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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 25915.3-2024

Replacing GB/T 25915.3-2010

**Cleanrooms and associated controlled environments - Part 3:
Test methods**

洁净室及相关受控环境 第3部分：检测方法
(English Translation)

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document is part 3 of GB/T 25915 Cleanrooms and Related Controlled Environments. GB/T 25915 has been published in the following parts.

- Part 1: Classification of air cleanliness levels according to particle concentration;
- Part 2: Monitoring of particle concentration in clean room air;
- Part 3: Detection methods;

- Part 4: Design, construction and start-up;
- Part 5: Operation;
- Part 6: Vocabulary;
- Part 7: Isolation devices (clean air hoods, glove boxes, isolators, microenvironments);
- Part 8: Classification of air cleanliness (ACC) by chemical concentration;
- Part 9: Classification of surface cleanliness levels according to particle concentration;
- Part 10: Classification of surface cleanliness levels according to chemical concentration;
- Part 12: Technical requirements for monitoring the concentration of nanoparticles in the air;
- Part 13: Surface cleaning to meet particle and chemical cleanliness requirements;
- Part 14: Assessment of equipment suitability according to particle concentration;
- Part 15: Assessment of the suitability of equipment and materials according to the concentration of gaseous chemicals;
- Part 16: Improving the energy efficiency of clean rooms and air purification equipment.

This document replaces GB/T 25915.3-2010 "Clean rooms and related controlled environments Part 3: Test methods" and GB/T 25915.3-Compared with 2010, in addition to structural adjustments and editorial changes, the main technical changes are as follows.

a) Chapter 3 Terms and Definitions.

- Change the term "discrete particle counter" to "light scattering particle counter" (see 3.6.4, 3.6.8 of the 2010 edition);
- Added "resolution" (see 3.1.5), "sensitivity" (see 3.1.6) and "air volume hood equipped with flow meter" (see 3.6.3);
- Deleted "large particles", "M descriptor", "U descriptor", "ultrafine particles", "standard leakage transmittance", "average air volume", "non-equal Dynamic sampling, cascade impact sampler, condensation nucleus counter, counting efficiency, differential mobility analyzer, diffusion element "Pseudo-counting", "Volume hood", "Coaxial sampling", "Isokinetic sampling", "Particle size limiter", "Threshold particle size", "Time of flight particle size" Measurement" and "Virtual Impactor" (see 3.2.4, 3.2.5, 3.2.11, 3.2.12, 3.3.10, 3.4.2, 3.6.2, 3.6.3, 3.6.4, 3.6.5, 3.6.6, 3.6.7, 3.6.9, 3.6.10, 3.6.11, 3.6.12, 3.6.13, 3.6.14, 3.6.15, 3.6.16);
- b) Changed "Required Test Items" to "General Tests" and updated the specific content (see 4.1.1, 4.1.1 of the 2010 edition);
- c) Changed "optional test items" to "supportive tests" and updated the test items (see Table

2, Table 2 of the 2010 edition);

d) Change "airflow detection" to "wind speed and air volume detection", "airflow direction detection and visual inspection" to "airflow direction detection and visual inspection"

"Isolation leak detection" is "Enclosure structure tightness detection" (see Table 2, Table 2 of the 2010 edition);

e) The pressure difference detection (see 4.2.1, 4.2.3 of the 2010 edition), wind speed and air volume detection (see 4.2.2, 4.2.2 of the 2010 edition), Airflow direction detection and visualization (see 4.2.3, 4.2.5 of the 2010 edition), self-cleaning detection (see 4.2.4, 4.2.9 of the 2010 edition), temperature Temperature test (see 4.2.5, 4.2.6 of the 2010 edition), humidity test (see 4.2.6, 4.2.6 of the 2010 edition), leakage test of installed filter system Leakage detection (see 4.2.7, 4.2.4 of the 2010 edition), enclosure tightness detection (see 4.2.8, 4.2.10 of the 2010 edition), static Electricity and ionizer testing (see 4.2.9, 4.2.7 of the 2010 edition), particle deposition testing (see 4.2.10, 4.2.8);

f) Deleted the airborne particle count (see 4.2.1 of the 2010 edition);

g) Added isolation detection (see 4.2.11).

This document is equivalent to ISO 14644-3:2019 "Cleanrooms and associated controlled environments Part 3: Test methods".

The following minimal editorial changes were made to this document.

---Test items "air supply speed (unidirectional flow)" and "average wind speed in clean room or clean area" in Table A.1 of ISO 14644-3:2019 "Uniformity (unidirectional flow)" does not correspond to the test procedure reference clauses B.2.2.2 and B.2.3.This document has been adjusted accordingly.

Introduction

GB/T 25915 adopts the ISO 14644 series of national standards, and the settings of each part are consistent with international standards. It is planned to consist of 16 parts.

constitute.

--- Part 1: Classification of air cleanliness levels by particle concentration. The purpose is to distinguish particle pollution concentration.

--- Part 2: Monitoring of particle concentration in clean room air. The purpose is to guide the monitoring of particle contamination to avoid possible contamination risk.

--- Part 3: Detection methods. The purpose is to guide the detection of various pollution and related environmental factors in clean rooms.

--- Part 4: Design, construction and startup. The purpose is to guide the design, construction and startup of clean rooms.

- Part 5: Operation. The purpose is to guide the operation of the clean room.
- Part 6: Vocabulary. The purpose is to unify and standardize technical terms.
- Part 7: Isolation devices (clean hoods, glove boxes, isolators, microenvironments). The purpose is to propose basic this requirement.
- Part 8: Classification of air cleanliness (ACC) levels by chemical concentration. The purpose is to distinguish the degree of chemical pollution in the air.
- Part 9: Classification of surface cleanliness levels according to particle concentration. The purpose is to distinguish the degree of surface particle contamination.
- Part 10: Classification of surface cleanliness levels according to chemical concentration. The purpose is to distinguish the degree of chemical contamination on the surface.
- Part 12: Technical requirements for monitoring the concentration of nanoparticles in the air. The purpose is to propose the detection of nano-scale particle pollution Require.
- Part 13: Surface cleaning to achieve particle and chemical cleanliness requirements. The purpose is to provide cleaning requirements for surfaces within clean rooms to Avoid possible risks of particle and chemical contamination.
- Part 14: Assessment of equipment suitability by particle concentration. The purpose is to assess the possible particle contamination that may be generated in the clean room by the relevant equipment.

Tests to determine the suitability of the equipment.

- Part 15: Assessment of the suitability of equipment and materials according to the concentration of gaseous chemicals. The purpose is to assess the suitability of equipment and materials by assessing...

Tests that generate gaseous chemical contamination in clean rooms to determine the suitability of equipment and materials.

- Part 16: Improving the energy efficiency of clean rooms and air purification equipment. The purpose is to save energy consumption in clean room operation.
- Part 17: Application of particle deposition rate. The purpose is to determine the deposition rate of particles into the clean room by measuring the particle deposition rate of the clean room.

Acceptable risk to vulnerable surfaces in the room.

Cleanrooms and related controlled environments keep contaminants at appropriate levels to complete contamination-sensitive work.

Products and processes in industries such as pharmaceuticals, medical devices, food, and healthcare benefit from the control of air pollution.