INTERNATIONAL ISO 17075-1 **STANDARD IULTCS/IUC 18-1**

First edition 2017-02

Leather — Chemical determination of chromium(VI) content in leather —

Part 1: **Colorimetric method**

Cuir — Détermination chimique de la teneur en chrome(VI) du cuir — Partie 1: Méthode colorimétrique



Reference numbers ISO 17075-1:2017(E) IULTCS/IUC 18-1:2017(E)



© ISO 2017, Published in Switzerland

All rights reserved. Unless otherwise specified, 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 Ch. de Blandonnet 8 • CP 401 CH-1214 Vernier, Geneva, Switzerland Tel. +41 22 749 01 11 Fax +41 22 749 09 47 copyright@iso.org www.iso.org

ISO 17075-1:2017(E) IULTCS/IUC 18-1:2017(E)

Contents

For	eword		iv
1	Scop	e	1
2	Norm	native references	1
3	Term	is and definitions	1
4	Princ	ciple	2
5	Chem	nicals	2
6	Арра	ratus and materials	3
7	Proce 7.1 7.2 7.3 7.4 7.5 7.6	edure Sampling and preparation of samples Preparation of analytical solution Determination of chromium(VI) in the solution obtained from the extraction procedure Blank solution Calibration Determination of the recovery rate 7.6.1 Influence of the matrix 7.6.2 Influence of the SPE material (<u>6.9</u>)	3 3 4 5 5 5 5
8	Calcu 8.1 8.2 8.3	llation and expression of results Calculation of chromium(VI) content Recovery rate (according to 7.6.1) Expression of results	6 6 6 7
9	Test	report	7
Ann	nex A (inf	formative) Solid phase extraction (SPE) material	8
Ann	nex B (inf	formative) Accuracy	9
Ann	nex C (inf the io	Formative) Comparison between the colorimetric method (ISO 17075-1) and conic chromatography method (ISO 17075-2)	1

ISO 17075-1:2017(E) **IULTCS/IUC 18-1:2017(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 <u>www.iso.org/directives</u>).

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 <u>www.iso.org/patents</u>).

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

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 World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html

ISO 17075-1 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.

This first edition of ISO 17075-1, together with ISO 17075-2, cancels and replaces ISO 17075:2007, which has been technically revised.

The main changes compared to ISO 17075:2007 are as follows:

- the sample preparation has been revised;
- mechanical shaking in <u>7.1</u>, <u>7.2</u> and <u>7.3</u> has been revised.

A list of all parts in the ISO 17075 series can be found on the ISO website.

Leather — Chemical determination of chromium(VI) content in leather —

Part 1: Colorimetric method

1 Scope

This document specifies a method for determining chromium(VI) in solutions leached from leather under defined conditions. The method described is suitable to quantify the chromium(VI) content in leathers down to 3 mg/kg.

This document is applicable to all leather types.

The results obtained from this method are strictly dependent on the extraction conditions. Results obtained by using other extraction procedures (extraction solution, pH, extraction time, etc.) are not comparable with the results produced by the procedure described in this document.

If a leather sample is tested with both this document and ISO 17075-2, the results obtained with ISO 17075-2 are considered as the reference. The advantage of the method described in ISO 17075-2 is that there are no interferences from the colour of the extract. Nevertheless, interlaboratory trials do not show significant differences (see <u>Annex C</u>) and the results are comparable between both methods.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 3696, Water for analytical laboratory use — Specification and test methods

ISO 4044:2017, Leather — Chemical tests — Preparation of chemical test samples

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

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

ISO Online browsing platform: available at http://www.iso.org/obp

— IEC Electropedia: available at <u>http://www.electropedia.org/</u>

3.1

chromium(VI) content

amount of chromium (VI) in leather determined after extraction with an aqueous salt solution at pH 7,0 to 8,0

Note 1 to entry: The chromium(VI) content is reported as chromium(VI) in milligrams per kilogram (mg/kg), expressed as the dry mass of the sample.