibration line and hence on the gas sample volume (here: from 5 l up to 100 l), the eluate volume (from 1 ml up to 5 ml), the injection volume (from 1 µl up to 10 µl) and the sensitivity of the analytical equipment (e.g. linear range from 2 pg up to 2 ng amine). The range of application can be expected to be from approximately 0,002 µg/m^3 (100 l sample) up to 2 000 µg/m^3 (5 l sample) for a common analytical equipment[1)] for the majority of the amines listed in Annex A. The analysis of derivatives of ethanolamine is usually about 10 times more sensitive and the analysis of short-chained aliphatic amines is usually about 10 times less sensitive than the analysis of an average amine.

Although primarily intended for the measurement of amines listed in Annex A, this document can also be used for the measurement of other amines in indoor air.

This document describes procedures for the fabrication and gives requirements for the use of glass tubes containing impregnated filters out of phosphoric acid-impregnated glass wool as samplers, but does not exclude other samplers with proven equal or improved properties. This document also gives procedures for the demonstration of equivalence of other sampler types or methods.

This document does not cover the determination of amines in other media like water or soil. Furthermore, it does not cover the determination of isocyanates in indoor air as corresponding amines (covered by ISO 17734-1 and ISO 17734-2). Quaternary amines are also not included in this document.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

1) Waters “TQ-D” is an example of a suitable product available commercially. This information is given for the convenience of users of this document and does not constitute an endorsement by ISO of this product.

