
Usnje - Določevanje etoksilatnih alkilfenolov - 2. del: Posredna metoda (ISO 18218-2:2015)

Leather - Determination of ethoxylated alkylphenols - Part 2: Indirect method (ISO 18218-2:2015)

Leder - Chemische Bestimmung von ethoxylierten Alkylphenolen - Teil 2: Indirektes Verfahren (ISO 18218-2:2015)

Cuir - Détermination chimique des alkylphénols éthoxylés - Partie 2: Méthode indirecte (ISO 18218-2:2015)

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ICS:

59.140.30 Usnje in krzno

Leather and furs

SIST EN ISO 18218-2:2015

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EUROPEAN STANDARD

EN ISO 18218-2

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English Version

Leather - Determination of ethoxylated alkylphenols - Part 2: Indirect method (ISO 18218-2:2015)

Cuir - Détermination chimique des alkylphénols éthoxylés -
Partie 2: Méthode indirecte (ISO 18218-2:2015)

Leder - Bestimmung von ethoxylierten Alkylphenolen - Teil
2: Indirektes Verfahren (ISO 18218-2:2015)

This European Standard was approved by CEN on 28 February 2015.

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European foreword

This document (EN ISO 18218-2:2015) has been prepared by Technical Committee CEN/TC 289 “Leather”, the secretariat of which is held by UNI, in collaboration with Technical Committee IULTCS “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of an identical text or by endorsement, at the latest by December 2015, and conflicting national standards shall be withdrawn at the latest by December 2015.

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.

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**Leather — Determination of
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**Part 2:
Indirect method**

Cuir — Détermination chimique des alkylphénols éthoxylés —

Partie 2: Méthode indirecte
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ISO 18218-2:2015(E)
IULTCS/IUC 28-2:2015(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).

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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 18218-2 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 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.

ISO 18218 consists of the following parts, under the general title *Leather — Determination of ethoxylated alkylphenols*:

- *Part 1: Direct method*
- *Part 2: Indirect method*

Introduction

Nonylphenol ethoxylate belongs to the non-ionic surfactants. The biodegradation of nonylphenol ethoxylate releases the persistent pollutant branched nonylphenol. Nonylphenol is a hormonal acting substance that is toxic for waterborne organisms and many other organisms. For this reason, the release of nonylphenol ethoxylate into the environment has to be avoided.

In 2003, the European Directive 2003/53/EC restricted the sale and use of nonylphenol and nonylphenol ethoxylate in product preparations for industries with discharges to waste water. Preparations containing concentrations equal or higher than 0,1 % of nonylphenol ethoxylate or nonylphenol were forbidden. This directive is included as part of the EU Regulation 1907/2006 (REACH).

No detailed composition of the chemical substance nonylphenol ethoxylate can be given; it is assigned the general structural formula:



To cover the group of ethoxylates of 4-nonylphenol, branched and linear, the European Chemical Agency (ECHA) has assigned the substance the following definition: *4-nonylphenol, branched and linear, ethoxylated [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, ethoxylated covering UVCB and well-defined substances, polymers, and homologues, which include any of the individual isomers and/or combinations thereof].*

In the leather industry, nonylphenol ethoxylate and octylphenol ethoxylate surfactants have been used. However, the water insoluble substances, nonylphenol and octylphenol, have not been used. For this reason, two different analytical procedures have been prepared for analysing leather samples.

ISO 18218-1 is a method that directly determines the ethoxylated alkylphenol. It is an efficient procedure for the analysing of a larger number of leather samples. This procedure requires HPLC with triple quadrupole mass spectrometer (MSMS) to identify the nonylphenol ethoxylate and octylphenol ethoxylate.

This part of ISO 18218 is a procedure for analysing the alkylphenol. The ethoxylated alkylphenol is cleaved to form the alkylphenol, which is identified using high-performance liquid chromatography (HPLC) or gas chromatography-mass spectrometry (GC-MS) equipment. This method can also be used to indirectly determine the alkylphenol ethoxylate content in leather and process auxiliaries.