
Čiste sobe in podobna nadzorovana okolja - 13. del: Čiščenje površin za doseganje določenih ravni čistoče po klasifikaciji delcev in kemikalij (ISO 14644-13:2026)

Cleanrooms and associated controlled environments - Part 13: Cleaning of surfaces to achieve defined levels of cleanliness in terms of particle and chemical concentration (ISO 14644-13:2026)

Reinräume und zugehörige Reinraumbereiche - Teil 13: Reinigung von Oberflächen zur Erreichung definierter Reinheitsgrade hinsichtlich Partikel- und Chemikalienklassifikationen (ISO 14644-13:2026)

Salles propres et environnements maîtrisés apparentés - Partie 13: Nettoyage des surfaces afin d'obtenir des niveaux de propreté par rapport aux classifications particulaire et chimique (ISO 14644-13:2026)

Ta slovenski standard je istoveten z: EN ISO 14644-13:2026

ICS:

13.040.35	Brezprašni prostori in povezana nadzorovana okolja	Cleanrooms and associated controlled environments
-----------	--	---

SIST EN ISO 14644-13:2026**en,fr,de**

Sample Document

get full document from standards.iteh.ai

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 14644-13

March 2026

ICS 13.040.35

Supersedes EN ISO 14644-13:2017

English Version

**Cleanrooms and associated controlled environments - Part
13: Cleaning of surfaces to achieve defined levels of
cleanliness in terms of particle and chemical concentration
(ISO 14644-13:2026)**

Salles propres et environnements maîtrisés apparentés
- Partie 13: Nettoyage des surfaces afin d'obtenir des
niveaux de gradation de la propreté par rapport à la
concentration particulaire et chimique (ISO 14644-
13:2026)

Reinräume und zugehörige Reinraumbereiche - Teil
13: Reinigung von Oberflächen zur Erreichung
definierter Reinheitsgrade hinsichtlich Partikel- und
Chemikalienkonzentration (ISO 14644-13:2026)

This European Standard was approved by CEN on 16 February 2026.

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

CEN members are the national standards bodies of 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, Türkiye and United Kingdom.



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

© 2026 CEN All rights of exploitation in any form and by any means reserved
worldwide for CEN national Members.

Ref. No. EN ISO 14644-13:2026 E

Contents	Page
European foreword.....	3

Sample Document

get full document from standards.iteh.ai

European foreword

This document (EN ISO 14644-13:2026) 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 September 2026, and conflicting national standards shall be withdrawn at the latest by September 2026.

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 14644-13:2017.

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, Türkiye and the United Kingdom.

Endorsement notice

The text of ISO 14644-13:2026 has been approved by CEN as EN ISO 14644-13:2026 without any modification.

Sample Document

get full document from standards.iteh.ai



**International
Standard**

ISO 14644-13

**Cleanrooms and associated
controlled environments —**

Part 13:
**Cleaning of surfaces to achieve
defined levels of cleanliness in
terms of particle and chemical
concentration**

Salles propres et environnements maîtrisés apparentés —

*Partie 13: Nettoyage des surfaces afin d'obtenir des niveaux
de gradation de la propreté par rapport à la concentration
particulaire et chimique*

**Second edition
2026-02**

Sample Document

get full document from standards.iteh.ai



COPYRIGHT PROTECTED DOCUMENT

© ISO 2026

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

ISO 14644-13:2026(en)

Contents

	Page
Foreword	v
Introduction	vi
1 Scope	1
2 Normative references	2
3 Terms and definitions	2
4 General methodology	3
4.1 Overview.....	3
4.2 Methodology.....	4
5 Object description	5
6 Cleanliness specifications	6
7 Determination of initial contamination level	6
7.1 General.....	6
7.2 Determination of initial contamination level with respect to particle concentration.....	6
7.3 Determination of initial contamination level with respect to chemical concentration.....	6
8 Other requirements	7
9 Selection of a cleaning methodology	7
9.1 Selection procedure.....	7
9.2 Cleaning methodologies.....	7
9.2.1 Cleaning method.....	7
9.2.2 Categories of cleaning techniques.....	7
9.3 Cleaning process.....	8
10 Material compatibility check	8
11 Cleaning validation	8
11.1 General.....	8
11.2 Cleaning efficiency.....	9
11.2.1 Evaluation.....	9
11.2.2 Cleaning efficiency with respect to particle concentration.....	10
11.2.3 Cleaning efficiency with respect to chemical contamination.....	11
11.3 Cleaning appropriateness.....	11
11.3.1 Assessment.....	11
11.3.2 Cleaning appropriateness with respect to particle concentration.....	12
11.3.3 Cleaning appropriateness with respect to chemical concentration.....	13
12 Measurement methods	14
12.1 General.....	14
12.2 Direct measurement methods.....	14
12.2.1 General.....	14
12.2.2 Direct measurement methods with respect to SCP.....	14
12.2.3 Direct measurement methods with respect to SCC.....	14
12.3 Indirect measurement methods.....	14
12.3.1 General.....	14
12.3.2 Indirect measurement methods with respect to SCP.....	15
12.3.3 Indirect measurement methods with respect to SCC.....	15
13 Documentation	15
Annex A (informative) Aspects of cleaning	17
Annex B (informative) Cleaning methods	18
Annex C (informative) Material compatibility with cleaning agents	25
Annex D (informative) Cleanliness measurement	27

Sample Document

get full document from standards.iteh.ai

ISO 14644-13:2026(en)

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 document 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).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

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 14644-13:2017), of which it constitutes a minor revision. The changes are as follows:

- term class (classification, classified) changed to levels or assessment where appropriate;
- updated document titles and issue dates where appropriate;
- minor editorial changes;
- removed references not cited in the document.

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.

ISO 14644-13:2026(en)

Introduction

The term surface refers to the interface between two phases. For the purpose of this document, the surface is a solid. A “clean surface” is where one or more of the contamination categories (particles, chemical) are under control due to cleaning/decontamination. The degree of cleanliness is specified in the corresponding surface cleanliness levels (see ISO 14644-9 and ISO 14644-10). Different cleaning methods are necessary depending on the degree of cleanliness (cleanliness level) required. This document gives guidance on the selection of cleaning methods to achieve specified cleanliness levels. For the selection procedure, the aspects of surface description, cleanliness specifications, types of contamination, cleaning techniques, material compatibility, and assessment methodology are taken into consideration. Most of the methods are suitable for removal of more than one contamination category at the same time; therefore, a common standard for the selection of a cleaning method for both particles, as well as chemical contamination, is needed.

Sample Document

get full document from standards.iteh.ai