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

GB/T 44165.8-2025

**Determination of key chemicals in consumer products - Part 8:
Perfluorooctane sulfonates (PFOS) and perfluorooctanoic acid
(PFOA)**

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Standardization Administration**

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5.1 Acetonitrile (CH_3CN , CAS No.. 75-05-8). chromatographically pure.

5.2 Ammonium acetate ($\text{CH}_3\text{COONH}_4$, CAS No.. 631-61-8). chromatographically pure.

5.3 Ammonia ($\text{NH}_3\cdot\text{H}_2\text{O}$, CAS No.. 1336-21-6).

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 8 of GB/T 44165 "Detection methods for key chemical substances in consumer products". GB/T 44165 has been published

The following parts.

--- Part 1. Short-chain chlorinated paraffins;

--- Part 2. Migration of styrene;

--- Part 3. Ethyl chloride;

--- Part 4.1, 4-Dichlorobenzene;

--- Part 5. Phenol;

--- Part 6. Acrylamide;

--- Part 7. Polychlorinated naphthalenes;

--- Part 8. Perfluorooctane sulfonic acid (PFOS) and perfluorooctanoic acid (PFOA);

--- Part 9. Hexabromocyclododecane.

Introduction

In recent years, with the widespread application of new materials and new processes in the field of consumer products, potential safety issues of chemical substances in products have gradually become prominent.

my country has formulated a series of standards for the control of chemical substances in consumer products.

The corresponding scientific, efficient and accurate detection methods are the key to controlling chemical substances.

GB/T 44165 "Detection Methods for Key Chemical Substances in Consumer Products" aims to provide standardized detection methods for high-risk chemical substances in consumer products.

The test method is planned to consist of 9 parts.

--- Part 1.Short-chain chlorinated paraffins. The purpose is to provide a method for the determination of short-chain chlorinated paraffins in consumer products.

--- Part 2.Styrene migration. The purpose is to provide a method for determining the migration of styrene in consumer products.

--- Part 3.Ethyl chloride. The purpose is to provide a method for the determination of ethyl chloride content in consumer products.

--- Part 4.1,4-dichlorobenzene. The purpose is to provide a method for the determination of 1,4-dichlorobenzene in consumer products.

--- Part 5.Phenol. The purpose is to provide a method for the determination of phenol content in consumer products.

--- Part 6.Acrylamide. The purpose is to provide a method for the determination of acrylamide content in consumer products.

--- Part 7.Polychlorinated naphthalenes. The purpose is to provide a method for the determination of polychlorinated naphthalenes in consumer products.

--- Part 8.Perfluorooctane sulfonic acid (PFOS) and perfluorooctanoic acid (PFOA). The purpose is to provide perfluorooctane sulfonic acid in consumer products

Determination method of perfluorooctanoic acid (PFOS) and perfluorooctanoic acid (PFOA) content.

--- Part 9.Hexabromocyclododecane. The purpose is to provide a method for the determination of hexabromocyclododecane in consumer products.

Detection methods for key chemical substances in consumer products

Part 8. Perfluorooctane sulfonic acid (PFOS) and

Perfluorooctanoic acid (PFOA)

1 Scope

This document describes the liquid chromatography-tandem mass spectrometry (LC-MS/MS) analysis of perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) in consumer products.

MS/MS) determination method.

This document applies to consumer products containing the following materials (except clothing, textiles, leather, coatings, electrical and electronic products, food contact materials and products)

Determination of PFOS and PFOA in.

---rubber;

---plastic;

---Paper materials;

---Liquids and similar viscous materials (including adhesives, cleaning agents, foam fire extinguishers).

Other materials used in consumer products shall be tested with reference to this document after verification.

2 Normative references

The contents of the following documents constitute essential clauses of this document through normative references in this document.

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to

This document.

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

3 Terms and definitions

There are no terms or definitions that require definition in this document.

4 Principle

PFOS and PFOA in consumer products were extracted using acetonitrile as the extraction solvent, ultrasonic extraction, solid phase extraction column purification and concentration, and liquid

The products were separated by phase chromatography, ionized by electrospray ionization (ESI), detected by tandem mass spectrometry in multiple reaction monitoring (MRM) mode, and quantified by external standard method.

5 Reagents or materials

Unless otherwise specified, all reagents were of analytical grade and water was grade 1 water in accordance with GB/T 6682.

5.3 Ammonia (NH₃·H₂O, CAS No.. 1336-21-6).

5.4 Ammonium acetate solution. 10mmol/L. Weigh 0.6560g of ammonium acetate (5.2), dissolve it in water and make up to 1000mL, shake well, and use