
**Footwear — Critical substances
potentially present in footwear and
footwear components**

*Chaussures — Substances critiques potentiellement présentes dans la
chaussure et les composants de chaussures*



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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
Web www.iso.org

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Contents

Page

Foreword	iv
1 Scope	1
2 Terms and definitions	1
3 Presence of chemicals in footwear materials	2
Annex A (informative) Materials used in the footwear industry	7
Annex B (informative) Critical substances potentially present in footwear and footwear components ..	13
Bibliography	40

Foreword

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In exceptional circumstances, when a technical committee has collected data of a different kind from that which is normally published as an International Standard ("state of the art", for example), it may decide by a simple majority vote of its participating members to publish a Technical Report. A Technical Report is entirely informative in nature and does not have to be reviewed until the data it provides are considered to be no longer valid or useful.

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.

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This second edition cancels and replaces the first edition (ISO/TR 16178:2010), which has been technically revised.

Footwear — Critical substances potentially present in footwear and footwear components

1 Scope

This Technical Report establishes a list of critical chemical substances potentially present in footwear and footwear components.

This Technical Report describes the critical chemical substances, their potential risks, the materials in which they can be found and the test method(s) which can be used to quantify them. It does not include requirements; it is the responsibility of the user of this Technical Report to fix his/her level of acceptance, for instance using a defined concentration or detection limit or quantification limit.

NOTE The proposed test methods indicate the state of the art. Some substances do not include a test method, as no test method is available at the time of publication of this Technical Report. If possible, it is intended to include a test method in a revision of this Technical Report.

This Technical Report applies to any kind of footwear and footwear components.

2 Terms and definitions

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

2.1

allergen

substance that is capable of inducing an allergic reaction

2.2

allergy

immunologically mediated response to certain specific substances

NOTE 1 The specific substances are allergens.

NOTE 2 Type-1 allergy (respiratory allergy) is mediated by IgE antibodies and can cause asthma, rhinitis and urticaria.

NOTE 3 Type-4 allergy (dermal allergy) is mediated by T-cells and can cause dermatitis.

2.3

detection limit

value from which a substance is considered detectable

NOTE This means that the signal associated to the substance is three times bigger than the background noise signal. The limit of detection is determined experimentally by the laboratory for each substance.

2.4

quantification limit

value from which a substance is considered measurable

NOTE It is the value where the uncertainty of measurement is equal to 50 % of the determined value.

2.5

absence of a chemical

state in which a chemical is lacking from a material, where the test method is unable to detect it

NOTE The amount of the chemical is smaller than the detection limit of the test method.