

**Workplace exposure - Procedures for measuring gases and vapours using pumped samplers - Requirements and test methods**

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 1076:2010 sisaldab Euroopa standardi EN 1076:2009 ingliskeelset teksti.

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Standard on kättesaadav Eesti standardiorganisatsioonist.

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English Version

**Workplace exposure - Procedures for measuring gases and  
vapours using pumped samplers - Requirements and test  
methods**

Exposition sur les lieux de travail - Procédures pour le  
mesurage des gaz et vapeurs à l'aide de dispositifs de  
prélèvement par pompage - Exigences et méthodes d'essai

Exposition am Arbeitsplatz - Messung von Gasen und  
Dämpfen mit pumpenbetriebenen  
Probenahmeeinrichtungen - Anforderungen und  
Prüfverfahren

This European Standard was approved by CEN on 1 November 2009.

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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 CEN Management Centre has the same status as the official versions.

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## Foreword

This document (EN 1076:2009) has been prepared by Technical Committee CEN/TC 137 "Assessment of workplace exposure to chemical and biological agents", 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of an identical text or by endorsement, at the latest by June 2010, and conflicting national standards shall be withdrawn at the latest by June 2010.

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

This document supersedes EN 1076:1997.

The major technical changes between this European Standard and the previous edition are as follows:

- a) adaptation of the framework for assessing the performance of procedures for measuring gases and vapours against the general requirements for the performance of procedures for measuring chemical agents in workplace atmospheres as specified in EN 482;
- b) revision of the calculation model for the uncertainty of measurement to comply with EN 482 and ENV 13005;
- c) modification of the classification scheme for sampler types;
- d) deletion of the informative annexes on the evaluation of pumped samplers by means of field tests.

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

## Introduction

This European Standard provides a framework for assessing the performance of procedures for measuring gases and vapours against the general requirements for the performance of procedures for measuring chemical agents in workplace atmospheres as specified in EN 482. It enables manufacturers and users of pumped samplers and developers and users of procedures for measuring gases and vapours to adopt a consistent approach to method validation.

## 1 Scope

This European Standard specifies performance requirements and test methods under prescribed laboratory conditions for the evaluation of pumped samplers used in conjunction with an air sampling pump and of procedures using these samplers for the determination of gases and vapours in workplace atmospheres.

This European Standard is applicable to pumped samplers and measuring procedures using these samplers in which sampling and analysis are carried out in separate stages.

This European Standard is not applicable to:

- pumped samplers which are used for the direct determination of concentrations, for example, length-of-stain detector tubes;
- samplers which rely on sorption into a liquid, and subsequent analysis of the solution (bubblers).

## 2 Normative references

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

EN 482:2006, *Workplace atmospheres — General requirements for the performance of procedures for the measurement of chemical agents*

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

EN 1232:1997, *Workplace atmospheres — Pumps for personal sampling of chemical agents — Requirements and test methods*

EN 1540:1998, *Workplace atmospheres — Terminology*

EN ISO 8655-2, *Piston-operated volumetric apparatus — Part 2: Piston pipettes (ISO 8655-2:2002)*

EN ISO 8655-6, *Piston-operated volumetric apparatus — Part 6: Gravimetric methods for the determination of measurement error (ISO 8655-6:2002)*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 482:2006 and EN 1540:1998<sup>1)</sup> apply.

## 4 Symbols and abbreviated terms

For the purposes of this document, the following symbols and abbreviations apply.

NOTE See 8.4 and Annex B for symbols used in conjunction with uncertainty of measurement only.

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1) EN 1540:1998 is currently subject to revision. Until the revised EN is published the definitions given in EN 482:2006 take precedence.