

SLOVENSKI STANDARD
SIST EN ISO 18219-2:2021**01-september-2021****Nadomešča:****SIST EN ISO 18219:2015**

Usnje - Določevanje kloriranih ogljikovodikov v usnju - 2. del: Kromatografska metoda za srednje verige kloriranih parafinov (MCCP) (ISO 18219-2:2021)

Leather - Determination of chlorinated hydrocarbons in leather - Part 2: Chromatographic method for middle-chain chlorinated paraffins (MCCPs) (ISO 18219-2:2021)

Leder - Bestimmung von chlorierten Kohlenwasserstoffen in Leder - Teil 2: Chromatographisches Verfahren für mittelkettige chlorierte Paraffine (MCCP) (ISO 18219-2:2021)
ITIP STANDARD PREVIEW
(standards.iteh.ai)Cuir - Dosage des hydrocarbures chlorés dans le cuir - Partie 2: Méthode chromatographique pour les paraffines chlorées à chaîne moyenne (PCCM) (ISO 18219-2:2021)
SIST EN ISO 18219-2:2021
https://standards.iteh.ai/catalog/standards/sist/758636dc-196d-41a0-b368-4c3700270730/iso-18219-2:2021**Ta slovenski standard je istoveten z: EN ISO 18219-2:2021****ICS:**

59.140.30	Usnje in krzno	Leather and furs
71.040.50	Fizikalnokemijske analitske metode	Physicochemical methods of analysis

SIST EN ISO 18219-2:2021**en,fr,de**

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN ISO 18219-2:2021](https://standards.iteh.ai/catalog/standards/sist/738b30de-19bd-41a0-b3c0-ac3708f5107a/sist-en-iso-18219-2-2021)

<https://standards.iteh.ai/catalog/standards/sist/738b30de-19bd-41a0-b3c0-ac3708f5107a/sist-en-iso-18219-2-2021>

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 18219-2

June 2021

ICS 59.140.30

Supersedes EN ISO 18219:2015

English Version

Leather - Determination of chlorinated hydrocarbons in leather - Part 2: Chromatographic method for middle-chain chlorinated paraffins (MCCPs) (ISO 18219-2:2021)

Cuir - Dosage des hydrocarbures chlorés dans le cuir -
Partie 2: Méthode chromatographique pour les
paraffines chlorées à chaîne moyenne (PCCM) (ISO
18219-2:2021)

Leder - Bestimmung von chlorierten
Kohlenwasserstoffen in Leder - Teil 2:
Chromatographisches Verfahren für mittelkettige
chlorierte Paraffine (MCCP) (ISO 18219-2:2021)

This European Standard was approved by CEN on 7 May 2021.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, 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: Rue de la Science 23, B-1040 Brussels

Contents	Page
European foreword.....	3

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN ISO 18219-2:2021
<https://standards.iteh.ai/catalog/standards/sist/738b30de-19bd-41a0-b3c0-ac3708f5107a/sist-en-iso-18219-2-2021>

European foreword

This document (EN ISO 18219-2:2021) has been prepared by Technical Committee ISO/IULTCS "International Union of Leather Technologists and Chemists Societies" in collaboration with 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 December 2021, and conflicting national standards shall be withdrawn at the latest by December 2021.

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

This document supersedes EN ISO 18219:2015.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

iTeh STANDARD PREVIEW
Endorsement notice
(standards.iteh.ai)

The text of ISO 18219-2:2021 has been approved by CEN as EN ISO 18219-2:2021 without any modification.

[SIST EN ISO 18219-2:2021
https://standards.iteh.ai/catalog/standards/sist/738b30de-19bd-41a0-b3c0-ac3708f5107a/sist-en-iso-18219-2-2021](https://standards.iteh.ai/catalog/standards/sist/738b30de-19bd-41a0-b3c0-ac3708f5107a/sist-en-iso-18219-2-2021)

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN ISO 18219-2:2021

<https://standards.iteh.ai/catalog/standards/sist/738b30de-19bd-41a0-b3c0-ac3708f5107a/sist-en-iso-18219-2-2021>

INTERNATIONAL
STANDARD

ISO
18219-2

IULTCS
IUC 30-2

First edition
2021-05

**Leather — Determination of
chlorinated hydrocarbons in
leather —**

Part 2:

