Cleanrooms and associated controlled environments - Part 10: Assessment of surface cleanliness for chemical contamination (ISO 14644-10:2022)

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 14644-10:2022 sisaldab Euroopa standardi EN ISO 14644-10:2022 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 14644-10:2022 consists of the English text of the European standard EN ISO 14644-10:2022.
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 18.05.2022.	Date of Availability of the European standard is 18.05.2022.
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.

ICS 13.040.35

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 14644-10

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English Version

Cleanrooms and associated controlled environments - Part 10: Assessment of surface cleanliness for chemical contamination (ISO 14644-10:2022)

Salles propres et environnements maîtrisés apparentés - Partie 10: Évaluation de la propreté chimique des surfaces (ISO 14644-10:2022)

Reinräume und zugehörige Reinraumbereiche - Teil 10: Bewertung der chemischen Oberflächenreinheit (ISO 14644-10:2022)

This European Standard was approved by CEN on 1 May 2022.

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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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Ref. No. EN ISO 14644-10:2022 E

European foreword

This document (EN ISO 14644-10:2022) has been prepared by Technical Committee ISO/TC 209 "Cleanrooms and associated controlled environments" in collaboration with Technical Committee CEN/TC 243 “Cleanroom technology” the secretariat of which is held by BSI.

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 November 2022, and conflicting national standards shall be withdrawn at the latest by November 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 ISO 14644-10:2013.

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

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, 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.

Endorsement notice

The text of ISO 14644-10:2022 has been approved by CEN as EN ISO 14644-10:2022 without any modification.

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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.

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).

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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 209, *Cleanrooms and associated controlled environments*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 243, *Cleanroom technology*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 14644-10:2013), of which it constitutes a minor revision. The changes are as follows:

— the term class (classification, classified) changed to grade or assessment where appropriate;

— ISO 14644-1 moved from Clause 2 to the Bibliography and ISO 14644-6 removed (document withdrawn);

— minor editorial changes.

A list of all parts in the ISO 14644 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.

Cleanrooms and associated controlled environments —

Part 10: Assessment of surface cleanliness for chemical contamination

1 Scope

This document establishes appropriate testing processes to determine the cleanliness of surfaces in cleanrooms with regard to the presence of chemical compounds or elements (including molecules, ions, atoms and particles). This document is applicable to all solid surfaces in cleanrooms and associated controlled environments such as walls, ceilings, floors, worksurfaces, tools, equipment and devices.

NOTE 1 For the purpose of this document, consideration is only given to the chemical characteristics of a particle. The physical properties of the particle are not considered and this document does not cover the interaction between the contamination and the surface.

NOTE 2 This document does not include the contamination generation process or any time-dependent influences (e.g. deposition, sedimentation, ageing) or process-dependent activities such as transportation and handling. Neither does it include guidance on statistical quality-control techniques to ensure compliance.

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.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
air cleanliness by chemical concentration
ACC
level, expressed as an ISO grade level *N*, which represents the maximum allowable concentration of a given chemical species or group of chemical species, expressed in grams per cubic metre (g/m^3)

Note 1 to entry: This definition does not include macromolecules of biological origin, which are judged to be particles.

3.2
contaminant category
common name for a group of compounds with a specific and similar deleterious effect when deposited on the surface of interest

3.3
chemical contamination
chemical (non-particulate) substances that can have a deleterious effect on the product, process or equipment