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Water quality — Determination of fresh water sediment toxicity to *Heterocypris incongruens* (Crustacea, Ostracoda)

Qualité de l'eau — Détermination de la toxicité des sédiments d'eau douce envers Heterocypris incongruens (Crustacea, Ostracoda)



Reference number
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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.

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ISO 14371 was prepared by Technical Committee ISO/TC 147, *Water quality*, Subcommittee SC 5, *Biological methods*.

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Introduction

The evaluation of harmful effects on water quality has for several years involved the performance of biological tests. Historically, toxicity tests have mainly focused on the impact of pollutants present in the water column of aquatic ecosystems, without considering the hazard of toxicants present and accumulating in the sediments.

“Direct contact” tests in which the test organisms are exposed to the whole sediment have been gradually developed with endobenthic species, such as chironomid larvae [*Chironomus riparius* or *Chironomus dilutus* (formerly *C. tentans*)] or epibenthic amphipod crustaceans (*Hyaella azteca*).

The test specified in this International Standard is a direct contact test for determination of the percentage mortality and/or growth inhibition on the fresh water ostracod *Heterocypris incongruens* (Ramdohr, 1808) after 6 d exposure to a whole sediment (see References [1], [2]).

H. incongruens is a cosmopolitan ostracod species, which has to date already been used extensively for toxicity testing not only of whole sediments, but also by extension on sludges and soils (see References [3]–[21]).

The direct contact test with *H. incongruens* has a sensitivity which is quite similar to that of the amphipod crustacean *Hyaella azteca* and the midge larva *Chironomus riparius* (see References [22]–[25]).

The assays are performed with neonates hatched from dormant eggs (cysts), which bypasses the need for culturing or maintaining live stock cultures of test organisms.

H. incongruens neonates (150 µm to 200 µm) are substantially smaller than *Hyaella azteca* and *Chironomus riparius*, and the assays can be performed in much smaller test containers, hence require much less bench space and incubator space.

The effects are evaluated after a shorter exposure time (6 d) than in the assays with the amphipod crustacean (10 d to 28 d) and midge larvae species (10 d to 28 d).