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Soil and waste — Determination of chromium(VI) in solid material by alkaline digestion and ion chromatography with spectrophotometric detection

ISO/TC 190/SC 3

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Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Safety remarks	1
5 Principle	2
5.1 Digestion	2
5.2 Determination	2
5.3 Interferences and sources of error	2
6 Apparatus	3
7 Reagents	3
8 Sample pretreatment	6
9 Alkaline digestion procedure	6
9.1 General	6
9.2 Preparation of test solutions using a hotplate or heating block	6
10 Analytical procedure	7
10.1 General information	7
10.2 Instrumental set-up	7
10.3 Calibration	7
10.4 Test solution measurement	7
10.5 Quality control	8
10.5.1 General	8
10.5.2 Blank test solution	8
10.5.3 Verification of method	8
10.5.4 Duplicate samples	8
10.5.5 Soluble Cr(VI) spiked samples	8
10.5.6 Cr(III) spiked samples	9
10.5.7 Interpretation of quality control data	9
11 Calculation	9
12 Expression of results	10
13 Test report	10
Annex A (informative) Ion chromatographic system	11
Annex B (informative) Requirements for test portion preparation	13
Annex C (informative) Validation	14
Annex D (informative) Background on methods for the determination of Cr(VI) in solid samples	19
Bibliography	23

Foreword

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This document was prepared by Technical Committee ISO/TC 190, *Soil quality*, Subcommittee SC 3, *Chemical and physical characterization*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 444, *Environmental characterization of solid matrices*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This third edition cancels and replaces the second edition (ISO 15192:2021), which has been technically revised.

The main changes are as follows:

- integration of the determination of the total chromium in the alkaline digestion solution;
- addition of barium chromate as an alternative to lead chromate for the verification of the method in [10.5.3](#);
- the text has been editorially revised, including updating of references.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

Under environmental conditions chromium in compounds exists in the trivalent, Cr(III), or the hexavalent, Cr(VI) state. Chromium is an essential trace element for mammals, including man, whereas it is presumed that Cr(VI) compounds are genotoxic and potentially carcinogenic in humans. Interconversion of trivalent and hexavalent chromium species can occur during sample preparation and analysis, but these processes are minimised, to the extent possible, by the sample preparation methods prescribed by this document.

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