
**Footwear — Critical substances
potentially present in footwear and
footwear components — Test method
to quantitatively determine polycyclic
aromatic hydrocarbons (PAHs) in
footwear materials**

*Chaussures — Substances critiques potentiellement présentes dans
les chaussures et les composants de chaussures — Méthode d'essai
pour déterminer quantitativement les hydrocarbures aromatiques
polycycliques (HAP) dans les matériaux de chaussures*

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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 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 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 216, *Footwear*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 309, *Footwear*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This first edition cancels and replaces the first edition Technical Specification (ISO/TS 16190:2013), which has been technically revised. The main changes compared with the previous edition are as follows:

- the Introduction has been added;
- in the Scope, editorial changes have been made and a note has been added;
- the Normative references have been updated;
- [Clause 3](#) “Terms and definitions” has been added and the following clauses have been renumbered;
- [Clause 5](#) “Reagents” has been renamed and major technical changes have been made;
- [Clause 6](#) “Apparatus” has been renamed, further equipment has been added and further minor technical changes have been made;
- [Clause 7](#) “Sample preparation” has been added, which has been mainly taken from ISO/TS 16190:2013, 6.2, and the following clauses have been renumbered;
- in [Clause 8](#) “Procedure”, major technical changes and editorial changes have been made;
- [Clause 9](#) “Expression of results” has been renamed and subclause headings have been added;
- [9.1.2](#) “When a sum of PAH is requested” has been added;
- in [9.2](#) “Performance of the test method”, the limit of quantification has been changed;
- in [Clause 10](#) g), the option to state a sum of PAH has been added;

— [Annex A](#) has been added.

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

Certain polycyclic aromatic hydrocarbons (PAHs) have been identified as carcinogenic. Thus, several countries have restricted them in articles such as footwear, e.g. in the European Union by Commission Regulation (EU) 2018/1513^[1] amending Regulation (EC) No 1907/2006^[2].

Restricted PAHs according to Regulation (EC) No 1907/2006 are Benzo[a]pyrene (BaP), Benzo[e]pyrene (BeP), Benzo[a]anthracene (BaA), Chrysene (CHR), Benzo[b]fluoranthene (BbFA), Benzo[j]fluoranthene (BjFA), (g) Benzo[k]fluoranthene (BkFA) and Dibenzo[a,h]anthracene (DBAhA).

Further PAHs are restricted by footwear brands in their restricted substances lists (RSLs).

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