Australian Standard®

Analysis of soil

Part 1: Pretreatment of potentially contaminated soil samples for heavy metal and metalloid analysis

This Australian Standard was prepared by Committee CH/28, Sampling and Analysis of Soils and Biota. It was approved on behalf of the Council of Standards Australia on 28 March 1997 and published on 5 June 1997.

The following interests are represented on Committee CH/28:

Association of Consulting Engineers, Australia
Australasian Institute of Mining and Metallurgy
Australian Collaborative Land Evaluation Program
Australian Gas Association
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Australian Institute of Environmental Health
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PREFACE

This Standard was prepared by the Standards Australia Committee CH/28, Sampling and Analysis of Soils and Biota and is based on ISO 11464:1994(E), *Soil quality—Pretreatment of samples for physico-chemical analyses*.

The objective of this Standard is to provide the procedures for drying, sieving, crushing, milling and subsampling of the laboratory soil sample to obtain that fraction of particle size less than 2 mm prior to chemical analysis.

The terms 'normative' and 'informative' have been used in this Standard to define the application of the appendix to which they apply. A 'normative' appendix is an integral part of a Standard, whereas an 'informative' appendix is only for information and guidance.

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STANDARDS AUSTRALIA

Australian Standard

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Part 1: Pretreatment of potentially contaminated soil samples for heavy metal and metalloid analysis

1 SCOPE This Standard specifies the pretreatment of potentially contaminated soil samples required for heavy metal and metalloid analysis. This Standard sets out the procedures for drying, crushing, sieving, subsampling and milling of the samples.

NOTES:

1 The procedure specified in this Standard requires not less than 500 g of field moist soil.

2 This method is not appropriate for some volatile metal/metalloid species which may be subject to evaporative losses during some stages of the sample pretreatment procedure. Furthermore, because of the many and varied situations involved in potentially contaminated sites and their associated soil types, the analyst is required to make decisions as to the most appropriate sample pretreatment sequence for analysis. As a result some changes to the procedure outlined in this method may be necessary; this will depend on the nature of the soil and the objectives of the analytical program.

2 REFERENCED DOCUMENTS The following documents are referred to in this Standard:

AS
1152 Specification for test sieves

2243 Safety in laboratories
2243.1 Part 1: General
2243.2 Part 2: Chemical aspects
2243.3 Part 3: Microbiology

2252 Biological safety cabinets
2252.1 Part 1: Biological safety cabinets (Class 1) for personnel and environment protection
2252.2 Part 2: Laminar flow biological safety cabinets (Class II) for personnel and product protection

3 DEFINITIONS For the purpose of this Standard, the definitions below apply.

3.1 Archive sample—a dried, crushed and sieved sample stored for any future use.

3.2 Laboratory sample—a field condition sample as prepared by the sampling personnel for sending to the laboratory and intended for inspection and testing.

3.3 Test portion—a quantity of material taken from the test sample on which the test or observation is actually carried out.

3.4 Test sample—a sample prepared under the analyst's direction from the laboratory sample and from which test portions will be taken.