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Water quality — Determination of the acute toxicity of waste water to zebrafish eggs (*Danio rerio*)

Qualité de l'eau — Détermination de la toxicité aiguë des eaux résiduelles vis-à-vis des œufs de poisson-zèbre (Danio rerio)



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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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Introduction

Fish play a major role in the aquatic food web. They are high-order consumers (often final consumers) and have important functions of regulation in aquatic ecosystems. They are a confirmed part within test concepts regarding aquatic organisms from different trophic levels.

The eggs of the zebrafish (*Danio rerio* Hamilton-Buchanan) are used as test material. The zebrafish belongs to the family of Cyprinidae (carp-related fish) within the class of Osteichthyes (teleost fish). Zebrafish are easy to keep and produce transparent, nonadhesive eggs (diameter about 1 mm) throughout the whole year. Their embryonic development is well described. The zebrafish is one of the most important model fish in research on the developmental biology of vertebrates and is recommended as a test fish, i.e. in the OECD Guidelines 203, 204 and 210.

The development of fertilized fish eggs can be affected by water constituents and effluents. Death of embryos and certain defined disturbances of embryonic development, which finally lead to death, are considered effects.