TECHNICAL 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

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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.

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Textiles — Determination of certain flame retardants —

Part 3:
Chlorinated paraffin flame retardants

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1 Scope

This document describes a method for determining short-chain chlorinated paraffins (C_{10}-C_{13}) (SCCPs) in textiles using carbon skeleton reaction gas chromatography with a 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 (C_{10}-C_{13}) under the action of a $PdCl_2$ 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) (C_{10}-C_{13}, 51,5 % Cl), 100 µg/ml in cyclohexane.

5.2 Short chain chlorinated paraffins (SCCPs) (C_{10}-C_{13}, 55,5 % Cl), 100 µg/ml in cyclohexane.

5.3 Short-chain chlorinated paraffins (SCCPs) (C_{10}-C_{13}, 63 % Cl), 100 µg/ml in cyclohexane.

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