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Water quality — Determination of the chronic toxicity to *Brachionus calyciflorus* in 48 h

Qualité de l'eau — Détermination de la toxicité chronique vis-à-vis de Brachionus calyciflorus *en 48 h*

Reference number
ISO 20666:2008(E)

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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 20666 was prepared by Technical Committee ISO/TC 147, *Water quality*, Subcommittee SC 5, *Biological methods*.

Introduction

The evaluation of harmful effects on water quality has for several years involved the performance of biological tests. Rotifera, and especially the species *Brachionus calyciflorus*, are of interest from the ecotoxicological standpoint because they offer the advantage of breeding by parthenogenesis and of possessing a very short generation time: a single mother maintained under favourable conditions over 48 h reproduces several times. *Brachionus calyciflorus* is an organism of the zooplankton, which lives in fresh water. These animals are primary consumers and serve as prey for a large number of fish larvae and invertebrates.

The test specified in this International Standard is carried out over 48 h and therefore involves at least three reproductions from a single parent organism (see Reference [11]).

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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.

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

1 Scope

This International Standard specifies a method for the determination of the chronic toxicity to rotifer *Brachionus calyciflorus*, based on population growth inhibition in 48 h.

The method is applicable to:

a) chemical substances which are soluble or which can be maintained as stable suspensions or dispersions under the conditions of the test;

b) industrial or sewage effluents, treated or untreated, if appropriate after decantation, filtration or centrifugation;

c) fresh waters;

d) aqueous extracts.

This International Standard is not applicable to the testing of unstable chemicals (hydrolysing, absorbing, etc.) in water unless exposure concentration is measured, nor to the testing of aquatic samples from the estuarine or marine environment.

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 5667-16:1998, *Water quality — Sampling — Part 16: Guidance on biotesting of samples*

ISO 5814, *Water quality — Determination of dissolved oxygen — Electrochemical probe method*

ISO 10523, *Water quality — Determination of pH*