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

GB/T 15000.8-2023

**Directives for the work of reference materials - Part 8: Good
practice in using reference materials**

标准样品工作导则 第8部分：标准样品的使用

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1. Structure and Drafting Rules of Standardization Documents" Drafting. This document is Part 8 of GB/T 15000 "Guidelines for Standard Sample Work". GB/T 15000 has released the following parts.

1. General provisions for standard samples stated in technical standards;
2. Commonly used terms and definitions;
3. Standard sample determination and uniformity and stability evaluation;
4. Contents of certificates, labels and accompanying documents;
5. Internal development of quality control samples;
6. General rules for standard sample packaging;
7. General requirements for the capabilities of standard sample producers;
8. Use of standard samples. This document replaces GB/T 15000.8-2003 "Guidelines for Standard Sample Work (8) Use of Certified Standard Samples" and GB/T 15000.9- 2004 "Working Guidelines for Standard Samples (9) Calibration and Use of Certified Standard Samples in Analytical Chemistry", consistent with GB/T 15000.8-2003 and Compared with GB/T 15000.9-2004, in addition to structural adjustments and editorial changes, the main technical changes are as follows:

---Changed the scope of the standard (see Chapter 1, Chapter 1 of GB/T 15000.8-2003, Chapter 1 of GB/T 15000.9-2004);

--- Added terms and definitions "characteristic value", "standard value", "information value", "calibration sample" and "quality control sample" (see 3.3~3.7);

---Deleted the terms and definitions "measurement process", "influence amount", "precision", "repeatability", "repeatability conditions", "repeatability standard deviation" and "heavy "Reproducibility limit r", "Reproducibility (reproducibility)", "Reproducibility conditions", "Reproducibility limit R", "Bias", "Accuracy", "Correctness", "Uncertainty" "degree", "estimate", "estimated value", "estimate" and "null hypothesis" (see 2.1, 2.2, 2.5~2.20 of GB/T 15000.8-2003);

1 Scope

GB/T 15000.8-2023 is Part 8 of the Chinese directives for reference material work, and covers good practice in using them. Producing a certified reference material is regulated in detail; using one is not, and most of the value is lost at that end - a laboratory that treats the certified uncertainty as zero, that measures the material once and concludes it is unbiased, or that keeps using a material after its certificate has expired, gets no benefit from it. The

standard sets the role of reference materials in measurement, the uncertainty and traceability statements and how to read them, the handling and storage of reference materials, the number of repeat measurements and the processing of the data, the checking of bias and what to do with a biased result, and the use of pure substances, weighing and volumetric methods and conventional scales. It took effect on 1 January 2024.

1.1 This document describes the standardized use of reference samples (RM), especially certified reference samples (CRM), during the measurement process. It mainly includes Assessment of precision and correctness of measurement methods, quality control, assigning values to other materials, calibration and establishment of agreed scales. This document also covers different Various applications of type RM key features.

1.2 The characteristic values of CRM are metrologically traceable and can be traced to international scales or other measurement standards. Although the RM characteristic value outside of CRM Although such traceability is usually not established, such RMs can still be used for part of the evaluation of the measurement procedure, including the evaluation of different levels of precision.

1.3 The main applications of RM include precision control (Chapter 8), bias assessment (Chapter 9), calibration (Chapter 10), calibration RM preparation (Chapter 9) Chapter 11) and maintaining the agreed upon scale (Chapter 12).

Note. Not all types of RM can be used in all the above applications.

1.4 ISO Guide341)[1] and ISO Guide35[2] also involve the preparation of calibration standard samples. This document is only suitable for use in laboratory equipment such as The preparation and assignment of small quantities of RM for preparation purposes is not applicable to the production of large-scale RM for distribution purposes, which is included in in ISO Guide34 and ISO Guide35. 1) ISO Guide34.2000 was replaced by ISO 17034.2016, and the original guide document was abolished. ISO 17034.2016 has been equivalently converted into GB/T 15000.7-2021.

1.5 This document does not address the development of working standards for industries such as natural gas analysis, clinical chemistry and pharmaceuticals. Such activities are included in in ISO Guide34 and ISO Guide35.

2 Normative reference documents

The contents of the following documents constitute essential provisions of this document through normative references in the text. Among them, the dated quotations For undated referenced documents, only the version corresponding to that date applies to this document; for undated referenced documents, the latest version (including all amendments) applies to this document.

GB/T 15000.2-2019 Standard Sample Work Guide Part

2.Common Terms and Definitions (ISO Guide30.2015, IDT) ISO /IEC Guide98-3.2008
Uncertainty of measurement Part

3 Terms and definitions

The following terms and definitions as defined in ISO /IEC Guide98-3, ISO /IEC Guide99 and ISO Guide30 apply to this document. document.

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