**Chromatographic method for middle-
chain chlorinated paraffins (MCCPs)**

iTeh STANDARD PREVIEW

(standards.iteh.ai)

Cuir — Dosage des hydrocarbures chlorés dans le cuir —

*Partie 2: Méthode chromatographique pour les paraffines chlorées à
chaîne moyenne (PCCM)*

[https://standards.iteh.ai/catalog/standards/sist/738b30de-19bd-41a0-b3c0-
ac3708f5107a/sist-en-iso-18219-2-2021](https://standards.iteh.ai/catalog/standards/sist/738b30de-19bd-41a0-b3c0-ac3708f5107a/sist-en-iso-18219-2-2021)



Reference numbers
ISO 18219-2:2021(E)
IULTCS/IUC 30-2:2021(E)

© ISO 2021

ISO 18219-2:2021(E)
IULTCS/IUC 30-2:2021(E)

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN ISO 18219-2:2021](https://standards.iteh.ai/catalog/standards/sist/738b30de-19bd-41a0-b3c0-ac3708f5107a/sist-en-iso-18219-2-2021)

<https://standards.iteh.ai/catalog/standards/sist/738b30de-19bd-41a0-b3c0-ac3708f5107a/sist-en-iso-18219-2-2021>



COPYRIGHT PROTECTED DOCUMENT

© ISO 2021

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Principle	1
5 Apparatus and materials	1
6 Reagents	2
7 Sampling	2
8 Sample preparation and analysis	2
8.1 Preparation of MCCPs calibration solution (50 µg/ml) with 55 % chlorination degree.....	2
8.2 Extraction of leather.....	3
8.3 Sulfuric acid clean-up.....	3
8.4 GC-ECNI-MS Determination.....	3
9 Expression of results	3
9.1 Evaluation.....	3
9.2 Ions used for quantification.....	3
9.3 Interference to MCCPs determination.....	3
9.4 Calculation.....	4
9.5 Precision.....	4
10 Test report	4
Annex A (informative) Gas chromatographic (GC-ECNI-MS) analysis operating parameters	6
Annex B (informative) Liquid chromatographic (LC-MS/MS) analysis operating parameters	8
Annex C (informative) Integration with peak shape evaluation (PSE) with GC-ECNI-MS	12
Bibliography	15

ISO 18219-2:2021(E)
IULTCS/IUC 30-2:2021(E)**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).

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).

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

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 the Chemical Test Commission of the International Union of Leather Technologists and Chemists Societies (IUC Commission, IULTCS) in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 289, *Leather*, the secretariat of which is held by UNI, in accordance with the agreement on technical cooperation 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.

A list of all parts in the ISO 18219 series can be found on the ISO website.

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.

Introduction

Middle-chain chlorinated paraffins (MCCPs) are a mixture of chlorinated hydrocarbons with a carbon chain length of 14 to 17, and a chlorine content range of 40 % to 70 %. MCCPs are expected to be persistent and bioaccumulative in the environment, based on their similar chemical and physical properties to short-chain chlorinated paraffins (SCCPs).

The analysis of chlorinated paraffins is a challenge. The technical compounds are mixtures of up to 200 congeners with different chain lengths and degrees of chlorination. GC chromatograms of these complex mixtures typically show a lot of overlapping peaks that can be difficult to separate. In particular, the responses to the various chlorination degrees can vary over a large range.

In addition, the presence of sulfochlorinated paraffins and equivalent chain-length chloroalkenes in such technical compounds can cause interference.

This document describes a procedure to compare the chromatogram results for MCCPs compounds from a test sample with the chromatogram results of a defined calibration standard of the most typically used mixture (55 % chlorination for MCCPs). With this GC-ECNI-MS (gas chromatography negative ion chemical ionization mass spectrometry) procedure it uses four ion traces for identifying the MCCPs.

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN ISO 18219-2:2021](https://standards.iteh.ai/catalog/standards/sist/738b30de-19bd-41a0-b3c0-ac3708f5107a/sist-en-iso-18219-2-2021)

<https://standards.iteh.ai/catalog/standards/sist/738b30de-19bd-41a0-b3c0-ac3708f5107a/sist-en-iso-18219-2-2021>