

Leather - Chemical determination of formaldehyde content - Part 3: Determination of formaldehyde emissions from leather (ISO 17226-3:2011)

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NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN ISO 17226-3:2011 sisaldab Euroopa standardi EN ISO 17226-3:2011 ingliskeelset teksti.

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English Version

**Leather - Chemical determination of formaldehyde content - Part
3: Determination of formaldehyde emissions from leather (ISO
17226-3:2011)**

Cuir - Dosage chimique du formaldéhyde - Partie 3:
Dosage du formaldéhyde émis par le cuir (ISO 17226-
3:2011)

Leder - Chemische Bestimmung des Formaldehydgehalts -
Teil 3: Bestimmung der Formaldehydemissionen aus Leder
(ISO 17226-3:2011)

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

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Foreword

This document (EN ISO 17226-3:2011) has been prepared by Technical Committee CEN/TC 289 "Leather", the secretariat of which is held by UNI, in collaboration with the International Union of Leather Technologists and Chemists Societies.

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of an identical text or by endorsement, at the latest by November 2011, and conflicting national standards shall be withdrawn at the latest by November 2011.

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Leather — Chemical determination of formaldehyde content —

Part 3:

Determination of formaldehyde emissions from leather

1 Scope

This part of ISO 17226 specifies a method for determining the emission of formaldehyde from leathers. This method is based on high performance liquid chromatography (HPLC). It is selective and also allows the emission of other low molecular aldehydes and ketones to be observed.

This part of ISO 17226 deals with the release of formaldehyde to the gas phase. Therefore, the obtained results are not comparable with the results of methods described in ISO 17726-1 and ISO 17226-2 which are based on extraction with liquid water.

2 Normative references

The following referenced documents are indispensable for the application of this document. 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 2419, *Leather — Physical and mechanical tests — Sample preparation and conditioning*

ISO 3696:1987, *Water for analytical laboratory use — Specification and test methods*

ISO 4684, *Leather — Chemical tests — Determination of volatile matter*

3 Principle

A specimen with defined dimensions is held above demineralized water in a sealed bottle and is heated at constant temperature for a specific period. Afterwards, the bottle is cooled and the formaldehyde absorbed into the water is analysed. The water is mixed with 2,4-dinitrophenylhydrazine, whereby aldehydes and ketones react to give the respective hydrazones. These are separated by means of a reversed-phase HPLC method, detected at 360 nm and quantified.

4 Reagents

Use only reagents of recognized analytical grade, unless otherwise stated. The water shall be of grade 3 in accordance with ISO 3696:1987. All solutions are aqueous solutions.

4.1 Reagents for the formaldehyde stock solution

4.1.1 **Formaldehyde solution**, approximately 37 % (mass fraction).