
**Measurement of radioactivity in the
environment -- Soil –
Part 2:
Guidance for the selection of the
sampling strategy, sampling and pre-
treatment of samples**

ICS: 17.240; 13.080.01



**Mauritius Standards Bureau
Moka**

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National foreword

This Mauritian Standard is identical with the International Standard **ISO 18589-2:2015**, *Measurement of radioactivity in the environment -- Soil -- Part 2: Guidance for the selection of the sampling strategy, sampling and pre-treatment of samples*. It was adopted by the Mauritius Standards Bureau on the recommendation of the **Metrology Standards Committee** and approval of the Standards Council on 15 June 2016. It was notified in the Government Gazette on **23 July 2016**. *

For the purposes of this standard the following change should be made:

- wherever the word '*International standard*' appears, referring to this standard, it should be read as '*Mauritian Standard*'.

* General Notice No. 1048 of 2016



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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 18589-1 was prepared by Technical Committee ISO/TC 85, *Nuclear energy*, Subcommittee SC 2, *Radiation protection*.

ISO 18589 consists of the following parts, under the general title *Measurement of radioactivity in the environment — Soil*:

— *Part 1: General guidelines and definitions*

The following parts are under preparation:

— *Part 2: Sampling strategy, sampling, and pre-treatment of samples*

— *Part 3: Measurements of gamma emitting radionuclides*

— *Part 4: Measurement of plutonium by alpha spectroscopy*

— *Part 5: Measurements of strontium 90*

— *Part 6: Measurements of gross alpha and gross beta activities*

Introduction

This document was prepared following discussions during meetings of WG 17 in Tokyo 2000-05-8/10, Recife 2001-09-17/19, Paris 2002-01-15/16, Paris 2002-03-26/27, Ringhals 2002-05-27/29, Paris 2002-10-14/15, Paris 2003-03-03/04, Paris 2003-06-16/17 and Paris 2003-12-08/09.

This part of ISO 18589 has been prepared simultaneously with five other parts concerning the measurements of radioactivity in the soil environment, and is complementary to the latter documents.

ISO 18589 Parts 1 to 6 are addressed to those responsible for determining the radioactivity present in soils. This International Standard is published in several parts to be used jointly or separately according to needs. Parts 1 and 2 are general in nature. Parts 3 to 5 deal with nuclide-specific measurements, Part 6 with non-specific measurements of gross alpha or gross beta activities.

Further parts may be added to this International Standard in the future if the standardization of measurements of other radionuclides becomes necessary.

PREVIEW

Measurement of radioactivity in the environment — Soil —

Part 1: General guidelines and definitions

1 Scope

This part of ISO 18589 specifies the general requirements to carry out radionuclides tests on soil sample, including sampling.

This part of ISO 18589 is addressed to people responsible for determining the radioactivity present in soils for the purpose of radiation protection. This may concern soils from gardens and 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 extent of the scope of testing activities. 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 requirements of those clauses do not apply.

This part of ISO 18589 is to be used in conjunction with other parts of ISO 18589 that outline the setting up of programmes and sampling techniques, methods of general processing of samples in the laboratory and also methods for measuring the radioactivity in soil. Its purpose is the following:

- define the main terms relating to soils, sampling, radioactivity and its measurement;
- describe the origins of the radioactivity in soils;
- define the main objectives of the study of radioactivity in soil samples;
- present the principles of studies of soil radioactivity;
- identify the analytical and procedural requirements when measuring radioactivity in soil.

This part of ISO 18589 is applicable if radionuclide measurements for the purpose of radiation protection are to be made in the following cases:

- initial characterization of radioactivity in the environment;
- routine surveillance of the impact of nuclear installations or of the evolution of the general territory;
- investigations of accident and incident situations;
- planning and surveillance of remedial action;
- decommissioning of installations or clearance of materials.

This part of ISO 18589 is not intended to cover scientific investigations of soil radioactivity and therefore does not apply to aspects of such measurements.