

This is a preview of "ISO 18184:2014". [Click here to purchase the full version from the ANSI store.](#)

First edition  
2014-09-01

---

---

## Textiles — Determination of antiviral activity of textile products

*Textiles — Détermination de l'activité virucide de produits textiles*



Reference number  
ISO 18184:2014(E)

© ISO 2014

This is a preview of "ISO 18184:2014". [Click here to purchase the full version from the ANSI store.](#)



**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2014

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
Case postale 56 • CH-1211 Geneva 20  
Tel. + 41 22 749 01 11  
Fax + 41 22 749 09 47  
E-mail [copyright@iso.org](mailto:copyright@iso.org)  
Web [www.iso.org](http://www.iso.org)

Published in Switzerland

This is a preview of "ISO 18184:2014". Click here to purchase the full version from the ANSI store.

## Contents

	Page
<b>Foreword</b> .....	<b>iv</b>
<b>Introduction</b> .....	<b>v</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions</b> .....	<b>1</b>
<b>4 Principle</b> .....	<b>2</b>
<b>5 Virus and host cell</b> .....	<b>3</b>
<b>6 Warning</b> .....	<b>3</b>
<b>7 Apparatus</b> .....	<b>3</b>
<b>8 Sterilization of apparatus</b> .....	<b>6</b>
<b>9 Reagent and medium</b> .....	<b>6</b>
<b>10 Preparation</b> .....	<b>11</b>
10.1 Restoration of host cell from cryopreservation.....	11
10.2 Subculture of host cell.....	11
10.3 Cell culture for the infectious virus titre assay.....	12
10.4 Preparation for test virus.....	12
10.5 Preparation for test specimen.....	15
10.6 Control test.....	16
<b>11 Test procedure</b> .....	<b>16</b>
11.1 Preparation of specimen.....	16
11.2 Inoculation of virus to the specimens.....	16
11.3 Contacting time.....	17
11.4 Wash-out of virus immediately after inoculation.....	17
11.5 Wash-out of virus after contacting time.....	17
<b>12 Preparation of the series of the dilution for the virus suspension</b> .....	<b>17</b>
<b>13 Infective titre measurement</b> .....	<b>18</b>
13.1 Plaque assay.....	18
13.2 TCID <sub>50</sub> method.....	18
<b>14 Calculation of infectivity titre</b> .....	<b>18</b>
14.1 Plaque assay.....	18
14.2 TCID <sub>50</sub> method.....	18
14.3 Test result.....	20
<b>15 Test report</b> .....	<b>21</b>
<b>Annex A (normative) Virus strains and host cells</b> .....	<b>22</b>
<b>Annex B (normative) Infectivity titre test: Plaque assay</b> .....	<b>23</b>
<b>Annex C (normative) Infectivity titre test: TCID<sub>50</sub> method</b> .....	<b>26</b>
<b>Annex D (normative) Composition of Media</b> .....	<b>27</b>
<b>Annex E (informative) Additional virus: Polio virus</b> .....	<b>30</b>
<b>Annex F (informative) Testing method using SPF embryonated hen's eggs</b> .....	<b>31</b>
<b>Annex G (informative) Antiviral efficacy</b> .....	<b>36</b>
<b>Annex H (informative) Round robin test result (1)</b> .....	<b>37</b>
<b>Annex I (informative) Round robin test result (2)</b> .....	<b>39</b>
<b>Bibliography</b> .....	<b>42</b>

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/TC 38, *Textiles*.

This is a preview of "ISO 18184:2014". [Click here to purchase the full version from the ANSI store.](#)

## Introduction

Recently, along with the global improvement in the level of living, consumers are showing the trend to seek healthcare or health protective products. Also, an increase in the people's interest for protection against epidemic diseases has been noted, as the overcrowded commuting train car where the commuters experience every day, the hospitals, nursing homes, etc.

Being supported by the processing technology of textile products to provide a high performance which has been highly developed recently, the health protective and hygiene relating products have been advancing into the market.

Because those products are relatively new products and included the technical aspects out of textile technology, the testing methods have been developed by the individual producers to evaluate the product performance. That has resulted in inexistence of a unified test method, hindering for both consumers and producers a true explanation or understanding of those high functional products.

The antiviral product is one of those products and includes the technical fields of the textile technology and the biotechnology.

The demand to establish the international standard has been growing in the consumers, retailers, producers, etc. as the stakeholders in the market.

Antiviral textile products are textiles capable of reducing the number of infective virus particles that contact the surface of the textile. This standard provides a quantitative test method to assess the antiviral performance of such products.

The data obtained in objective manner by this standard give the common knowledge to all the stakeholders such as consumers, producers, retailers, etc. to understand the correct performance of the antiviral textile products.

There are two methods to quantify the number of infective virus, as infective virus titre in this standard, which are the plaque method and the TCID<sub>50</sub> method. The method used can be selected by the experience and the convenience of each testing house. Any appropriate cellular system can be used and that the testing conditions when used should be reported.