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

GB/T 25915.8-2021

**Cleanrooms and associated controlled environments - Part 8:
Classification of air cleanliness by chemical
concentration(ACC)**

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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 of Standardization Documents"

Drafting.

This document is Part 8 of GB/T 25915 "Clean Room and Related Controlled Environment". GB/T 25915 has released the following parts.

- Part 1. Classify air cleanliness according to particle concentration;
- Part 2. Monitoring of air particle concentration in clean rooms;
- Part 3. Detection method;
- Part 4. Design, construction, start-up;
- Part 5. Operation;
- Part 6. Vocabulary;
- Part 7. Isolation device (clean wind hood, glove box, isolator, microenvironment);
- Part 8. Classification of air cleanliness (ACC) grades according to chemical concentration;
- Part 9. Classification of surface cleanliness grades according to particle concentration;
- Part 10. Classification of surface cleanliness grades according to chemical concentration;
- Part 12. Technical requirements for monitoring the concentration of nanoparticles in the

air.

This document replaces GB/T 25915.8-2010 "Clean room and related controlled environment Part 8.Air molecular pollution classification", and

Compared with GB/T 25915.8-2010, the main technical changes are as follows.

a) Added "air cleanliness by chemical concentration", "surface cleanliness by chemical concentration" and "divided by chemical concentration"

The terms and definitions of "air cleanliness (ACC) grade" (see 3.1.2, 3.1.4, 3.1.8);

b) Modified the terms "molecular pollution" to "chemical pollutants", "air molecular pollution" to "air chemical pollution" and "surface molecular pollution"

"Stained" means "surface chemical contaminants" (see 3.1.1, 3.1.3, 3.1.5, 3.1.1, 3.1.2, 3.1.3 of the.2010 edition);

c) Modified the form of the descriptor "ISO -AMC" to "ISO -ACC" (see 4.1, 4.2, 5.1, 5.3, 4.1, 4.2,

5.1, 5.3);

d) Added blank circulation samples (see 5.2);

e) Factors affecting ACC have been added (see A.3.4, A.4.3, A.5.4, A.6, A.7, A.8, A.9);

f) Chemical pollutants such as chlorine and trimethylamine have been added, and ethanolamine, trichloroethyl phosphate, etc. have been deleted (see Table B.1,.2010 edition Table B.1);

g) Added the consideration of isolation device regarding detection (see D.2.5~D.2.7).

This document is equivalent to the adoption of ISO 14644-8.2013 "Clean room and related controlled environment Part 8.Classification of clean air by chemical concentration

Clarity (ACC) rating".

Introduction

GB/T 25915 adopts the ISO 14644 series of international standards, and the settings of each part are consistent with the international standards. It is planned to be composed of 15 departments.

Sub-composition.

---Part 1.Classify air cleanliness according to particle concentration. The purpose is to distinguish the degree of particle contamination.

---Part 2.Monitoring of air particle concentration in clean room. The purpose is to guide the

monitoring of particle pollution to avoid possible pollution

risk.

---Part 3.Detection method. The purpose is to guide the detection of various pollution and related environmental elements in the clean room.

---Part 4.Design, construction, and start-up. The purpose is to guide the design, construction and start-up of the clean room.

---Part 5.Run. The purpose is to guide the operation of the clean room.

---Part 6.Vocabulary. The purpose is to unify and standardize technical terminology.

---Part 7.Isolation device (clean wind hood, glove box, isolator, microenvironment). The purpose is to propose the basis of isolation device for clean room

This requirement.

---Part 8.Classify air cleanliness (ACC) according to chemical concentration. The purpose is to distinguish the degree of air chemical pollution.

---Part 9.Classification of surface cleanliness grades according to particle concentration. The purpose is to distinguish the degree of particle contamination on the surface.

---Part 10.Classification of surface cleanliness grades 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-level particle pollution

Require.

---Part 13.Surface cleaning that meets the requirements of particle and chemical cleanliness. The purpose is to put forward the cleaning requirements for the surface of the clean room to

Avoid the risk of particles and chemical contamination that may be produced.

---Part 14.Evaluate the applicability of the equipment according to the concentration of particle pollution. The purpose is to pass the related equipment that may produce particles in the clean room

Contamination test to determine the suitability of the equipment.

---Part 15.Evaluate the suitability of equipment and materials according to the concentration of chemical pollutants. The purpose is to pass the cleanliness of related equipment

Testing of chemical contamination in the room to determine the suitability of the equipment.

---Part 16.Improving the energy efficiency of clean rooms and air purification devices. The

purpose is to save the energy consumption of clean room operation.

Also pay attention to GB/T 25916 "Clean Room and Related Controlled Environment Biological Contamination Control".

---Part 1.General principles and methods.

---Part 2.Evaluation and analysis of biological contamination reports.

The air chemical pollution in this document is divided into 3 stages. The first stage is "production", that is, external sources, process leakage, building materials or human body materials.

The second stage is the "propagation" of air chemical pollution; the third stage is the "adsorption" of sensitive surfaces, and the surface chemistry at this stage

Pollution can be quantified.

In addition to actual air pollution, materials that can release gas and surfaces with adsorption capacity also have two stages of "generation" and "adsorption".

Great influence. Therefore, for these two stages, it is not only necessary to clarify the contaminants, but also the materials and surfaces involved. In order to formulate

The general standards used in various clean rooms and related controlled environments have decided to classify air cleanliness (ACC) grades according to chemical concentration.

In the clean room and related controlled environment, if there is air chemical pollution that harms products or processes, the ISO level determined in this document can be

Used to specify the ACC concentration level.

For the purpose of grading, this document is limited to the concentration range of ACC, and takes into account the compound, detection and analysis methods, and time weighting system.

Factors such as the number and other factors give a standard method of explaining the concentration.

This document contains the following informative appendices.

---Appendix A. Factors affecting ACC;

---Appendix B. Common pollutants;

---Appendix C. Common measurement methods;

---Appendix D. Special requirements for isolation devices.

This document is a part of GB/T 25915 related to clean rooms and related controlled environments. In addition to ACC, clean rooms and related controlled environments