

Measurement of radioactivity in the environment - Soil -
Part 2: Guidance for the selection of the sampling
strategy, sampling and pre-treatment of samples (ISO
18589-2:2015)

EESTI STANDARDI EESSÕNA

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ICS 13.080.01, 17.240

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Measurement of radioactivity in the environment - Soil -
Part 2: Guidance for the selection of the sampling strategy,
sampling and pre-treatment of samples (ISO 18589-
2:2015)

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Sol - Partie 2: Lignes directrices pour la sélection de la
stratégie d'échantillonnage, l'échantillonnage et le
prétraitement des échantillons (ISO 18589-2:2015)

Ermittlung der Radioaktivität in der Umwelt -
Erdboden - Teil 2: Leitlinie für die Auswahl der
Probenahmestrategie, Probenahme und
Vorbehandlung der Proben (ISO 18589-2:2015)

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European foreword

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Endorsement notice

The text of ISO 18589-2:2015 has been approved by CEN as EN ISO 18589-2:2017 without any modification.

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Introduction

This International Standard is published in several parts to be used jointly or separately according to needs. ISO 18589-1 to ISO 18589-6 concerning the measurements of radioactivity in the soil, have been prepared simultaneously. These parts are complementary and are addressed to those responsible for determining the radioactivity present in soils. The first two parts are general in nature. ISO 18589-3 to ISO 18589-5 deal with radionuclide-specific measurements and ISO 18589-6 deals with non-specific measurements of gross alpha or gross beta activities. ISO 18589-7 deals with the measurement of gamma emitters radionuclides using *in situ* spectrometry.

Additional parts can be added to ISO 18589 in the future if the standardization of the measurement of other radionuclides becomes necessary.

Measurement of radioactivity in the environment — Soil —

Part 2:

Guidance for the selection of the sampling strategy, sampling and pre-treatment of samples

1 Scope

This part of ISO 18589 specifies the general requirements, based on ISO 11074 and ISO/IEC 17025, for all steps in the planning (desk study and area reconnaissance) of the sampling and the preparation of samples for testing. It includes the selection of the sampling strategy, the outline of the sampling plan, the presentation of general sampling methods and equipment, as well as the methodology of the pre-treatment of samples adapted to the measurements of the activity of radionuclides in soil.

This part of ISO 18589 is addressed to the people responsible for determining the radioactivity present in soil for the purpose of radiation protection. It is applicable to soil from gardens, farmland, urban, or industrial sites, as well as soil not affected by human activities.

This part of ISO 18589 is applicable to all laboratories regardless of the number of personnel or the range of the testing performed. When a laboratory does not undertake one or more of the activities covered by this part of ISO 18589, such as planning, sampling, or testing, the corresponding requirements do not apply.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 31-9, *Quantities and units — Part 9: Atomic and nuclear physics*

ISO 11074, *Soil quality — Vocabulary*

ISO/IEC 17025, *General requirements for the competence of testing and calibration laboratories*

ISO 18589-1, *Measurement of radioactivity in the environment — Soil — Part 1: General guidelines and definitions*

3 Terms, definitions, and symbols

For the purposes of this document, the terms, definitions, and symbols given in ISO 31-9, ISO 18589-1, ISO 11074, and the following apply.

e	thickness of the layer sampled
m_{ss}	wet mass of the sorted sample
m'_{ss}	wet mass of a subsample of the sorted sample
m_{ts}	dry mass of the test sample
a	activity per unit of mass of the test sample
A_S	activity per unit area