
**Soil quality — Dissolution for the
determination of total element content —**

**Part 1:
Dissolution with hydrofluoric and
perchloric acids**

*Qualité du sol — Mise en solution pour la détermination des teneurs
élémentaires totales —*

Partie 1: Mise en solution par l'acide fluorhydrique et l'acide perchlorique

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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 part of ISO 14869 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 14869-1 was prepared by Technical Committee ISO/TC 190, *Soil quality*, Subcommittee SC 3, *Chemical methods and soil characteristics*.

ISO 14869 consists of the following parts, under the general title *Soil quality — Dissolution for the determination of total element content*:

Part 1: Dissolution with hydrofluoric and perchloric acids

Part 2: Dissolution by alkaline fusion

Soil quality — Dissolution for the determination of total element content —

Part 1:

Dissolution with hydrofluoric and perchloric acids

WARNING — Several stages in the procedure of this part of ISO 14869 are potentially hazardous, especially those involving hydrofluoric and perchloric acids. Users should familiarize themselves with the necessary safety precautions and, where appropriate, any legal requirements for their use. If in doubt, seek professional advice.

1 Scope

This part of ISO 14869 specifies a method for the complete dissolution, using hydrofluoric and perchloric acids, of the following elements in soils:

— Al, Ba, Cd, Ca, Cs, Cr, Co, Cu, Fe, K, Li, Mg, Mn, Na, Ni, P, Pb, Sr, V, Zn.

This procedure may be appropriate for the subsequent determination of other elements provided their concentrations are high enough relative to the sensitivity of the methods of measurement.

The low acid concentration of the final solution allows the use of a large range of analytical devices and the volatilization of silicon simplifies analytical procedures.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 14869. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 14869 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 3696:1987, *Water for analytical laboratory use — Specification and test methods*.

ISO 11464:1994, *Soil quality — Pretreatment of samples for physico-chemical analysis*.

ISO 11465:1993, *Soil quality — Determination of dry matter and water content on mass basis — Gravimetric method*.

ISO 14869-2:—¹⁾, *Soil quality — Dissolution for the determination of total element content — Part 2: Dissolution by alkaline fusion*.

1) To be published.