INTERNATIONAL STANDARD

ISO 6209

Fourth edition
2009-07-15

Rubber compounding ingredients — Carbon black — Determination of solvent-extractable material

Ingrédients de mélange du caoutchouc — Noir de carbone — Détermination des matières extractibles par les solvants

Reference number
ISO 6209:2009(E)

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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 6209 was prepared by Technical Committee ISO/TC 45, *Rubber and rubber products*, Subcommittee SC 3, *Raw materials (including latex) for use in the rubber industry*.

This fourth edition cancels and replaces the third edition (ISO 6209:1988), which has been technically revised.

The main changes are as follows:

— the extraction time has been reduced to 8 h (instead of 16 h);

— precision data have been included (see Annex A).

Rubber compounding ingredients — Carbon black — Determination of solvent-extractable material

WARNING — Persons using this International Standard should be familiar with normal laboratory practice. This standard 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 ensure compliance with any national regulatory conditions.

Carbon blacks may contain polycyclic aromatic hydrocarbons, some of which are known carcinogens. These compounds, when present, are so strongly bound to the carbon black that they are not biologically active. They can, however, be removed by the procedure specified in this International Standard. Care should therefore be taken to avoid skin contact with solvent extracts from such carbon blacks.

1 Scope

This International Standard specifies a method for the quantitative determination of the solvent-extractable material in carbon black for use in the rubber industry. The method is applicable to all types of carbon black.

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 1124, *Rubber compounding ingredients — Carbon black shipment sampling procedures*

ISO 1126:2006, *Rubber compounding ingredients — Carbon black — Determination of loss on heating*

3 Principle

A test portion is extracted for 8 h. The solvent is then eliminated by evaporation and the extract obtained is weighed.

NOTE If the carbon black contains extractable materials which are volatile at the temperature required to eliminate the solvent, or materials which are removed by the preliminary drying, such materials will not be detected by the procedure specified.

This test provides a uniform and precise method for the gravimetric determination of organic-solvent-extractable materials in carbon black. Accuracy and precision are acceptable for most specification or regulatory purposes, or both. However, carbon black with a very low extract (less than 0,02 %) may require a more rigorous extraction procedure.

4 Extraction solvent

The solvent used shall be of recognized analytical grade. The use of toluene is recommended as it is the solvent of choice in most food-contact-related legislation.