

Water quality — Evaluation of genotoxicity by measurement of the induction of micronuclei —

Part 1: Evaluation of genotoxicity using amphibian larvae

ICS 13.060.70

National foreword

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The UK participation in its preparation was entrusted by Technical Committee EH/3, Water quality, to Subcommittee EH/3/5, Biological methods, which has the responsibility to:

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- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

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Summary of pages

This document comprises a front cover, an inside front cover, the ISO title page, pages ii to v, a blank page, pages 1 to 15 and a back cover.

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Water quality — Evaluation of genotoxicity by measurement of the induction of micronuclei —

Part 1: Evaluation of genotoxicity using amphibian larvae

*Qualité de l'eau — Évaluation de la génotoxicité par le mesurage de
l'induction de micronoyaux —*

Partie 1: Évaluation de la génotoxicité à l'aide de larves d'amphibiens



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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 21427-1 was prepared by Technical Committee ISO/TC 147, *Water quality*, Subcommittee SC 5, *Biological methods*.

ISO 21427 consists of the following parts, under the general title *Water quality — Evaluation of genotoxicity by measurement of the induction of micronuclei*:

- *Part 1: Evaluation of genotoxicity using amphibian larvae*
- *Part 2: Mixed population method using the cell line V79*

Introduction

Environmental protection calls for taking into account the genotoxic hazards likely to concern the different populations making up ecosystems. Since such hazards may emerge within waters, it is essential to assess them by means of laboratory tests that allow the evaluation, within aqueous environments, of the genotoxicity of a water, effluent, substance or preparation with respect to organisms living in aquatic environments.

This part of ISO 21427 describes a test method that is likely to provide information in this field. It allows the highlighting, within aqueous environments, of the genotoxic effects on larvae of the two amphibian species, *Xenopus laevis* and *Pleurodeles waltl*.

The choice of the *Xenopus* is recommended because of several advantages offered by this species: high hatching rates, available all year round after hormone treatment of the breeders, rapid larval development, easy feeding of larvae, widespread distribution within research or breeding centres. However, the described method is, basically, also applicable to *Pleurodeles* larvae. The provisions specific to *Pleurodeles* are described in Annex A.

