



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

**GB/T 2910.4-2022**

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**Textiles - Quantitative chemical analysis - Part 4: Mixtures of  
certain protein fibres with certain other fibres(method using  
hypochlorite)**

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### Foreword

This document was drafted in accordance with the provisions of GB/T 1.1-2020

"Directives for standardization - Part 1: Rules for the structure and drafting of standardizing documents".

This document is Part 4 of GB/T 2910 "Textiles - Quantitative chemical analysis". GB/T

### 2910 has issued the following parts:

- Part 1: General principles of testing;
- Part 2: Ternary fiber mixture;
- Part 3: Mixtures of acetate and certain other fibers (method using acetone);
- Part 4: Mixtures of certain protein and certain other fibers (method using hypochlorite);
- Part 5: Mixtures of viscose, cupro or modal and cotton fibers (method using sodium zincate);
- Part 6: Mixtures of viscose or certain types of cupro or modal or lyocell and cotton fibers (method using formic acid and zinc chloride);

- Part 7: Mixtures of polyamide and certain other fibers (method using formic acid);
- Part 8: Mixtures of acetate and triacetate fibers (method using acetone);
- Part 9: Mixtures of acetate and triacetate fibers (method using benzyl alcohol);
- Part 10: Mixtures of triacetate or polylactide and certain other fibers (method using dichloromethane);
- Part 11: Mixtures of cellulose and polyester fibers (method using sulfuric acid);
- Part 12: Part 12: Mixtures of acrylic, certain modacrylics, certain chloro-fibers, certain elastane fibers with certain other fibers (method using dimethylformamide);
- Part 13: Mixtures of certain chloro-fibers and certain other fibers (method using carbon disulfide/acetone);
- Part 14: Mixtures of acetate and certain chloro-fibers (method using acetic acid);
- Part 15: Mixtures of jute and certain animal fibers (method by determining nitrogen content);
- Part 16: Mixtures of polypropylene and certain other fibers (method using xylene);
- Part 17: Mixtures of chloro-fibers (homopolymers of vinyl chloride) and certain other fibers (method using sulfuric acid);
- Part 18: Mixtures of silk and wool or hair (method using sulfuric acid);
- Part 19: Mixtures of cellulose fibers and asbestos (method by heating);
- Part 20: Mixtures of elastane and some other fibers (method of using dimethylacetamide);
- Part 21: Mixtures of chloro-fibers, certain modacrylics, certain elastane, acetates, triacetates and certain other fibers (method using cyclohexanone);
- Part 22: Mixtures of viscose or certain types of cupro or modal or lyocell and flax of ramie fibers (method using formic acid and zinc chloride);
- Part 23: Mixtures of polyethylene and polypropylene (method using cyclohexanone);
- Part 24: Mixtures of polyester and some other fibers (method using phenol and tetrachloroethane);

- Part 25: Mixtures of polyester and certain other fibers (method using trichloroacetic acid and chloroform);
  - Part 26: Mixtures of melamine and cotton or aramid fibers (method using hot formic acid);
  - Part 101: Mixtures of soybean protein composite fiber and certain other fibers.
- This document replaces GB/T 2910.4-2009 "Textiles - Quantitative chemical analysis - Part 4: Mixtures of certain protein fibers with certain other fibers (method using hypochlorite)". Compared with GB/T 2910.4-2009, in addition to structural adjustments and editorial changes, the main technical changes are as follows:
- MODIFY the scope, adding lyocell fiber, polyester composite elastic fiber, polyolefin elastic fiber, melamine fiber and polypropylene/polyamide composite fiber (see Chapter 1; Chapter 1 of the 2009 edition);
  - ADD the recommended use of lithium hypochlorite solution (see 5.1.2);
  - ADD the sodium hydroxide to the reagent (see 5.2);
  - ADD the instructions for maintaining the temperature range of the water bath (see Chapter 7);
  - ADD the d values for lyocell fibers, polyester composite elastic fibers, polyolefin elastic fibers, melamine fibers and polypropylene/polyamide composite fibers (see Textiles - Quantitative chemical analysis - Part 4: Mixtures of certain protein fibers with certain other fibers (method using hypochlorite))

## 1 Scope

This document specifies a method for the determination of the protein fiber content of certain protein fibers and certain non-protein fiber bi-component mixtures, which consists of the following fibers, after removal of non-fibrous matter by the hypochlorite method:

- Sheep wool, other animal hair fibers (e.g. cashmere, mohair), silk, regenerated protein fibers, and

- Cotton, cupro fibers, viscose fibers, modal fibers, lyocell fibers, acrylonitrile fibers, chlorine fibers, polyamide fibers, polyester fibers, polypropylene fibers, glass fibers, polyurethane elastane fibers, polyester laminate elastane fibers, polyolefin elastane fibers, melamine and polypropylene/polyamide composite fibers.

## 2 Normative references

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

GB/T 2910.1 Textiles - Quantitative chemical analysis - Part 1: General principles of testing (GB/T 2910.1-2009, ISO 1833-1:2006, IDT)

## 3 Terms and definitions

This document does not have terms and definitions that need to be defined.

## 4 Principles

Use alkaline hypochlorite solution to dissolve and remove protein fibers from a mixture of known dry mass. Collect the residue. Wash it. Dry and weigh it. Use the corrected mass, to calculate its percentage of the dry mass of the mixture. The mass percentage of protein fiber is obtained from the difference.

## 5 Reagents

Use the reagents, which are specified in GB/T 2910.1 and 5.1, 5.2, 5.3.

### 5.1.1 Sodium hypochlorite solution

Add (5 +/- 0.5) g of sodium hydroxide (5.2) to 1 L of sodium hypochlorite solution (about

**1 mol/L), which contains (35 +/- 2) g/L of available chlorine. This solution can be titrated**

by iodometric method, so that the concentration of sodium hypochlorite solution is 0.9 mol/L ~ 1.1 mol/L.