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

GB/T 43823-2024

Textiles - Determination of antiviral activity

纺织品 抗病毒活性的测定

(English Translation)

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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 for standardization documents" Drafting.

This document is modified to adopt ISO 18184:2019 "Textiles - Determination of the antiviral activity of textile products".

Compared with ISO 18184:2019, the structural changes of this document are as follows.

- Adjust the suspension section of Chapter 9 to 9.1, and the subsequent numbering will be postponed accordingly;
- Adjust the second paragraph in 9.4.3 to 9.4.4;
- Adjust the second paragraph in 9.13.5 to 9.13.6;
- Adjust the suspension section of 9.15 to 9.15.3;
- Deleted Article 9.16.1;
- Deleted the suspension section of 10.3;
- Deleted the suspended section of 10.4.4;
- Adjust the content of 10.5.3.3 Sterilization method to 10.5.3.2;
- Adjust the suspension paragraph of 14.2 to the content of 14.2.1.

The main technical differences between this document and ISO 18184:2019 and their reasons are as follows.

- Modified the definition of "plaque forming unit" in 3.10 to make it more accurate;
- Added "The laboratory should meet the requirements of GB 19489" in Chapter 6 to ensure the safety of the test;
- Deleted the requirement in 7.25 that the incubator meet the requirements of $(34\pm1)^{\circ}\text{C}$ and $(37\pm1)^{\circ}\text{C}$ to coordinate the content of the standard;
- Added water in 9.2 to meet the requirements of GB/T 6682, making the requirements for reagents clearer;
- Added "the virus concentration can be adjusted as needed" in 10.4.2.5 to improve the operability of the test;
- Added the low temperature storage time limit of virus suspension in 10.4.2.16 and 10.4.3.16 to improve the operability of the test;
- Added "the amount of maintenance medium added can be adjusted as needed" in 10.4.3.8 to improve the operability of the test;
- Changed the test virus type in 10.4.3, replacing feline calicivirus with enterovirus EV71 to improve the operability of the test;
- Added 10.5.2.1 Hydrophobic sample preparation method and notes to improve the operability of the test;

- Added the virus inoculation method and notes for hydrophobic samples in 11.2 to improve the operability of the test;
- Replace feline calicivirus in 14.3.1 with enterovirus EV71 to harmonize the content of the standard;
- Added the calculation formula and the expression of the antiviral activity value of "antiviral activity rate (inhibitory virus activity rate)" in 14.3.2, so that the standard Quasi-content coordination;
- Replace the content related to feline calicivirus in Appendix A, Appendix B and Appendix C with content suitable for enterovirus EV71, so that the standard Content coordination.

The following editorial changes have been made to this document.

- In order to coordinate with the existing standards, the name of the standard is changed to "Determination of antiviral activity of textiles";
- Deleted the note of 3.4;
- Deleted Chapter 5, 7.1, 7.2, 7.15, 7.24, 7.25 and Notes to 14.2.1;
- Correct Figure 2 mentioned in 7.21 to Figure 1;
- Add "6-well cell culture plate, see Figure 2" in 7.22;
- Revise the reference number of frozen virus suspension in 10.4.2.15 to 10.4.2.14;
- Added the note to 10.5.2.1;
- Added Note 2 to 10.5.2.2;
- Added the note of 10.6.2.6;
- Added the note of 11.2;
- Added the note to 14.3.2;
- Added footnote c to Table A.1;
- Replace the content related to feline calicivirus in Appendix A with content suitable for enterovirus 71;
- Added the evaluation value and virus inhibition activity value corresponding to the antiviral activity rate (virus inhibition activity rate) in Table F.1;
- According to the original data in Table H.1 to Table H.3, some calculated data have been corrected;
- Deleted the references to EN14476, EN12353 and EN14675;
- Added reference GB/T 20944.3-2008;

--- Replace ISO 105-F02 with GB/T 7568.2 and include it in the references.

Introduction

In recent years, with the improvement of global living standards, consumers' demand for health care and health protection products has also increased.

At the same time, the public has paid more attention to the prevention of infectious diseases in public places, such as commuter trains, hospitals, and sanatoriums with dense traffic.

Hospitals and other places.

Thanks to the support of textile processing technology, the development of functional textiles has made great progress, and health protection and hygiene-related products have Having entered the market.

Since these products and technologies are relatively new and involve technologies other than textile technology, each manufacturer has developed its own test methods.

To evaluate the performance of products. Since there is no unified method, consumers and manufacturers are limited in their judgment of the true performance of products.

Antiviral products are one of these emerging products, and their technical fields include textile technology and biotechnology.

There is a growing demand among stakeholders such as consumers, retailers, and producers to establish unified standards.

Antiviral textiles are textiles that can reduce the number of infectious virus particles through contact. This document provides a method for evaluating such products.

Quantitative test method for the antiviral performance of this document provides stakeholders such as consumers, producers, retailers, etc. with an objective evaluation of the antiviral properties of antiviral textiles.

Energy method.

There are two quantitative methods for determining the titer of infectious viruses in this document. plaque assay and TCID50 assay.

The method to be used should be a matter of experience and convenience. Any appropriate cell line may be used and the experimental conditions used should be reported.

Determination of antiviral activity of textiles Warning---The users of this document should have sufficient knowledge and experience in microbiological technology. In addition, the users should strictly abide by the the relevant standards and requirements of biosafety in the country must be met and the requirements of relevant national laws and regulations must be met. If the relevant regulations are not followed, this document Infectious viruses or