INTERNATIONAL STANDARD

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Rubber — Analysis by pyrolytic gas-chromatographic methods —

Part 1: Identification of polymers (single polymers and polymer blends)

Caoutchouc — Méthodes d'analyse par pyrolyse et chromatographie en phase gazeuse —

Partie 1: Identification des polymères (un seul polymère ou un mélange de polymères)

Reference number
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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 (see www.iso.org/directives).

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 www.iso.org/patents).

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

For an explanation of the voluntary nature of standards, 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 www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 45, *Rubber and rubber products*, Subcommittee SC 2, *Testing and analysis*.

This second edition cancels and replaces the first edition (ISO 7270-1:2003), of which it constitutes a minor revision. It also incorporates the Amendment ISO 7270-1:2003/Amd.1:2010.

The main changes compared to the previous edition are as follows:

— normative references have been updated in Clause 2.

A list of all parts in the ISO 7270 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Rubber — Analysis by pyrolytic gas-chromatographic methods —

Part 1: Identification of polymers (single polymers and polymer blends)

WARNING 1 — Persons using this document should be familiar with normal laboratory practice. This document does not purport to address all of the safety problems, if any, associated with its use. It is the responsibility of the user to establish appropriate safety and health practices and to determine the applicability of any other restrictions.

WARNING 2 — Certain procedures specified in this document might involve the use or generation of substances, or the generation of waste, that could constitute a local environmental hazard. Reference should be made to appropriate documentation on safe handling and disposal after use.

1 Scope

This document specifies a method for the identification of polymers, or blends of polymers, in raw rubbers and in vulcanized or unvulcanized compounds from pyrograms (pyrolysis-gas chromatographic patterns) obtained under the same conditions. This allows qualitative identification of single rubbers or blends, with exceptions discussed below. This document is not intended for quantitative analysis.

The method applies first and foremost to single polymers. When the pyrogram indicates a characteristic hydrocarbon, the method is also applicable to blends. For details, see Clause 5. The method can be also applicable to other types of polymer when verified by the analyst in each particular case.

NOTE The use of this document pre-supposes sufficient working knowledge of the principles and techniques of gas chromatography to enable the analyst to carry out the operations described and to interpret the results correctly.

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 1407:2011, *Rubber — Determination of solvent extract*

ISO 1629:2013, *Rubber and latices — Nomenclature*

3 Terms and definitions

No terms and definitions are listed in this document.

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

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

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