Workplace exposure - Volumetric bioaerosol samplers - General requirements and evaluation of performance

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 14583:2021 sisaldab Euroopa standardi EN 14583:2021 ingliskeelset teksti.	This Estonian standard EVS-EN 14583:2021 consists of the English text of the European standard EN 14583:2021.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 15.12.2021.	Date of Availability of the European standard is 15.12.2021.
Standard on kättesaadav Eesti Standardimis- ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

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

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English Version

Workplace exposure - Volumetric bioaerosol samplers - General requirements and evaluation of performance

Exposition sur les lieux de travail - Dispositifs de prélèvement volumétrique des bioaérosols - Exigences générales et évaluation des performances

Exposition am Arbeitsplatz - Volumetrische Sammler für Bioaerosole - Allgemeine Anforderungen und Bewertung der Leistungsfähigkeit

This European Standard was approved by CEN on 8 November 2021.

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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-CENELEC Management Centre has the same status as the official versions.

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

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European foreword

This document (EN 14583:2021) 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 2022, and conflicting national standards shall be withdrawn at the latest by June 2022.

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

This document supersedes EN 14583:2004.

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

a) document title changed;

b) Scope rewritten and given more detailed;

c) Terms and definitions already referred to in EN 1540 or EN 13098 deleted;

d) Annex B revised by replacing the former content by general requirements on test facilities and an overview on different types and examples of test facilities;

e) new Annex C on microbial model organisms used for bioaerosol studies added;

f) new Annex D giving application guidance added;

g) Bibliography updated;

h) whole document restructured, editorially and technically revised.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

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

Introduction

This document is needed to promote the development of new equipment for measurement of microorganisms in the work environment. This document can also apply to existing equipment. It is intended to specify requirements and methods to determine performance characteristics of volumetric bioaerosol samplers used to collect bioaerosols from the workplace atmosphere. Examples of test facilities and microbial model organisms usually used for laboratory measurements of the biological preservation efficiency of volumetric bioaerosol samplers are provided.

WARNING — The use of this document can involve hazardous materials, operations and equipment. This document does not purport to address all of the safety problems associated with its use. It is the responsibility of the user of this document to take appropriate health and safety precautions and to check which restrictive rules and regulations need to be taken into account prior to use.

1 Scope

This document specifies general requirements for the evaluation of volumetric bioaerosol samplers in order to assess workplace exposure and their physical and biological performance.

This document describes the procedures for the development of volumetric bioaerosol samplers as well as their properties and validation.

This document provides a description of a test facility and selection criteria for microbial strains that can be used to assess their biological performance.

This document addresses requirements to manufacturers and developers of volumetric bioaerosol samplers as well as to test facilities with the equipment and skills to carry out the performance measurements of these samplers (see Annex D for application guidance).

This document is not intended for operators who use volumetric bioaerosol samplers to carry out exposure measurements for workers at occupational settings.

This document is not applicable for clean room measurements other than for occupational safety.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 1540, *Workplace exposure - Terminology*

EN 13098:2019, *Workplace exposure - Measurement of airborne microorganisms and microbial compounds - General requirements*

EN 60079-1, *Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"*

EN 60079-2, *Explosive atmospheres - Part 2: Equipment protection by pressurized enclosure "p"*

EN 60079-5, *Explosive atmospheres - Part 5: Equipment protection by powder filling "q"*

EN 60079-6, *Explosive atmospheres - Part 6: Equipment protection by liquid immersion "o"*

EN 60079-7, *Explosive atmospheres - Part 7: Equipment protection by increased safety "e"*

EN 60079-11, *Explosive atmospheres - Part 11: Equipment protection by intrinsic safety “i”*

EN 60079-18, *Explosive atmospheres - Part 18: Equipment protection by encapsulation "m"*

EN 60079-25, *Explosive atmospheres - Part 25: Intrinsically safe electrical systems*

EN IEC 60079-0, *Explosive atmospheres - Part 0: Equipment - General requirements (IEC 60079-0)*

EN ISO 13137, *Workplace atmospheres - Pumps for personal sampling of chemical and biological agents - Requirements and test methods (ISO 13137)*