

Leather - Determination of chlorinated hydrocarbons in leather - Chromatographic method for short-chain chlorinated paraffins (SCCP) (ISO 18219:2015)

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 18219:2015 sisaldab Euroopa standardi EN ISO 18219:2015 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 18219:2015 consists of the English text of the European standard EN ISO 18219:2015.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 21.10.2015.	Date of Availability of the European standard is 21.10.2015.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile [standardiosakond@evs.ee](mailto:standardiosakond@evs.ee).

ICS 59.140.30

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardikeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardikeskusega:

Aru 10, 10317 Tallinn, Eesti; koduleht [www.evs.ee](http://www.evs.ee); telefon 605 5050; e-post [info@evs.ee](mailto:info@evs.ee)

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation:

Aru 10, 10317 Tallinn, Estonia; homepage [www.evs.ee](http://www.evs.ee); phone +372 605 5050; e-mail [info@evs.ee](mailto:info@evs.ee)

English Version

Leather - Determination of chlorinated hydrocarbons in  
leather - Chromatographic method for short-chain  
chlorinated paraffins (SCCP) (ISO 18219:2015)

Cuir - Dosage des hydrocarbures chlorés dans le cuir -  
Méthode chromatographique pour les paraffines  
chlorées à chaîne courte (PCCC) (ISO 18219:2015)

Leder - Bestimmung von chlorierten  
Kohlenwasserstoffen in Leder - Chromatographische  
Verfahren für kurzkettige Chlorparaffine (SCCP) (ISO  
18219:2015)

This European Standard was approved by CEN on 29 August 2015.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

## European foreword

This document (EN ISO 18219:2015) has been prepared by Technical Committee IULTCS "International Union of Leather Technologists and Chemists Societies" in collaboration with the Technical Committee CEN/TC 289 "Leather" the secretariat of which is held by UNI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 2016, and conflicting national standards shall be withdrawn at the latest by April 2016.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

### Endorsement notice

The text of ISO 18219:2015 has been approved by CEN as EN ISO 18219:2015 without any modification.

# Contents

Page

<b>Foreword</b> .....	<b>iv</b>
<b>Introduction</b> .....	<b>v</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Principle</b> .....	<b>1</b>
<b>4 Apparatus and materials</b> .....	<b>1</b>
<b>5 Chemicals</b> .....	<b>2</b>
<b>6 Sampling</b> .....	<b>2</b>
<b>7 Sample preparation and analysis</b> .....	<b>2</b>
7.1 Preparation of SCCP calibration solution (50 µg/ml) with 59 % chlorination degree.....	2
7.2 Extraction of leather.....	2
7.3 Clean up.....	3
7.4 GC-MS Determination.....	3
<b>8 Evaluation</b> .....	<b>3</b>
<b>9 Test report</b> .....	<b>4</b>
<b>Annex A (informative) Chromatographic analysis operating parameters</b> .....	<b>5</b>

## 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](http://www.iso.org/directives)).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

ISO 18219 was prepared by the Chemical Test Commission of the International Union of Leather Technologists and Chemists Societies (IUC Commission, IULTCS) in collaboration with the European Committee for Standardisation (CEN) Technical Committee CEN/TC 289, *Leather*, the secretariat of which is held by UNI, in accordance with the agreement on technical co-operation between ISO and CEN (Vienna Agreement).

IULTCS, originally formed in 1897, is a world-wide organization of professional leather societies to further the advancement of leather science and technology. IULTCS has three Commissions, which are responsible for establishing international methods for the sampling and testing of leather. ISO recognizes IULTCS as an international standardizing body for the preparation of test methods for leather.

## Introduction

Short-chain chlorinated paraffins (SCCP) are classified as dangerous to the environment, since they are very toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment.

In 2002, the European Directive 2002/45/EC restricted the sale and use of short-chain chlorinated paraffins (C<sub>10</sub>-C<sub>13</sub>) in product preparations for the fatliquoring of leather. Preparations containing concentrations equal or higher than 1 % of SCCP were forbidden. This Directive is included as part of the EU Regulation 1907/2006 (REACH). Within this EU Regulation, in October 2008, the short-chain chlorinated paraffins were added to the Candidate List of Substances of Very High Concern (SVHC).

# Leather — Determination of chlorinated hydrocarbons in leather — Chromatographic method for short-chain chlorinated paraffins (SCCP)

## 1 Scope

This International Standard specifies a chromatographic method to determine the amount of short-chain chlorinated paraffins (SCCP) C<sub>10</sub>-C<sub>13</sub> in processed and unprocessed leathers.

[Annex A](#) is for information only.

## 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 2418, *Leather — Chemical, physical and mechanical and fastness tests — Sampling location*

ISO 4044, *Leather — Chemical tests — Preparation of chemical test samples*

## 3 Principle

The test sample is extracted using *n*-hexane at 60 °C in an ultrasonic bath for 60 min. After SPE clean up, an aliquot is then analysed using a gas chromatograph fitted to a mass selective detector with chemical ionization (GC-ECNI-MS).

Liquid chromatography system with single quad (LC-MS) or triple quad mass spectrometry (LC-MS/MS) can also be used if the user has demonstrated that the accuracy of measurement is equivalent to that of the GC-ECNI-MS method.

## 4 Apparatus and materials

Normal laboratory apparatus and, in particular, the following.

**4.1 Analytical balance.**

**4.2 Sealable vessel**, with lid, 20 ml, suitable for extraction with *n*-hexane.

**4.3 Ultrasonic bath**, (temperature controlled).

**4.4 Pipette**, 1 ml to 10 ml capacity.

**4.5 Volumetric flask**, 2 ml.

**4.6 Solid phase extraction (SPE) system**, with vacuum device and normal phase SPE cartridges, for example 500 mg/6 ml, e.g. Chromabond columns, Sorbent: SiOH, 6 ml, 500 mg.

**4.7 PTFE membrane filter.**