

Leather - Chemical tests - Determination of tan content in synthetic tanning agents (ISO 17489:2013)

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NATIONAL FOREWORD

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English Version

Leather - Chemical tests - Determination of tan content in synthetic tanning agents (ISO 17489:2013)

Cuir - Essais chimiques - Détermination de la teneur en tanin dans les agents de tannage synthétiques (ISO 17489:2013)

Leder - Chemische Prüfungen - Bestimmung des Gerbanteils in Gerbstoffen (ISO 17489:2013)

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Foreword

This document (EN ISO 17489:2013) has been prepared by 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of an identical text or by endorsement, at the latest by May 2014, and conflicting national standards shall be withdrawn at the latest by May 2014.

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Endorsement notice

The text of ISO 17489:2013 has been approved by CEN as EN ISO 17489:2013 without any modification.

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Introduction

The ISO Standard, ISO 14088, is the traditional method for analysing the tanning component in a tanning agent. It uses chromium (III) tanned hide powder and determines the proportion of tanning agent that is adsorbed onto the hide powder. The non-adsorbable fraction, consisting largely of inorganic salts, remains in the tanning solution. By determining the dry content of the initial tanning solution and the non-adsorbable fraction, one calculates the adsorbable fraction – this is the tanning component in the tanning agent.

In this manner, the traditional hide powder method is used to determine the tanning strength of tanning agents. However, for reproducible test results this method requires considerable expertise from the operator in the preparation and packing of hide powder filter cartridges. In addition, the time for the filtration can be very long and the method is not suitable when results are needed in a short period of time, such as during the production quality control when manufacturing synthetic tanning agents.

The co-polymers of vinylimidazole and vinylpyrrolidone are used for removing polyphenolic compounds and metals from wine. This polymer-based powder offers a simple and practical alternative to hide powder for the routine testing of synthetic tanning agents, such as in a manufacturing facility. Interlaboratory trials (given in [Table A.1](#)) show the reproducibility and precision of repeat testing is better for the polymer-based powder.

The two procedures, ISO 14088 and ISO 17489, use different adsorbing substrates; consequently, the value for the adsorbable fraction will be different and the results obtained can only be compared when made with the same adsorbing substrate.

EVS-EN ISO 17489:2013

Leather — Chemical tests — Determination of tan content in synthetic tanning agents

1 Scope

This International Standard specifies a simple and practical method of determining the adsorbable fraction of synthetic tanning agents using a polymer-based product. It is particularly suitable for measuring the batch-to-batch consistency of synthetic tanning agents.

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

3 Terms and definitions

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

3.1

tan content

adsorbable fraction of a synthetic tanning agent when mixed in a water solution with a crosslinked, insoluble vinylimidazole/ vinylpyrrolidone copolymer product

4 Principle

An acidified synthetic tanning agent solution and an insoluble copolymer product are mixed at room temperature. The insoluble copolymer absorbs polyphenols from the tanning agent. The dry content of the solution before and after mixing with the absorbing copolymer are measured. The difference is the adsorbable fraction, called the tan content.

5 Reagents

5.1 Crosslinked, insoluble vinylimidazole/vinylpyrrolidone copolymer (see [Annex B](#)).

5.2 Formic acid solution, a mass fraction of 50 %.

5.3 Gelatine, pure, AR grade.

5.4 Sodium chloride, AR grade.

5.5 Deionised or distilled water, in compliance with grade 3 in ISO 3696:1987.

6 Apparatus

Normal laboratory equipment and the following items: