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

Cuir — Dosage des hydrocarbures chlorés dans le cuir — Méthode chromatographique pour les paraffines chlorées à chaîne courte (PCCC)

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Foreword

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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 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.

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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_{10}-C_{13}) 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).

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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_{10}-C_{13} 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.

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