



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 41223-2021

**Soil quality - Determination of potential nitrification and
inhibition of nitrification - Rapid test by ammonium oxidation**

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foreword

This document is in accordance with the provisions of GB/T 1:1-2020 "Guidelines for Standardization Work Part 1: Structure and Drafting Rules of Standardization Documents"

drafted:

This document is identical to ISO 15685:2012 "Determination of soil quality nitrification potential and nitrification inhibition rapid test for ammonia oxidation

Law":

The following minimal editorial changes have been made to this document:

---5:8 added note;

--- Added Appendix NA (informative):

Please note that some content of this document may be patented: The issuing agency of this document assumes no responsibility for identifying patents:

1 Scope

This document specifies a method for the rapid determination of ammonia oxidation for soil nitrification potential and nitrification inhibition:

This document is applicable to the determination of nitrification potential and nitrification inhibition of all soils containing nitrifying microbial populations and can be used for soil quality

and rapid detection of pollutant quality, also suitable for detection of farming methods, chemical substances [except volatile substances, i.e: H (Henry constant) >1], biological

Effects of solid extracts and soil contaminants on soil nitrification:

2 Normative references

The contents of the following documents constitute essential provisions of this document through normative references in the text: Among them, dated citations

documents, only the version corresponding to that date applies to this document; for undated references, the latest edition (including all amendments) applies to this document:

ISO 10381-6 Soil quality sampling - Part 6: Laboratory determination of soil quality for microbial processes, biomass and diversity

Guidelines for Oxygen Collection, Processing and Storage (Soil quality-Sampling-Part 6: Guidance on the collection, handling and

storage of soil under aerobic conditions for the assessment of microbiological processes, biomass and

diversity in the laboratory)

Note: GB/T 32725-2016 Guidelines for aerobic collection, treatment and storage of soils for laboratory determination of microbial processes, biomass and diversity (ISO

10381-6:2009, IDT)

ISO 10390 Determination of soil quality pH (Soil quality-Determination of pH)

ISO 10694 Soil quality Determination of organic carbon and total carbon after dry burning (elemental analysis method) [Soil quality-Determination of

organic and total carbon after dry combustion (elementary analysis)]

ISO 11260 Soil Quality Determination of Effective Cation Exchange Capacity and Base Saturation Level with Barium Chloride Solution (Soil quality-Determination of

effective cation exchange capacity and base saturation level using barium chloride solution)

tion)

ISO 11261 Soil quality-Determination of total nitrogen modified Kjeldahl method (Soil quality-Determination of total nitrogen-Modified Kjeldahl method)

gen-Modified Kjeldahl method)

ISO 11277 Soil quality-Determination of particle size distribution of mineral soil substances by sieving sedimentation method (Soil quality-Determination of particle size distribution in mineral soil material-Method by sieving and sedimentation)

of particle size distribution in mineral soil material-Method by sieving and sedimentation)

ISO 11465 Soil quality Gravimetric method for the determination of dry matter and moisture content based on mass (Soil quality-Determination of dry matter and water content on a mass basis-Gravimetric method)

of dry matter and water content on a mass basis-Gravimetric method)

ISO 14238 Biological methods for soil quality Determination of nitrogen mineralization and

nitrification in soils and the effect of chemicals in the process

(Soil quality-Biological methods-Determination of nitrogen mineralization and nitrification in soils and the influence of chemicals on these processes)

ISO 14256-2 Soil quality Determination of nitrate, nitrite and ammonium content in field water-holding soil by potassium chloride solution extraction method No: 1

Part 2: Automatic segmented flow analysis method

(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)