



BSI Standards Publication

Textiles — Determination of certain flame retardants

Part 3: Chlorinated paraffin flame retardants

National foreword

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A list of organizations represented on this committee can be obtained on request to its secretary.

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REPORT

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**Textiles — Determination of certain
flame retardants —**

**Part 3:
Chlorinated paraffin flame retardants**

*Textiles — Détermination de certains retardateurs de flamme —
Partie 3: Retardateurs de flamme à base de paraffines chlorées*



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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 on 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 the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 38, *Textiles*.

A list of all parts in the ISO 17881 series can be found on the ISO website.

Textiles — Determination of certain flame retardants —

Part 3:

Chlorinated paraffin flame retardants

WARNING — The use of this document can involve hazardous substances and/or procedures. It refers only to technical suitability and does not purport to address all of the health and safety risks associated with its use. It is the responsibility of users of this document to take appropriate measures to ensure the safety and health of personnel and the environment prior to application of the document, and it is assumed that the execution of its provisions is entrusted to appropriately qualified and experienced people.

1 Scope

This document describes a method for determining short-chain chlorinated paraffins (C₁₀-C₁₃) (SCCPs) in textiles using carbon skeleton reaction gas chromatography with flame ionization detector (GC-FID).

It is applicable to all kinds of textile products.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <https://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

4 Principle

SCCPs are extracted from textile specimens by an ultrasonic generator with *n*-hexane/acetone. SCCPs are pretested by gas chromatography with an electron capture detector (GC-ECD) and then quantified by GC-FID using an external standard method. SCCPs are dechlorinated by reacting with hydrogen to generate straight-chain alkane (C₁₀-C₁₃) under the action of a PdCl₂ catalyst. GC-FID is used to determine the quantity of straight-chain alkane following an external standard method, and then the quantity of SCCPs is calculated.

5 Reagents

Unless otherwise specified, only reagents of recognized analytical grade are used.

5.1 Short-chain chlorinated paraffins (SCCPs) (C₁₀-C₁₃, 51,5 % Cl), 100 µg/ml in cyclohexane.

5.2 Short chain chlorinated paraffins (SCCPs) (C₁₀-C₁₃, 55,5 % Cl), 100 µg/ml in cyclohexane.

5.3 Short-chain chlorinated paraffins (SCCPs) (C₁₀-C₁₃, 63 % Cl), 100 µg/ml in cyclohexane.