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

GB/T 31126.1-2025

Replacing GB/T 31126-2014

**Textiles - Determination of perfluorinated and polyfluorinated
compounds - Part 1: Liquid chromatography-tandem mass
spectrometry method**

纺织品 全氟及多氟化合物的测定 第1部分：液相色谱-串联质谱法

Issued on: October 5, 2025

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**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

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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 1 of GB/T 31126 "Determination of Perfluorinated and Polyfluorinated Compounds in Textiles". GB/T 31126 has been published as follows: Part 2.

1. Liquid Chromatography-Tandem Mass Spectrometry;

2. Gas Chromatography-Mass Spectrometry This document replaces GB/T 31126-2014 "Determination of Perfluorooctane Sulfonyl Compounds and Perfluorocarboxylic Acids in Textiles", and is consistent with GB/T 31126- Compared to.2014, aside from structural adjustments and editorial changes, the main technical changes are as follows:

---The target object to be tested has been added (see Chapter 1);

---The terminology and definition for perfluorooctane sulfonyl compounds have been removed (see section

3.1 of the.2014 edition);

---The organic phase filter membrane has been modified (see 5.9, 5.7 in the.2014 edition);

---An analytical balance has been added (see 6.2);

---A volumetric flask has been added (see 6.8);

---Sample preparation and extraction have been modified (see 7.2,.2014 version 7.2);

---The retention time for each target analyte has been increased (see 7.3.2);

---The calculation formula has been changed (see 9.1, 9.2, and

1 Scope

GB/T 31126.1-2025 is the Chinese national standard covering PFAS in textiles by

LC-MS/MS - the extraction and clean-up on a matrix full of interferences, the compounds in the scope and their isotope-labelled standards, the blank contamination that this analysis is notoriously prone to, and the quantification limits. It replaces GB/T 31126-2014 and restructures it as Part 1 of a series. It goes with the total fluorine screening method GB/T 46533-2025. In force from 1 May 2026. Issued on 5 October 2025, it has been in force since 1 May 2026, replacing GB/T 31126-2014.

This document describes a method for determining perfluorinated and polyfluorinated compounds in textiles using liquid chromatography-tandem mass spectrometry (LC-MS/MS).

Note. Perfluorinated and polyfluorinated compounds and their salts are represented by the 30 compounds in Appendix A. This document applies to all types of textile products.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 4669 Textiles - Determination of mass per unit length and mass per unit area of woven fabrics

GB/T 6682 Specifications and test methods for water used in analytical laboratories

GB/T 8170 Rules for rounding off numerical values and the representation and determination of limiting values

3 Terms and Definitions

This document does not contain any terms or definitions that need to be defined.

4.Principles Perfluorinated and polyfluorinated compounds in textiles were extracted with methanol by ultrasonic extraction. The extract was concentrated, filtered through a microporous membrane, and analyzed by liquid chromatography-tandem mass spectrometry. Determination was performed by LC-MS/MS, and quantification was performed by external standard method.

5.Reagents and Materials Unless otherwise specified, all reagents are of chromatographic grade.

5.1 Water. Grade I water conforming to GB/T 6682.

5.3 Ammonium acetate.

5.4 Ammonium acetate aqueous solution.

0.005 mol/L. Weigh

0.385 g of ammonium acetate (5.3), dissolve it in water and make up to 1000 mL, then shake well.

5.5 Perfluorinated and polyfluorinated compound reference materials/standard samples. Purity $\geq 95\%$ as specified in Appendix A.

5.6 Standard Stock Solutions. Accurately weigh appropriate amounts of the standard samples/standard substances listed in Table A.1, dissolve and dilute to volume with methanol (5.2), and prepare separate solutions. Prepare a standard stock solution with a mass concentration of 100 mg/L.