

INTERNATIONAL STANDARD

**ISO
4283**

Third edition
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All grades of fluorspar — Determination of carbonate content — Titrimetric method

Tous les spaths fluor — Dosage des carbonates — Méthode titrimétrique



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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.

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.

International Standard ISO 4283 was prepared by Technical Committee ISO/TC 175, *Fluorspar*.

This third edition cancels and replaces the second edition (ISO 4283:1990), which has been updated.

Annex A of this International Standard is for information only.

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International Organization for Standardization

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All grades of fluorspar — Determination of carbonate content — Titrimetric method

1 Scope

This International Standard specifies a titrimetric method for the determination of the carbonate content of all grades of fluorspar.

The method is applicable to products having carbonate contents, expressed as calcium carbonate (CaCO_3), equal to or greater than 0,04 % (m/m).

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 565:1990, *Test sieves — Metal wire cloth, perforated metal plate and electroformed sheet — Nominal sizes of openings*.

ISO 4793:1980, *Laboratory sintered (fritted) filters — Porosity grading, classification and designation*.

ISO 8868:1989, *Fluorspar — Sampling and sample preparation*.

3 Principle

Treatment of a test portion with hydrochloric acid solution, absorption of the evolved carbon dioxide in

barium hydroxide solution, neutralization of excess alkali with hydrochloric acid solution, addition of an exactly measured excess of a standard volumetric hydrochloric acid solution to dissolve the precipitated barium carbonate and back-titration with a standard volumetric sodium hydroxide solution using methyl orange or screened methyl orange as indicator.

4 Reagents

During the analysis, use only reagents of recognized analytical grade and only distilled water or water of equivalent purity, free from carbon dioxide.

4.1 Butan-1-ol.

4.2 Nitrogen, free from carbon dioxide.

4.3 Boric acid.

4.4 Barium chloride dihydrate ($\text{BaCl}_2 \cdot 2\text{H}_2\text{O}$), 122 g/l solution.

4.5 Hydrochloric acid, ρ approximately 1,12 g/ml, about 25 % (m/m) solution.

Dilute 3 volumes of concentrated hydrochloric acid (ρ approximately 1,19 g/ml) with 2 volumes of water.

4.6 Pumice, impregnated with copper(II) sulfate.

Mix grains of pumice with a saturated copper(II) sulfate solution. Allow to stand for 1 h and filter off the pumice grains. Dry the impregnated grains in an oven (5.3) at 150 °C to 180 °C.