

## **Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents**

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## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 14042:2003 sisaldab Euroopa standardi EN 14042:2003 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 16.05.2003 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 14042:2003 consists of the English text of the European standard EN 14042:2003.</p> <p>This document is endorsed on 16.05.2003 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p><b>Käsitlusala:</b> This European Standard provides guidance on the selection of procedures, and the installation, use and maintenance of devices for the determination of concentrations of chemical or biological agents in workplace atmospheres</p>	<p><b>Scope:</b> This European Standard provides guidance on the selection of procedures, and the installation, use and maintenance of devices for the determination of concentrations of chemical or biological agents in workplace atmospheres</p>
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**Võtmesõnad:** classifications, human factors engineering, m, measuring techniques, occupational safety, operating stations, quality, safety, safety engineering, specification (approval), specifications, suitability, testing, working places, workplace safety

ICS 13.040.30

English version

**Workplace atmospheres - Guide for the application and use of  
procedures for the assessment of exposure to chemical and  
biological agents**

Atmosphères des lieux de travail - Guide pour l'application  
et l'utilisation de procédures permettant d'évaluer  
l'exposition aux agents chimiques et biologiques

Arbeitsplatzatmosphäre - Leitfaden für die Anwendung und  
den Einsatz von Verfahren und Geräten zur Ermittlung  
chemischer und biologischer Arbeitsstoffe

This European Standard was approved by CEN on 23 September 2002.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

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## Foreword

This document (EN 14042:2003) has been prepared by Technical Committee CEN/TC 137 "Assessment of workplace exposure", the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by October 2003, and conflicting national standards shall be withdrawn at the latest by October 2003.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

This document includes a Bibliography.

## Introduction

Marking EN 14042 on or in relation to a product represents a manufacturer's declaration of conformity, i.e. a claim by or on behalf of the manufacturer that the product meets the requirements of relevant European standards. The accuracy of the claim is therefore the responsibility of the person making the claim.

## 1 Scope

This European Standard provides guidance on the selection of procedures, and the installation, use and maintenance of devices for the determination of concentrations of chemical or biological agents in workplace atmospheres.

This European Standard is based on the guidance given in EN 689 and the requirements of EN 482.

Where appropriate, this European Standard specifies additional requirements specific to particular procedures or devices, or classes thereof.

It is the user's primary responsibility to choose appropriate procedures or devices that meet the requirements of relevant European Standards. One way of doing this is to obtain information or confirmation from the manufacturer. Type testing, or more generally, the assessment of performance criteria of procedures or devices, can be undertaken by the manufacturer, user, test house or research and development laboratory, as is most appropriate.

Although this Standard specifically addresses workplace air, many of the procedures or devices are also relevant to the assessment of air quality in ambient or indoor air.

Specific guides exist for electrical apparatus used for the direct detection and direct concentration measurement of toxic gases and vapours in workplace atmospheres (EN 45544-4) and for diffusive samplers for the determination of gases and vapours in ambient air (prEN 13528-3).

## 2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 482:1994, *Workplace atmospheres — General requirements for the performance of procedures for the measurement of chemical agents*.

EN 689, *Workplace atmospheres — Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy*.

EN 838:1995, *Workplace atmospheres — Diffusive samplers for the determination of gases and vapours — Requirements and test methods*.

EN 1076:1997, *Workplace atmospheres — Pumped sorbent tubes for the determination of gases and vapours — Requirements and test methods*.

EN 1231:1996, *Workplace atmospheres — Short term detector tube measurement systems — Requirements and test methods*.

EN 1232, *Workplace atmospheres — Pumps for personal sampling of chemical agents — Requirements and test methods*.

EN 12919, *Workplace atmospheres — Pumps for sampling of chemical agents with a volume flow rate of over 5 l/min — Requirements and test methods.*

EN 13098, *Workplace atmospheres — Guidelines for measurement of airborne micro-organisms and endotoxin.*

EN 13205, *Workplace atmospheres — Assessment of performance of instruments for measurement of airborne particle concentrations.*

prEN 13528-3, *Ambient air quality — Diffusive samplers for the determination of concentration of gases and vapours — Part 3: Guide to selection, use and maintenance.*

EN 13890, *Workplace atmospheres — Procedures for measuring metals and metalloids in airborne particles — Requirements and test methods.*

ENV 13936:2001, *Workplace atmospheres — Measurement of chemical agents present as mixtures of airborne particles and vapour — Requirements and test methods.*

EN 45544-4, *Workplace atmospheres — Electrical apparatus used for the direct detection and direct concentration measurement of toxic gases and vapours — Part 4: Guide for selection, installation, use and maintenance.*

### 3 Terms and definitions

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

#### 3.1

##### **accuracy**

closeness of agreement between a test result and the accepted reference value

[ISO 3534-1:1993]

#### 3.2

##### **averaging time**

period of time for which the measuring procedure yields a single value

[EN 482:1994]

#### 3.3

##### **bias**

consistent deviation of the measured value from the value of the air quality characteristic itself or the accepted reference value

[ISO 6879:1995]

NOTE In this European Standard “air quality characteristic” means the concentration of the pollutant in workplace air.

#### 3.4

##### **biological agent**

micro-organisms, including those which have been genetically modified, cell cultures and human endoparasites which can cause any infection, allergy or toxicity or otherwise create a risk to human health

[EN 1540:1998]

#### 3.5

##### **chemical agent**

any chemical element or compound, on its own or admixed as it occurs in the natural state or as produced by any work activity, whether or not it is produced intentionally and whether or not placed on the market

[EN 1540:1998]