
Cleanrooms and associated controlled environments —

**Part 10:
Assessment of surface cleanliness for
chemical contamination**

Salles propres et environnements maîtrisés apparentés —

Partie 10: Évaluation de la propreté chimique des surfaces



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Contents

Page

Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Testing and grading surface chemical levels	2
4.1 Principles for testing the surface chemical contamination levels of clean surfaces in cleanrooms and controlled environments.....	2
4.2 ISO SCC descriptor format.....	2
4.3 ISO-SCC grade level.....	4
4.4 Converter for substances into surface atomic concentration.....	4
5 Measuring the cleanliness of surfaces for chemical contamination and demonstration of grade level compliance	5
5.1 Criteria for good cleanliness assessment.....	5
5.2 Documentation and reporting.....	6
5.2.1 Principle.....	6
5.2.2 Testing.....	6
5.2.3 Test report.....	6
Annex A (informative) Conversion between different unit expressions of surface concentration for chemical substances	8
Annex B (informative) Parameters influencing testing and interpretation of results	15
Annex C (informative) Essential considerations for a good cleanliness assessment	16
Annex D (informative) Methods for testing surface cleanliness for chemical concentration	17
Annex E (informative) Test record documentation	29
Bibliography	30

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).

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).

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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/m³)

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