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Textiles — Determination of formaldehyde —

Part 3: Free and hydrolysed formaldehyde (extraction method) by liquid chromatography

Textiles — Dosage du formaldéhyde —

Partie 3: Formaldéhyde libre et hydrolysé (méthode par extraction) par chromatographie liquide

Reference number
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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

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Foreword

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This document was prepared by Technical Committee ISO/TC 38, *Textiles*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 248, *Textiles and textile products,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

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Textiles — Determination of formaldehyde —

Part 3: Free and hydrolysed formaldehyde (extraction method) by liquid chromatography

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1 Scope

This document specifies a method for determining the amount of free formaldehyde and formaldehyde extracted partly through hydrolysis by means of an extraction method. The method can be applied for the testing of textile fibres, fabrics or yarns.

NOTE This method, based on liquid chromatography (LC), is selective and not sensitive to coloured extracts and is intended to be used for precise quantification of formaldehyde.

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

3 Terms and definitions

No terms and definitions are listed in this document.

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

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

— IEC Electropedia: available at https://www.electropedia.org/

4 Conformity

Compared with ISO 14184-1, the two analytical methods should give similar trends but not necessarily the same absolute result. Therefore, in cases of dispute, the method in this document shall be used in preference to ISO 14184-1 (see Note in Clause 1).

5 Principle

The sample is extracted with extraction solution at 40 °C. The eluate is mixed with 2,4-dinitrophenylhydrazine (DNPH), whereby formaldehyde reacts to give the respective hydrazone. It is separated by liquid chromatography with ultraviolet detector (LC-UV) or liquid chromatography with

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