

DIN EN ISO 14644-13:2026-08 (E)

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)

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
Bibliography		32