
**Soil quality — Determination of nitrate,
nitrite and ammonium in field-moist soils
by extraction with potassium chloride
solution —**

**Part 2:
Automated method with segmented flow
analysis**

*Qualité du sol — Dosage des nitrates, des nitrites et de l'ammonium
dans des sols bruts par extraction avec une solution de chlorure de
potassium —*

Partie 2: Méthode automatisée avec analyse en flux segmenté



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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.org
Web www.iso.org

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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 14256-2 was prepared by Technical Committee ISO/TC 190, *Soil quality*, Subcommittee SC 3, *Chemical methods and soil characteristics*.

ISO 14256 consists of the following parts, under the general title *Soil quality — Determination of nitrate, nitrite and ammonium in field-moist soils by extraction with potassium chloride solution*:

- *Part 1: Manual method*
- *Part 2: Automated method with segmented flow analysis*

Soil quality — Determination of nitrate, nitrite and ammonium in field-moist soils by extraction with potassium chloride solution —

Part 2: Automated method with segmented flow analysis

1 Scope

This part of ISO 14256 describes an automated method for the determination of nitrate, nitrite and ammonium in a 1 mol/l potassium chloride extract of field-moist soil samples.

This part of ISO 14256 is applicable to all types of soils homogenized by suitable methods.

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 3696:1987, *Water for analytical laboratory use — Specification and test methods*

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

3 Principle

The homogenized soil samples are extracted by means of 1 mol/l potassium chloride solution. The concentrations of the inorganic nitrogen compounds nitrate, nitrite and ammonium in the extracts are determined using automated spectrophotometric methods.

NOTE The method of determination specified in this part of ISO 14256 is based on segmented flow analysis systems. Continuous flow analysis systems may also be appropriate.

4 Reagents

Use only reagents of recognized analytical grade.

4.1 Water, of grade 2 in accordance with ISO 3696, having a specific conductivity not higher than 0,2 mS/m at 25 °C.

4.2 Ammonium chloride, (NH₄Cl).

4.3 Potassium chloride, KCl.