INTERNATIONAL STANDARD

ISO 6488

Second edition
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Tobacco and tobacco products — Determination of water content — Karl Fischer method

Tabac et produits du tabac — Détermination de la teneur en eau — Méthode de Karl Fischer

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ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 6488 was prepared by Technical Committee ISO/TC 126, *Tobacco and tobacco products*.

This second edition of ISO 6488 cancels and replaces ISO 6488-1:1997, which has been technically revised.

Introduction

During the development of International Standards, inter-laboratory tests were carried out using two different principles for the determination of water content of raw tobacco and tobacco taken from finished products. These were

— this Karl Fischer procedure, and

— the gas chromatographic procedure.

These studies show that no differences occur between the results obtained by the two different methods. The gas chromatographic method is described in ISO 16632.

Tobacco and tobacco products — Determination of water content — Karl Fischer method

1 Scope

This International Standard specifies a method for the determination of water content by the Karl Fischer method. It is applicable to raw tobacco as well as tobacco taken from finished products. The method is suitable for water contents ranging from a mass fraction of at least 2 % to 55 %.

2 Normative references

The following referenced documents are indispensable for the application 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 648, *Laboratory glassware — One-mark pipettes*

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

ISO 4874, *Tobacco — Sampling of batches of raw material — General principles*

ISO 8243, *Cigarettes — Sampling*

ISO 10362-2, *Cigarettes — Determination of water in smoke condensates — Part 2: Karl Fischer method*

ISO 15592-1, *Fine-cut tobacco and smoking articles made from it — Methods of sampling, conditioning and analysis — Part 1: Sampling*

3 Terms and definitions

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

3.1
high-moisture tobacco
any tobacco sample containing volatile matter over 20 % as determined by drying at between 100 °C and 105 °C

4 Principle

The water content of a sample of tobacco or a tobacco product is determined by extraction of water by shaking the sample with dry methanol, followed by injection of an aliquot portion into the titration vessel, titration with pyridine-free Karl Fischer reagent and calculation of the water content. The method is applicable to any type of tobacco sample provided that the particle size reduction is less than 4 mm.

NOTE If a size reduction (grinding or cutting) is applied, it can create a decrease in the original water content. Cryogenic techniques may be used to prevent such moisture losses.