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j Tobacco and tobacco products — Determination of water content — **Gas-chromatographic method**

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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.

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, www.iso.org/directives.

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

The committee responsible for this document is ISO/TC 126, Tobacco and tobacco products.

This second edition cancels and replaces the first edition (ISO 16632:2003), subclause 5.2 and the bibliography of which have been technically revised and a warning notice has been added.

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Introduction

During the development of this International Standard, interlaboratory tests were carried out using two different principles for the determination of the water content of raw tobacco and tobacco taken from finished products. These were

- the gas-chromatographic procedure, and
- the Karl Fischer procedure.

These studies show that no differences occur between the results obtained by the two different methods. The Karl Fischer method is described in ISO 6488.

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Tobacco and tobacco products — Determination of water content — Gas-chromatographic method

WARNING — The use of this standard can involve hazardous materials, operations and equipment. This International Standard does not purport to address all the safety problems associated with its use. It is the responsibility of the user of this International Standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

1 Scope

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

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, 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 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 methanolic extraction, followed by capillary GC analysis with thermal conductivity detection, using isopropanol as internal standard. 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.

5 Reagents

Use only reagents of recognized analytical grade.

5.1 Carrier gas: helium.