INTERNATIONAL STANDARD

ISO 374-1

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Protective gloves against dangerous chemicals and micro-organisms —

Part 1: Terminology and performance requirements for chemical risks

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

Partie 1: Terminologie et exigences de performance pour les risques chimiques

Reference number
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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 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).

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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 World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

ISO 374-1 was prepared by the European Committee for Standardization (CEN) in collaboration with ISO Technical Committee ISO/TC 94, *Personal safety — Protective clothing and equipment*, Subcommittee SC 13 *Protective clothing* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

ISO 374 consists of the following parts, under the general title *Protective gloves against dangerous chemicals and micro-organisms*:

— *Part 1: Terminology and performance requirements for chemical risks*

— *Part 5: Terminology and performance requirements for micro-organism risks*

Protective gloves against dangerous chemicals and micro-organisms —

Part 1:
Terminology and performance requirements for chemical risks

1 Scope

This part of ISO 374 specifies the requirements for protective gloves intended to protect the user against dangerous chemicals and defines terms to be used.

NOTE If other protection features have to be covered, e.g. mechanical risks, thermal risks, electrostatic dissipation etc., the appropriate specific performance standard is to be used in addition. Further information on protective gloves standards can be found in the EN 420.

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 374-2:2014, *Protective gloves against dangerous chemicals and micro-organisms — Part 2: Determination of resistance to penetration*

EN 374-4:2013, *Protective gloves against chemicals and micro-organisms — Part 4: Determination of resistance to degradation by chemicals*

EN 420:2009, *Protective gloves — General requirements and test methods*

EN 16523-1:2015, *Determination of material resistance to permeation by chemicals — Part 1: Permeation by liquid chemical under conditions of continuous contact*

3 Terms and definitions

For the purposes of this document, the terms and definitions in EN 16523-1 and the following apply.

3.1
dangerous chemicals
chemical substance potentially hazardous for the health (carcinogenic, mutagenic, reprotoxic, toxic, harmful, corrosive, irritant, sensitizing), as defined in any national regulation

Note 1 to entry: The former European Directives 1999/45/EC and 67/548/EEC have been repealed by regulation 1272/2008 on classification, labeling and packaging of substances and mixtures.

3.2
protective glove material
any material or combination of materials used in a protective glove for the purpose of isolating the hands or hands and arms from direct contact with a dangerous chemical

3.3
protective gloves against dangerous chemical risks
protective gloves which form a protective barrier to *dangerous chemicals* (3.1)

3.4
degradation
deleterious change in one or more properties of a *protective glove material* (3.2) due to contact with a chemical

Note 1 to entry: Indications of degradation may include flaking, swelling, disintegration, embrittlement, colour change, dimensional change, appearance, hardening, softening, etc.

3.5
penetration
movement of a chemical through materials, seams, pinholes, or other imperfections in a *protective glove material* (3.2) on a non-molecular level

3.6
permeation
process by which a chemical moves through a *protective glove material* (3.2) on a molecular level

Note 1 to entry: Permeation involves the following:

— absorption of molecules of the chemical into the contacted (outside) surface of a material;

— diffusion of the absorbed molecules in the material;

— desorption of the molecules from the opposite (inside) surface of the material.

3.7
test chemical
chemical substance, or mixture of chemical substances, potentially hazardous to the health that is used under laboratory test conditions to determine the breakthrough time

4 Sampling

4.1 Sampling for permeation

Each material specimen to be tested shall conform to the requirement in EN 16523-1:2015, Clause 7, so that the material can be sealed inside the test cell.

Three test specimens 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 chemical risks, three additional test specimens shall be taken where the center is 80 mm from the end of the cuff (see Figure 1).