

SLOVENSKI STANDARD SIST EN ISO 22818:2021

01-junij-2021

Tekstil - Določevanje kloriranih parafinov s kratkimi verigami (SCCP) in kloriranih parafinov srednje verige (MCCP) v tekstilnih izdelkih iz različnih matric z uporabo plinske kromatografije z masno spektrometrijo s kemično ionizacijo negativnih ionov (GC-NCI-MS) (ISO 22818:2021)

Textiles - Determination of short-chain chlorinated paraffins (SCCP) and middle-chain chlorinated paraffins (MCCP) in textile products out of different matrices by use of gas chromatography negative ion chemical ionization mass spectrometry (GC-NCI-MS) (ISO iTeh STANDARD PREVIEW 22818:2021)

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Textilien - Bestimmung von SCCP und MCCP in textilen Produkten aus verschiedener Matrices mittels GC-NCI-MS (ISO 22818:2021)2818:2021

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Textiles - Détermination de paraffines chlorées à chaîne courte (PCCC) et de paraffines chlorées à chaîne moyenne (PCCM) dans des produits textiles sur différentes matrices par chromatographie en phase gazeuse couplée à la spectrométrie de masse avec ionisation chimique négative (GC-NCI-MS) (ISO 22818:2021)

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Textiles - Determination of short-chain chlorinated paraffins (SCCP) and middle-chain chlorinated paraffins (MCCP) in textile products out of different matrices by use of gas chromatography negative ion chemical ionization mass spectrometry (GC-NCI-MS) (ISO 22818:2021)

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22818:2021)h STANDARD PREVIEW

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EN ISO 22818:2021 (E)

European foreword

This document (EN ISO 22818:2021) has been prepared by Technical Committee ISO/TC 38 "Textiles" in collaboration with Technical Committee CEN/TC 248 "Textiles and textile products" the secretariat of which is held by BSI.

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Textiles — Determination of shortchain chlorinated paraffins (SCCP) and middle-chain chlorinated paraffins (MCCP) in textile products out of different matrices by use of gas chromatography negative ion chemical ionization mass

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Foreword

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This document was prepared by Technical Committee ISO/TC 38, *Textiles*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 248, *Textiles and textile products*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

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Introduction

Short-chain chlorinated paraffins (SCCPs) (C_{10} - C_{13} ; chlorine content > 48 %) are listed by the Stockholm Convention on Persistent Organic Pollutants.

In Europe, according to REGULATION (EU) 2019/1021^[1] of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants alkanes C_{10} - C_{13} , chloro [short-chain chlorinated paraffins (SCCPs)] (CAS no. 85535-84-8) as constituents of articles are prohibited. Articles containing SCCPs in concentrations lower than 0,15 % by weight are allowed.

Furthermore, it became industrial practice to restrict alkanes C_{14} - C_{17} , known as medium-chain chlorinated paraffins (MCCPs) as well.

SCCPs and MCCPs are used as flame retardants in textiles, as plasticizers in polymers and as finishing agents in leather. SCCPs and MCCPs are an issue for textile manufacturers and retailers due to their use within fabrics, coated fabrics, plastisol prints, buttons, leather patches, etc.

The analysis of chlorinated paraffins is a great challenge. The technical compounds are always complex mixtures of substances with different chain lengths and different chlorination degrees. Gas chromatography (GC) separation of these mixtures show an overlapping part of chain length (between short and middle chained) and of chlorination degrees, too. The responses of the different chlorination degrees vary in a big range. This document describes a procedure to get comparable results for SCCPs and MCCPs with a defined calibration standard of the most typical used mixtures (59 % chlorination degree for SCCPs and 55 % chlorination degree for MCCPs) and using four ion traces for SCCPs and four ion traces for MCCPs with gas chromatography negative ion chemical ionization mass spectrometry (GC-NCI-MS).

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