

STN	Kvalita pôdy Návod pre výber a hodnotenie biologických skúšok na ekotoxikologickú charakterizáciu pôd a pôdných materiálov (ISO 17616: 2019)	STN EN ISO 17616 46 5239
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Soil quality - Guidance on the choice and evaluation of bioassays for ecotoxicological characterization of soils and soil materials (ISO 17616:2019)

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 12/22

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English Version

**Soil quality - Guidance on the choice and evaluation of
bioassays for ecotoxicological characterization of soils and
soil materials (ISO 17616:2019)**

Qualité du sol - Lignes directrices relatives aux choix et
à l'évaluation des essais appliqués pour la
caractérisation écotoxicologique des sols et des
matériaux de type sol (ISO 17616:2019)

Bodenbeschaffenheit - Anleitung für die Auswahl und
Beurteilung von Biotestverfahren zur
ökotoxikologischen Charakterisierung von Böden und
Bodenmaterialien (ISO 17616:2019)

This European Standard was approved by CEN on 9 October 2022.

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EN ISO 17616:2022 (E)

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European foreword

The text of ISO 17616:2019 has been prepared by Technical Committee ISO/TC 190 "Soil quality" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 17616:2022 by Technical Committee CEN/TC 444 "Environmental characterization of solid matrices" the secretariat of which is held by NEN.

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Endorsement notice

The text of ISO 17616:2019 has been approved by CEN as EN ISO 17616:2022 without any modification.

INTERNATIONAL STANDARD

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Second edition
2019-10

Soil quality — Guidance on the choice and evaluation of bioassays for ecotoxicological characterization of soils and soil materials

*Qualité du sol — Lignes directrices relatives aux choix et
à l'évaluation des essais appliqués pour la caractérisation
écotoxicologique des sols et des matériaux de type sol*



Reference number
ISO 17616:2019(E)

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ISO 17616:2019(E)

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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 190, *Soil quality*, Subcommittee SC 4, *Biological characterization*.

This second edition cancels and replaces the first edition (ISO 17616:2008), which has been technically revised. The main changes compared to the previous edition are as follows:

- definitions for “soil use” and “ecosystem service” ^[10] have been added to [Clause 3](#);
- end points of ecotoxicity tests (e.g. mortality, reproduction, growth, genotoxicity, and other functional activities), as well as the overall principles and application of test batteries have been clarified in [Clause 4](#);
- sub-chronic toxicity tests have been added;
- [Figure 1](#) was revised;
- [Tables 1](#) and [2](#) (test batteries for retention and habitat function assessment, respectively) have been revised (test categories, test organisms added/deleted, references updated).

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Introduction

The characterization of contaminated soils can be based on strategies considering chemical analyses and/or bioassays. ISO 15799 provides guidance on the selection of experimental methods for the assessment of the ecotoxic potential of soils and soil materials (e.g. excavated and remediated soils, refills, embankments) with respect to their intended use or re-use, and possible adverse effects on aquatic and soil dwelling organisms.

An assessment strategy giving instructions for the choice and evaluation of test results is hence proposed. The evaluation of the bioassays outcome is based on empirically-derived critical dilution levels that take into account the sensitivity of the test system and the intended use/re-use of the site under investigation. This approach intends to contribute to an effective and comparable assessment within the ecotoxicological characterization of contaminated soil or soil materials^[1]. The test systems included in this approach are not mandatory and may be replaced or accomplished by other test methods. Nevertheless, the selected test systems have proved to appropriately characterize contaminated soils and soil materials with respect to their ecotoxic properties^{[2],[3]}, both towards aquatic and terrestrial organisms, the latter being responsible for maintaining essential soil functions.

Soil quality — Guidance on the choice and evaluation of bioassays for ecotoxicological characterization of soils and soil materials

1 Scope

This document is one of the family of standards (ISO 15799, ISO 19204) providing guidance on the characterization of soils and soil materials in relation to their retention and habitat functions and uses. It is appropriate to use it in conjunction with the two other standards in this family. It provides guidance on the choice and evaluation of tests applied for ecotoxicological characterization of soils and soil materials. Recommendations for test strategies with respect to the protection of ground and surface waters and the maintenance of the habitat function of soil are included. The tests recommended represent a minimum test battery that can be complemented by additional tests, or even be replaced by others, according to the intended uses or protection goals envisaged. The effect values indicated in this document do not refer to regulation but represent the lowest level at which an adverse effect is considered likely to occur.

2 Normative references

There are no normative references in this document.

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