INTERNATIONAL STANDARD

ISO 18412

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Water quality — Determination of chromium(VI) — Photometric method for weakly contaminated water

Qualité de l'eau — Dosage du chrome(VI) — Méthode photométrique pour des eaux faiblement contaminées

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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 18412 was prepared by Technical Committee ISO/TC 147, *Water quality*, Subcommittee SC 2, *Physical, chemical and biochemical methods*.

Introduction

The user should be aware that particular problems could require the specification of additional conditions.

Water quality — Determination of chromium(VI) — Photometric method for weakly contaminated water

WARNING — Persons using this International Standard should be familiar with normal laboratory practice. This International Standard does not purport to address all of the safety problems, if any, associated with its use. It is the responsibility of the user to establish appropriate safety and health practices and to ensure compliance with any national regulatory conditions. Care should be taken in handling potassium dichromate due to its carcinogenicity.

IMPORTANT — It is absolutely essential that tests conducted according to this standard be carried out by suitably trained staff.

1 Scope

This International Standard specifies a method for the determination of chromium(VI) in drinking water in mass concentrations between 2 µg/l and 50 µg/l. For the determination of higher concentrations, the sample is diluted prior to analysis. The method may also be applied to weakly polluted ground and surface water, provided the matrix does not contain interfering reducing agents. This method has not been verified for estuarine water and seawater, so the user is responsible for the validation of the method for these matrices. The photometric determination of chromium(VI) in waste water is carried out according to ISO 11083, *Water quality — Determination of chromium(VI) — Spectrometric method using 1,5-diphenylcarbazide*.

2 Normative references

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

ISO 3696, *Water for analytical laboratory use — Specification and test methods*

ISO 5667-1, *Water quality — Sampling — Part 1: Guidance on the design of sampling programmes*

ISO 5667-2, *Water quality — Sampling — Part 2: Guidance on sampling techniques*

ISO 5667-3, *Water quality — Sampling — Part 3: Guidance on the preservation and handling of samples*

ISO 8466-1, *Water quality — Calibration and evaluation of analytical methods and estimation of performance characteristics — Part 1: Statistical evaluation of the linear calibration function*

ISO 8466-2, *Water quality — Calibration and evaluation of analytical methods and estimation of performance characteristics — Part 2: Calibration strategy for non-linear second-order calibration functions*

3 Interferences

Reducing agents in the sample may lead to negative bias for the chromium(VI) concentration. Concentrations of sulfide up to 0,2 mg/l do not interfere.