
**Water quality — Determination of the
acute toxicity to the marine rotifer
*Brachionus plicatilis***

*Qualité de l'eau — Détermination de la toxicité aiguë envers
le rotifère marin Brachionus plicatilis*

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Reference number
ISO 19820:2016(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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/TC 147, *Water quality*, Subcommittee SC 5, *Biological methods*.

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Introduction

The evaluation of harmful effects on chemicals and pollutants on the biota in marine and estuarine environments has, for several years, involved the performance of biological tests.

Rotifers, and especially the species *Brachionus plicatilis*, are of interest from the ecotoxicological view because they are often an important component of the zooplankton and serve as prey for small fish and larger invertebrates.

The test specified in this International Standard involves determination of the lethal effects of toxicants to the marine rotifer, *Brachionus plicatilis*, after 24 h or 48 h exposure (depending on the intended use of the results). Prolongation of the exposure to 48 h is advised since it substantially increases the sensitivity of the assay.

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WARNING — Persons using this document should be familiar with normal laboratory practice. This document 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 in accordance with this document be carried out by suitably qualified staff.

1 Scope

This International Standard specifies a method for the determination of the lethal effects of toxicants to *Brachionus plicatilis* after 24 h or 48 h exposure.

The method is applicable to the following:

- a) chemical substances which are soluble or which can be maintained as a stable suspension of dispersions under the conditions of the test;
- b) industrial or sewage effluents, treated or untreated, if appropriate after decantation, filtration, or centrifugation;
- c) marine or estuarine waters;
- d) sediment elutriates/eluates.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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, *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*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

control batch

series of replicates containing control solution

[SOURCE: ISO 6341:2012, 3.1]

3.2

LC₅₀

concentration of dilution of the test sample which gives rise to 50 % mortality of the test organisms