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Rubber — Determination of solvent extract

Caoutchouc — Détermination de l'extrait par les solvants

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Foreword

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

The fifth edition cancels and replace the fourth edition (ISO 1407:2011), which has been technically revised.

The main changes are as follows:

— corrections to clarify mass measurement accuracy have been made;

— warnings to ensure safety in operations have been added;

— the CAS Registry Numbers®[1)] have been added for all chemicals listed in this document

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.

1) Chemical Abstracts Service (CAS) Registry Number® is a trademark of the American Chemical Society (ACS). This information is given for the convenience of users of this document and does not constitute an endorsement by ISO of the product named. Equivalent products may be used if they can be shown to lead to the same results.

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Rubber — Determination of solvent extract

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 can 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 four methods for the quantitative determination of the material extractable from raw rubbers, both natural and synthetic; two of the methods are also applicable to the unvulcanized and vulcanized rubber compounds.

Method A measures the mass of the solvent extract, after evaporation of the solvent, relative to the mass of the original test portion.

Method B measures the difference in the mass of the test portion before and after extraction.

Method C, which is for raw rubbers only, measures the difference in the mass of the test portion before and after extraction using boiling solvent.

Method D, which is for raw rubbers only, measures the difference in the mass of the test portion before and after extraction relative to the mass of the original test portion.

NOTE 1 Depending on the test method used, the conditioning of the test portion and the solvent used, the test result is not necessarily the same.

NOTE 2 Method C generally gives results which are lower than those obtained with methods A and B due to an equilibrium which is set up, particularly if large test portions are used, depending on the content and the nature of the extractable matter. Method C is, however, a quicker method than method A or method B.

NOTE 3 Methods C and D are not suitable if the test portion disintegrates during the extraction.

NOTE 4 Method D is normally used for production controls.

Recommendations as to the solvent most appropriate for each type of rubber are given in Annex A.

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 1795, *Rubber, raw natural and raw synthetic — Sampling and further preparative procedures*

ISO 4661-2, *Rubber, vulcanized — Preparation of samples and test pieces — Part 2: Chemical tests*

3 Terms and definitions

No terms and definitions are listed in this document.

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