

# SLOVENSKI STANDARD

## SIST EN ISO 17226-1:2021

01-maj-2021

Nadomešča:

SIST EN ISO 17226-1:2019

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**Usnje - Kemijsko določevanje formaldehida - 1. del: Metoda s tekočinsko kromatografijo visoke ločljivosti (ISO 17226-1:2021)**

Leather - Chemical determination of formaldehyde content - Part 1: Method using high-performance liquid chromatography (ISO 17226-1:2021)

Leder - Chemische Bestimmung des Formaldehydgehalts - Teil 1: Verfahren mittels Flüssigkeitschromatographie (ISO 17226-1:2021)

Cuir - Dosage chimique du formaldéhyde - Partie 1: Méthode par chromatographie en phase liquide à haute performance (ISO 17226-1:2021)

**Ta slovenski standard je istoveten z: EN ISO 17226-1:2021**

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**ICS:**

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

**SIST EN ISO 17226-1:2021**

**en,fr,de**

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN ISO 17226-1**

March 2021

ICS 59.140.30

Supersedes EN ISO 17226-1:2019

English Version

**Leather - Chemical determination of formaldehyde content  
- Part 1: Method using high-performance liquid  
chromatography (ISO 17226-1:2021)**

Cuir - Dosage chimique du formaldéhyde - Partie 1:  
Méthode par chromatographie en phase liquide à haute  
performance (ISO 17226-1:2021)

Leder - Chemische Bestimmung des  
Formaldehydgehalts - Teil 1: Verfahren mittels  
Flüssigkeitschromatographie (ISO 17226-1:2021)

This European Standard was approved by CEN on 12 February 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.

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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.



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COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

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## European foreword

This document (EN ISO 17226-1:2021) has been prepared by Technical Committee 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 September 2021, and conflicting national standards shall be withdrawn at the latest by September 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 17226-1:2019.

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.

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The text of ISO 17226-1:2021 has been approved by CEN as EN ISO 17226-1:2021 without any modification.

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INTERNATIONAL  
STANDARD

ISO  
17226-1

IULTCS  
IUC 19-1

Third edition  
2021-02

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# Leather — Chemical determination of formaldehyde content —

## Part 1: Method using high-performance liquid chromatography

*Cuir — Dosage chimique du formaldéhyde —*

*Partie 1: Méthode par chromatographie en phase liquide à haute  
performance*

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# ISO 17226-1:2021(E) IULTCS/IUC 19-1:2021(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](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 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](http://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). This document is technically similar to the Colorimetric Section of the method IUC 19 which was declared an official method at the IULTCS Delegates meeting on 31st May 2003 in Cancún, Mexico.

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.

This third edition cancels and replaces the second edition (ISO 17226-1:2018), which has been technically revised.

The main changes to the previous edition are as follows:

- The listing of reagents in [Clause 6](#) has been reorganised.
- The composition of the dinitrophenylhydrazine (DNPH) solution ([6.10](#)) has changed. It no longer contains concentrated *o*-phosphoric acid. Under acid conditions some extracted synthetic tanning agents and resins can continue to release formaldehyde over time, giving incorrect high results.
- With the change in composition of the DNPH solution ([6.10](#)), the reaction time limits in the previous edition are no longer necessary. In [9.2.2](#) the reaction time and temperature have been increased to 180 min and 50 °C, respectively. Consequently, the text in [9.2.2](#), [9.2.3.1](#) and [9.2.3.2](#) has been modified.
- A new [Clause 10](#) has been added.

- In [Annex A](#), results of a new collaborative interlaboratory trial are presented.
- [Annex B](#) has been technically revised.

A list of all parts in the ISO 17226 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](http://www.iso.org/members.html).

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