# SVENSK STANDARD
# SS-EN 13624:2013

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**Kemiska desinfektionsmedel och antiseptiska medel – Kvantitativt suspensionsprov för utvärdering av den fungicida eller jästavdödande effekten inom hälso- och sjukvården – Provningsmetod och krav (fas 2, steg 1)**

**Chemical disinfectants and antiseptics – Quantitative suspension test for the evaluation of fungicidal or yeasticidal activity in the medical area – Test method and requirements (phase 2, step 1)**

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Europastandarden EN 13624:2013 gäller som svensk standard. Detta dokument innehåller den officiella engelska versionen av EN 13624:2013.

Denna standard ersätter SS-EN 13624:2004, utgåva 1.

The European Standard EN 13624:2013 has the status of a Swedish Standard. This document contains the official version of EN 13624:2013.

This standard supersedes the Swedish Standard SS-EN 13624:2004, edition 1.



*Upplysningar om sakinnehållet i standarden lämnas av SIS, Swedish Standards Institute, telefon 08-555 520 00. Standarder kan beställas hos SIS Förlag AB som även lämnar allmänna upplysningar om svensk och utländsk standard.*

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Denna standard är framtagen av kommittén för Sterilisering av medicintekniska produkter, SIS/TK 349.

Har du synpunkter på innehållet i den här standarden, vill du delta i ett kommande revideringsarbete eller vara med och ta fram andra standarder inom området? Gå in på www.sis.se - där hittar du mer information.

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

# EN 13624

September 2013

ICS 11.080.20

Supersedes EN 13624:2003

English Version

# Chemical disinfectants and antiseptics - Quantitative suspension test for the evaluation of fungicidal or yeasticidal activity in the medical area - Test method and requirements (phase 2, step 1)

Désinfectants chimiques et antiseptiques - Essai quantitatif de suspension pour l'évaluation de l'activité fongicide ou levuricide en médecine - Méthode d'essai et prescriptions (phase 2, étape 1)

Chemische Desinfektionsmittel und Antiseptika - Quantitativer Suspensionsversuch zur Bestimmung der fungiziden oder levuroziden Wirkung im humanmedizinischen Bereich - Prüfverfahren und Anforderungen (Phase 2, Stufe 1)

This European Standard was approved by CEN on 3 August 2013.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

**Management Centre: Avenue Marnix 17, B-1000 Brussels**



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# Foreword

This document (EN 13624:2013) has been prepared by Technical Committee CEN/TC 216 “Chemical disinfectants and antiseptics”, the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by March 2014, and conflicting national standards shall be withdrawn at the latest by March 2014.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 13624:2003.

The document was revised to adapt it to the latest state of science, to correct errors and ambiguities, to harmonise the structure and wording with other tests of CEN/TC 216 existing or in preparation and to improve the readability of the standard and thereby make it more understandable. The following is a list of significant technical changes since the last edition:

— The Scope was expanded for the following fields of application within the medical area, i.e. products for surgical and/or hygienic handrub and/or handwash and disinfectants for other surfaces than instrument surfaces.

— “Obligatory test conditions” were replaced by “minimum test conditions” (test temperatures and contact times can be chosen within limits) that have to be performed to pass the test.

— An additional modified method is described to test ready-to-use products in a higher concentration than 80 %, i.e. 97 %.

— The quality of the cultured conidiospores of *Aspergillus brasiliensis* is described in greater detail (media, limits and the control methods) resulting from work done in WG 3 of CEN/TC 216.

— The neutralization time was shortened to 10 s for products with contact times of 10 min or less.

— The Annex ZA was reformulated to more accurately describe the relationship with the Medical Device Directive.

Data obtained using the former version of EN 13624 may still be used, if the quality of the conidiospores of *Aspergillus brasiliensis* had been controlled and had met the requirements in this standard (5.4.1.4.2).

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

# Introduction

This European Standard specifies a suspension test for establishing whether a chemical disinfectant or an antiseptic has a fungicidal or yeasticidal activity in the area and fields described in the scope.

This laboratory test takes into account practical conditions of application of the product including contact time, temperature, test organisms and interfering substances, i.e. conditions which may influence its action in practical situations. Each utilisation concentration of the chemical disinfectant or antiseptic found by this test corresponds to the chosen experimental conditions.

# 1 Scope

This European Standard specifies a test method and the minimum requirements for fungicidal or yeasticidal activity of chemical disinfectant and antiseptic products that form a homogeneous, physically stable preparation when diluted with hard water, or - in the case of ready-to-use products - with water. Products can only be tested at a concentration of 80 % or less (97 % with a modified method for special cases) as some dilution is always produced by adding the test organisms and interfering substance.

This European Standard applies to products that are used in the medical area in the fields of hygienic handrub, hygienic handwash, surgical handrub, surgical handwash, instrument disinfection by immersion, and surface disinfection by wiping, spraying, flooding or other means.

This European Standard applies to areas and situations where disinfection or antisepsis is medically indicated. Such indications occur in patient care, for example:

— in hospitals, in community medical facilities and in dental institutions;

— in clinics of schools, of kindergartens and of nursing homes;

and may occur in the workplace and in the home. It may also include services such as laundries and kitchens supplying products directly for the patients.

NOTE 1 The method described is intended to determine the activity of commercial formulations or active substances under the conditions in which they are used.

NOTE 2 This method corresponds to a phase 2 step 1 test.

EN 14885 specifies in detail the relationship of the various tests to one another and to “use recommendations”.

