



NSAI
Standards

Irish Standard
I.S. EN ISO 20963:2011

Soil quality - Effects of pollutants on
insect larvae (*Oxythyrea funesta*) -
Determination of acute toxicity (ISO
20963:2005)

I.S. EN ISO 20963:2011

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English Version

Soil quality - Effects of pollutants on insect larvae (*Oxythyrea funesta*) - Determination of acute toxicity (ISO 20963:2005)

Qualité du sol - Effets des polluants vis-à-vis des larves d'insectes (*Oxythyrea funesta*) - Détermination de la toxicité aiguë (ISO 20963:2005)

Bodenbeschaffenheit - Auswirkungen von Schadstoffen auf Insektenlarven (*Oxythyrea funesta*) - Bestimmung der akuten Toxizität (ISO 20963:2005)

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Foreword

The text of ISO 20963:2005 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 20963:2011 by Technical Committee CEN/TC 345 "Characterization of soils" the secretariat of which is held by NEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by December 2011, and conflicting national standards shall be withdrawn at the latest by December 2011.

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Endorsement notice

The text of ISO 20963:2005 has been approved by CEN as a EN ISO 20963:2011 without any modification.

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I.S. EN ISO 20963:2011

INTERNATIONAL STANDARD

ISO 20963

First edition
2005-04-01

Soil quality — Effects of pollutants on insect larvae (*Oxythyrea funesta*) — Determination of acute toxicity

*Qualité du sol — Effets des polluants vis-à-vis des larves d'insectes
(*Oxythyrea funesta*) — Détermination de la toxicité aiguë*



Reference number
ISO 20963:2005(E)

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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 20963 was prepared by Technical Committee ISO/TC 190, *Soil quality*, Subcommittee SC 4, *Biological methods*.

Introduction

This International Standard describes a method for the determination of the acute toxicity of contaminated soils and chemicals to the larvae of *Oxythyrea funesta*, a phytophagous coleopteran (*Scarabaeidae*, *Cetoniinae*) with wide geographic distribution (Europe, North Africa and the Middle East).

Oxythyrea funesta has many characteristics which make it suitable for soil quality monitoring or testing effects of chemicals:

- ecological relevance: this type of organism contributes in many ways to soil structure by stimulating soil aeration and drainage;
- the first stages of development, i.e. incubation of eggs, larval cycle and pupation, are underground;
- the larvae of *Oxythyrea funesta* are tolerant to modifications of the test substrate granulometry;
- this species can be bred under controlled conditions.

Soil quality — Effects of pollutants on insect larvae (*Oxythyrea funesta*) — Determination of acute toxicity

1 Scope

This International Standard describes a method for the determination of the effects of contaminated soils and substances on the survival of the larvae of *Oxythyrea funesta*. The larvae are exposed to the pollutants by cuticular and alimentary uptake.

For contaminated soils, the effects on the survival are determined in the test soil and in a control soil. Depending on the objectives of the study, the control and dilution substrates (dilution series of contaminated soil) are either uncontaminated soil comparable to the soil sample to be tested or artificial soil substrate. Effects of substances are assessed using a defined artificial soil substrate.

This International Standard is not applicable to volatile substances, i.e. substances for which Henry's constant or the air/water partition coefficient is greater than 1, or for which the vapour pressure exceeds 0,001 33 Pa at 25 °C.

NOTE This method does not take into account the possible degradation of the substances or pollutants during the test.

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 10381-6, *Soil quality — Sampling — Part 6: Guidance on the collection, handling and storage of soil for the assessment of aerobic microbial processes in the laboratory*

ISO 10390, *Soil quality — Determination of pH*

ISO 11268-1, *Soil quality — Effects of pollutants on earthworms (Eisenia fetida) — Part 1: Determination of acute toxicity using artificial soil substrate*

ISO 11269-2:—¹⁾, *Soil quality — Determination of the effects of pollutants on soil flora — Part 2: Effects of chemicals on the emergence and growth of higher plants*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

1) To be published. (Revision of ISO 11269-2:1995)

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