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Second edition
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Protective gloves against dangerous chemicals and micro-organisms —

Part 5: Terminology and performance requirements for micro-organisms risks

Gants de protection contre les produits chimiques dangereux et les micro-organismes —

Partie 5: Terminologie et exigences de performance pour les risques par les micro-organismes

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

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Foreword

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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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This document was prepared by Technical Committee ISO/TC 94, *Personal safety — Personal protective equipment*, Subcommittee SC 13 *Protective clothing*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 162, *Protective clothing including hand and arm protection and lifejackets,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 374-5:2016), which has been technically revised.

The main changes are as follows:

— reference to ISO 21420:2020+Amd 1:2022 has been added;

— new possible marking has been added, see Clause 6.

— a new subclause, 5.2 Dexterity, has been added;

— Table 1 has been updated;

— in Clause 7, clarification for single use gloves has been given.

A list of all parts in the ISO 374 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.

Protective gloves against dangerous chemicals and micro-organisms —

Part 5:
Terminology and performance requirements for micro-organisms risks

1 Scope

This document specifies the requirements and test methods for protective gloves intended to protect the user against micro-organisms.

NOTE If other protection features are needed, e.g. chemical risks, mechanical risks, thermal risks, electrostatic dissipation etc., the appropriate specific performance standard is used in addition. Further information on protective gloves standards can be found in the ISO 21420:2020+Amd 1:2022

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 374-2:2019, *Protective gloves against dangerous chemicals and micro-organisms — Part 2: Determination of resistance to penetration*

ISO 7000:2019, *Graphical symbols for use on equipment — Registered symbols*

ISO 16604:2004, *Clothing for protection against contact with blood and body fluids — Determination of resistance of protective clothing materials to penetration by blood-borne pathogens — Test method using Phi-X 174 bacteriophage*

ISO 21420:2020+Amd1:2022, *Protective gloves — General requirements and test methods*

3 Terms and definitions

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

ISO and IEC maintain terminology 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
bacteria
very large group of micro-organisms comprising one of the three domains of living organisms, they are prokaryotic, unicellular, and either free-living in soil or water or parasites of plants or animals

3.2
protective gloves against micro-organisms
protective gloves which form a protective barrier to microbiological agents

Note 1 to entry: Microbiological agents are bacteria or viruses or fungi.

3.3
viruses
any of various simple sub-microscopic parasites of plants, animals, and *bacteria* (3.1) that often cause disease and that consist essentially of a core of RNA or DNA surrounded by a protein coat

Note 1 to entry: Unable to replicate without a host cell, viruses are typically not considered living organisms.

3.4
fungi
any of numerous eukaryotic organisms of the kingdom Fungi, which lack chlorophyll and vascular tissue and range in form from a single cell to a body mass of branched filamentous hyphae that often produce specialized fruiting bodies

Note 1 to entry: The kingdom includes the yeasts, moulds and smuts.

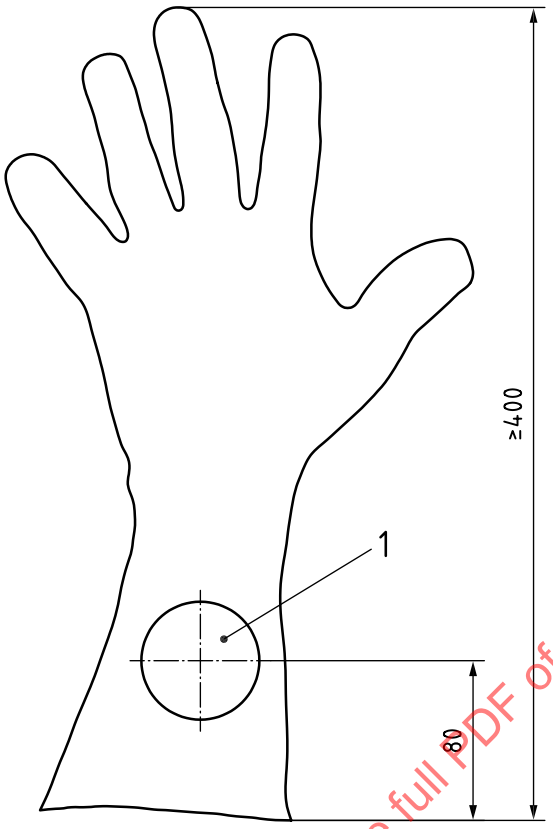
4 Sampling

4.1 Sampling for viral penetration testing

The test specimen shall be taken from the palm area. If the glove is longer than or equal to 400 mm and if the cuff is claimed to protect against micro-organism risks, additional test specimens shall be taken where the centre is approximately at 80 mm from the end of the cuff (see Figure 1). For further instructions, see ISO 16604:2004, Clause 7.

In the case of seams in the hand area, this area shall be tested.

Dimensions in millimetres



Key

1 sample

Figure 1 — Additional sample location for gloves longer than 400 mm

4.2 Sampling for bacteria/fungi penetration testing

The sampling for bacteria/fungi penetration shall be in accordance with ISO 374-2:2019, Clause 5.

5 Performance requirement

5.1 General requirements

Protective gloves against micro-organism risks shall conform with the requirements given in ISO 21420:2020+Amd 1:2022, Clause 4 and 5.1.

5.2 Dexterity

When tested with ISO 21420:2020+Amd 1:2022, 6.2, the performance level obtained shall at least reach level 1 as given in ISO 21420:2020+Amd 1:2022, Table 2.

The glove should allow as much dexterity as possible given its purpose.

5.3 Penetration

The entire protective gloves against viruses, bacteria and fungi (fingers, palm, back, and cuff area) shall not leak when tested in accordance with ISO 374-2:2019, 7.2 and 7.3.

5.4 Protection against viruses

Protective gloves against viruses shall be tested in accordance with ISO 16604:2004, Procedure B and shall exhibit no detectable transfer (<1 PFU/ml) of the Phi-X174 bacteriophage in the assay titre.

5.5 Requirements for different protection types of gloves

The requirements are mentioned in the Table 1.

Table 1 — Requirements for different protection types of gloves

	5.1	5.2	5.3	5.4
Glove protecting against bacteria and fungi	X	X	X	
Glove protecting against viruses, bacteria and fungi	X	X	X	X
X = required				

6 Marking

6.1 General

Marking of protective gloves against micro-organisms shall be in accordance with the marking requirement for protective gloves in ISO 21420:2020+Amd 1:2022 and with 6.2 or 6.3.

The use of the "information" graphical symbol is not mandatory and shall be as in Figure 2 when used.

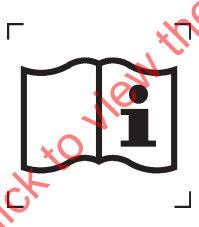


Figure 2 — Information graphical symbol — ISO 7000-1641

The use of the "protection against micro-organisms" graphical symbol, in accordance with ISO 7000, is mandatory and shall be as in Figure 3.

Figure 3 — Protection against micro-organisms graphical symbol — ISO 7000-2491

6.2 Marking of protective gloves against bacteria and fungi

For protective gloves against bacteria and fungi complying with the requirements stated in 5.5, the graphical symbol in Figure 3 shall be used with reference to this document. An example of marking is given in Figure 4.