
**Paper, board and pulp — Determination
of water-soluble sulfates**

Papier, carton et pâte — Détermination des sulfates solubles dans l'eau



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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.ch
Web www.iso.ch

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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 3.

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 International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 9198 was prepared by Technical Committee ISO/TC 6, *Paper, board and pulps*.

This second edition cancels and replaces the first edition (ISO 9198:1989), of which it constitutes a technical revision.

There are two major differences between this and the previous edition of ISO 9198.

- a) The extraction is now done at 23 °C, whereas boiling water was used in the previous edition.
- b) Ion chromatography, a technique now widely used for the determination of anions because of its high sensitivity and selectivity, replaces the conductometric titration using barium chloride and lithium sulfate solutions in the former edition.

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Paper, board and pulp — Determination of water-soluble sulfates

1 Scope

This International Standard specifies a method for the determination of water-soluble sulfates in all types of pulp, paper and board. The lower limit of the determination is 20 mg of sulfate ion per kilogram of dry sample.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 186:1994, *Paper and board — Sampling to determine average quality*.

ISO 287:1985, *Paper and board — Determination of moisture content — Oven-drying method*.

ISO 638:1978, *Pulps — Determination of dry matter content*.

ISO 7213:1981, *Pulps — Sampling for testing*.

3 Term and definition

For the purposes of this International Standard, the following term and definition applies.

3.1

water-soluble sulfates

(in pulp, paper and board) amount of sulfate ion that is extracted with water at 23 °C and determined under the conditions specified

4 Principle

Pieces of the sample are extracted with water at 23 °C in a disintegrator. An aliquot of the resulting suspension is used for determination of the sulfate ion content by ion chromatography.

5 Reagents

Use only reagents of recognized analytical quality and only water as specified in 5.1.

5.1 Distilled water or **deionized water**, of conductivity less than 0,1 mS/m at 25 °C.