# 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 12353, *Chemical disinfectants and antiseptics — Preservation of test organisms used for the determination of bactericidal (including Legionella), mycobactericidal, sporicidal, fungicidal and virucidal (including bacteriophages) activity*

EN 14885, *Chemical disinfectants and antiseptics — Application of European Standards for chemical disinfectants and antiseptics*

ISO 4793:1980, *Laboratory sintered (fritted) filters — Porosity grading, classification and designation*

# 3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 14885 apply.

# 4 Requirements

The product shall demonstrate at least a 4 decimal log (lg) reduction (for hygienic handwash at least a 2 lg reduction), when tested in accordance with Table 1 and Clause 5.

**Table 1 — Minimum and additional test conditions**

| Test conditions | Hygienic handrub and handwash | Surgical handrub and handwash | Instrument disinfection | Surface disinfection |
|---|---|---|---|---|
| **Minimum spectrum of test organisms** | *Candida albicans* (vegetative cells) | *Candida albicans* (vegetative cells) | a) **fungicidal activity**: *Aspergillus brasiliensis* (conidiospores) *Candida albicans* (veg. cells) b) **yeasticidal activity**: *Candida albicans* (veg. cells) | a) **fungicidal activity**: *Aspergillus brasiliensis* (conidiospores) *Candida albicans* (veg. cells) b) **yeasticidal activity**: *Candida albicans* (veg. cells) |
| additional | Any relevant test organism | | | |
| Test temperature | according to the manufacturer's recommendation, but at/ between | | | |
| | 20 °C | 20 °C | 20 °C and 70 °C | 4 °C and 30 °C |
| Contact time | according to the manufacturer's recommendation, | | | |
| | but between | | but no longer than | |
| | 30 s and 60 s | 1 min and 5 min | 60 min | 5 min or 60 min[a] |
| **Interfering substance** clean conditions | 0,3 g/l bovine albumin solution (hygienic handrub)[b] | 0,3 g/l bovine albumin solution (surgical handrub)[b] | 0,3 g/l bovine albumin solution | 0,3 g/l bovine albumin solution |
| dirty conditions | 3,0 g/l bovine albumin solution plus 3,0 ml/l erythrocytes (hygienic handwash)[c] | 3,0 g/l bovine albumin solution plus 3,0 ml/l erythrocytes (surgical and handwash)[c] | and/or 3,0 g/l bovine albumin solution plus 3,0 ml/l erythrocytes | and/or 3,0 g/l bovine albumin solution plus 3,0 ml/l erythrocytes |
| b) additional | — | — | any relevant substance | any relevant substance |

NOTE For the additional conditions, the concentration defined as a result can be lower than the one obtained under the minimum test conditions.

[a] The contact times for surface disinfectants stated in this table are chosen on the basis of the practical conditions of the product. The recommended contact time for the use of the product is within the responsibility of the manufacturer. Products intended to disinfect surfaces that are likely to come into contact with the patient and/or the medical staff and surfaces, which are frequently touched by different people, leading to the transmission of microorganisms to the patient, shall be tested with a contact time of maximum 5 min. The same applies where the contact time of the product shall be limited for practical reasons. Products for other surfaces than stated above may be tested with a contact time of maximum 60 min.

[b] Hygienic and surgical handrub shall be tested as a minimum under clean conditions.

[c] Hygienic and surgical handwash shall be tested as a minimum under dirty conditions.

# 5 Test method

## 5.1 Principle

**5.1.1** A sample of the product as delivered and/or diluted with hard water (or water for ready to use products) is added to a test suspension of fungi (yeast cells or mould spores) in a solution of an interfering substance. The mixture is maintained at the temperature and the contact time specified in Clause 4 and 5.5.1.1. At the end of this contact time, an aliquot is taken; the fungicidal and/or the fungistatic action in this portion is immediately neutralized or suppressed by a validated method. The method of choice is dilution-neutralization. If a suitable neutralizer cannot be found, membrane filtration is used. The numbers of surviving fungi in each sample are determined and the reduction is calculated.

NOTE Handwash products are always prediluted with hard water (5.2.2.7). The resulting solution is regarded as a ready-to-use product (5.4.2).

**5.1.2** The test is performed using the vegetative cells of *Candida albicans* and the conidiospores of *Aspergillus brasiliensis* (fungicidal activity) or only the vegetative cells of *Candida albicans* (yeasticidal activity) as test-organisms (Clause 4, Table 1).

**5.1.3** Additional contact times and temperatures are specified (Clause 4, Table 1). Additional interfering substances and test organisms may be used.

## 5.2 Materials and reagents

### 5.2.1 Test organisms

The fungicidal activity shall be evaluated using the following strains as test organisms selected according to Clause 4 (Table 1)[1)]:

— *Candida albicans ATCC 10231;*

— *Aspergillus brasiliensis (former “A.niger”) ATCC 16404.*

The yeasticidal activity shall be evaluated using only *Candida albicans*.

NOTE See Annex A for strain reference in some other culture collections.

The required incubation temperature for these test organisms is (30 ± 1) °C (5.3.2.3).

If additional test organisms are used, they shall be incubated under optimum growth conditions (temperature, time, atmosphere, media) noted in the test report. If the additional test organisms selected do not correspond to the specified strains, their suitability for supplying the required inocula shall be verified. If these additional test organisms are not classified at a reference centre, their identification characteristics shall be stated. In addition, they shall be held by the testing laboratory or national culture collection under a reference for five years.

1) The ATCC numbers are the collection numbers of strains supplied by these culture collections. This information is given for the convenience of users of this European Standard and does not constitute an endorsement by CEN of the product named.