



NSAI
Standards

Irish Standard
I.S. EN ISO 21427-2:2009

**Water quality - Evaluation of genotoxicity
by measurement of the induction of
micronuclei - Part 2: Mixed population
method using the cell line V79 (ISO
21427-2:2006)**

I.S. EN ISO 21427-2:2009

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Water quality - Evaluation of genotoxicity by measurement of the induction of micronuclei - Part 2: Mixed population method using the cell line V79 (ISO 21427-2:2006/Cor 1:2009)

Qualité de l'eau - Evaluation de la génotoxicité par le mesurage de l'induction de micronoyaux - Partie 2: Méthode de la population mélangée à l'aide de la lignée de cellules V79 (ISO 21427-2:2006/Cor 1:2009)

Wasserbeschaffenheit - Bestimmung der Gentoxizität mit dem In-vitro-Mikrokerntest - Teil 2: Verwendung einer nicht-synchronisierten V79-Zellkulturlinie (ISO 21427-2:2006/Cor 1:2009)

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Ce corrigendum prendra effet le 10 juin 2009 pour incorporation dans la version anglaise officielle de la EN.

Die Berichtigung tritt am 10.Juni 2009 zur Einarbeitung in die offizielle Englische Fassung der EN in Kraft.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: Avenue Marnix 17, B-1000 Brussels

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English Version

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This European Standard was approved by CEN on 1 March 2009.

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Management Centre: Avenue Marnix 17, B-1000 Brussels

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Foreword

The text of ISO 21427-2:2006 has been prepared by Technical Committee ISO/TC 147 "Water quality" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 21427-2:2009 by Technical Committee CEN/TC 230 "Water analysis" the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by September 2009, and conflicting national standards shall be withdrawn at the latest by September 2009.

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INTERNATIONAL STANDARD

ISO 21427-2

First edition
2006-11-15

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

Part 2: Mixed population method using the cell line V79

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

*Partie 2: Méthode de la population mélangée à l'aide de la lignée de
cellules V79*



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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 21427-2 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*

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

Part 2: Mixed population method using the cell line V79

WARNING — Persons using this part of ISO 21427 should be familiar with normal laboratory practice. This 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 part of ISO 21427 be carried out by suitably trained staff.

1 Scope

This part of ISO 21427 specifies a method for the determination of genotoxicity of water and waste water using a mammalian *in vitro* test which detects damage, induced by water-soluble substances, to the chromosomes or the mitotic apparatus of V79 cells from the Chinese hamster.

The micronucleus test allows the identification of substances that cause cytogenetic damage which results in the formation of micronuclei containing lagging chromosome fragments and/or whole chromosomes.

The assay is based on the increase in the frequency of micronucleated cells after incubation with and without metabolic activation.

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

3 Terms and definitions

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

3.1

cell lines

distinct families of cells grown in culture originated from a single clone

3.2

cofactor solution

aqueous solution of chemicals (e.g. NADP, Glucose-6-phosphate and inorganic salts) needed for the activity of the enzymes in the S9 fraction

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