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STANDARD

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Soil quality — Sampling —

Part 6:

Guidance on the collection, handling and storage of soil for the assessment of aerobic microbial processes in the laboratory

Qualité du sol — Échantillonnage —

Partie 6: Lignes directrices pour la collecte, la manipulation et la conservation de sols destinés à une étude en laboratoire des processus microbiens aérobies



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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.

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.

International Standard ISO 10381-6 was prepared by Technical Committee ISO/TC 190, *Soil quality*, Sub-Committee SC 2, *Sampling*.

ISO 10381 consists of the following parts, under the general title *Soil quality — Sampling*:

- *Part 1: Guidance on the design of sampling programmes*
- *Part 2: Guidance on sampling techniques*
- *Part 3: Guidance on safety of sampling*
- *Part 4: Guidance on the investigation of natural and cultivated soils*
- *Part 5: Guidance on the investigation on soil contamination of urban and industrial sites*
- *Part 6: Guidance on the collection, handling and storage of soil for the assessment of aerobic microbial processes in the laboratory*

Annex A of this part of ISO 10381 is for information only.

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Introduction

Soils are both complex and heterogenous because they consist of both living and non-living components occurring in different combinations. Therefore, the condition of the soil, from collection to completion of an experiment, should be considered in relation to effects on the soil microflora. Temperature, water content, availability of oxygen and duration of storage are all known to affect the soil microflora, and thus the processes they mediate.

Soils can, however, be used effectively in laboratory systems to investigate microbially-mediated processes, provided that the dynamics of the living microflora are appreciated. This part of ISO 10381 provides guidance on the collection, handling and storage of soil for laboratory use where aerobic microbial activity is the main component of the study. It describes how to minimize the effects of differences in temperature, water content and availability of oxygen on aerobic processes to facilitate reproducible laboratory determinations [Anderson (1987) [1], Bartha and Pramer (1965) [2]].