International Standard

ISO 13629-1

Textiles — Determination of antifungal activity of textile products —

Part 1: Luminescence method

Textiles — Détermination de l'activité antifongique des produits textiles —

Partie 1: Méthode par luminescence

Second edition
2025-05

Reference number
ISO 13629-1:2025(en)

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Published in Switzerland

Contents

Page

Foreword ..... **v**
Introduction ..... **vi**
1 Scope **1**
2 Normative references **1**
3 Terms and definitions **1**
4 Principle **2**
5 Warning **2**
6 Reference fungi **2**
7 Apparatus **2**
8 Reagents and culture media **4**
8.1 General 4
8.2 Pure water 4
8.3 Anionic surfactant 4
8.4 Luminescent reagents, reagents and buffer solutions 4
8.4.1 General 4
8.4.2 ATP standard stock solution (1×10^{-3} mol/l) referred to as ATP standard hereafter 4
8.4.3 Buffer solution for ATP luminescent reagent 4
8.4.4 ATP luminescent reagent 5
8.4.5 ATP extraction reagent 5
8.4.6 ATP eliminating reagent 5
8.4.7 Physiological saline solution 5
8.4.8 Sterilized water containing anionic surfactant 6
8.5 Culture medium 6
8.5.1 General 6
8.5.2 Sabouraud dextrose broth (SDB) 6
8.5.3 Potato dextrose agar (PDA) 6
8.5.4 Slant culture 6
8.5.5 Sabouraud dextrose agar (SDA) 6
9 Fungus preservation and use **7**
9.1 Fungus preservation 7
9.2 Use of fungus 7
10 Spore suspension **7**
10.1 General 7
10.2 Suspending spores in culture media 8
10.3 Collection and dispersion of spore suspension from a culture medium 8
10.4 Filtering to remove hyphae and spore threads 8
10.5 Using centrifugal separation and resuspension to remove supernatant 8
10.6 Confirming the concentration of spore suspension 9
10.7 Adjusting spore suspension for testing 9
11 Preparing the ATP calibration curve **9**
12 Testing method **10**
12.1 Preparation of test specimens and inoculation 10
12.1.1 General 10
12.1.2 Absorption method 10
12.1.3 Transfer method 12
12.2 Incubation 12
12.2.1 Absorption method 12
12.2.2 Transfer method 12

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13 Measurement of luminescence intensity **12**
13.1 Absorption method 12
13.2 Transfer method 14
14 Calculation **14**
14.1 Judgment of test effectiveness 14
14.2 Calculation of antifungal activity value 15
15 Judgement of antifungal efficacy **15**
16 Test report **15**
Annex A (normative) **Fungi used in this document** **16**
Annex B (informative) **Antifungal efficacy** **17**
Bibliography **18**

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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 document 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).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 38, *Textiles*.

This second edition cancels and replaces the first edition (ISO 13629-1:2012), which has been technically revised.

The main changes are as follows:

— in subclause 8.4.6, the adenosine phosphate deaminase content has been corrected from 46 international units/ml to 4,6 international units/ml;

— in subclause 13.1:

  — new steps h) and i) have been added to the absorption method;

  — a new Formula (2) have been added and subsequent formulae have been renumbered;

— in subclause 13.2, new steps h) and i) have been added to the transfer method;

— figures have been updated;

— in Table A.1, the fungal type cladosporium cladosporioides has been corrected to cladosporium sphaerospermum.

A list of all parts in the ISO 13629 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

Speciality products of antimicrobial-treated textiles have been increasing year by year in various applications and they certainly contribute to the prevention of a material's deterioration and to the improvement of the environment and quality of life.

For these reasons, ISO/TC 38 developed ISO 20743 in 2007, and is continuing to study a test method on the antifungal activity of textile products for a series of International Standards.

This document adopts an adenosine triphosphate (ATP) luminescence method as a basis for the quantitative determination of antifungal activity.

Characteristics of the luminescence method are as follows:

— extremely small margin of error compared to the colony count method;

— elimination of the culturing time for colony formation, enabling a shorter testing time;

— simplification of testing operation.

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Textiles — Determination of antifungal activity of textile products —

Part 1:
Luminescence method

1 Scope

This document specifies a test method for the quantitative determination of the antifungal activity by measuring the intensity of luminescence produced by an enzymatic reaction [adenosine triphosphate (ATP) method].

This document is applicable to various kinds of textile products, such as fibres, yarns, fabrics, clothing, bedclothes, home furnishings and other miscellaneous goods.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 105-F02, *Textiles — Tests for colour fastness — Part F02: Specification for cotton and viscose adjacent fabrics*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
control specimen
specimen used to validate the growth condition of test fungus

Note 1 to entry: The control specimen can be taken from the same textile products as the textile products to be tested, but without antifungal treatment. If this is not available, a 100 % cotton specimen without fluorescent brighteners or other finish, conforming with the requirements of ISO 105-F02, is used as the control specimen, after 10 cycles of washing for 10 min at a temperature of 60 °C without detergents or any brighteners and rinsing twice for 5 min in accordance with ISO 6330.

3.2
antifungal agent
substance which prevents or mitigates the growth of fungus or to reduce the number of fungus

3.3
spore suspension
liquid with evenly dispersed fungal spores in sterilized water containing an anionic surfactant

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