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**Water quality — Guidelines for selective  
immunoassays for the determination of  
plant treatment and pesticide agents**

*Qualité de l'eau — Lignes directrices relatives aux dosages  
immunologiques sélectifs pour la détermination des agents de traitement  
des plantes et des pesticides*



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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 15089 was prepared by Technical Committee ISO/TC 147, *Water quality*, Subcommittee SC 2, *Physical, chemical, biochemical methods*.

Annexes A and B of this International Standard are for information only.

# Water quality — Guidelines for selective immunoassays for the determination of plant treatment and pesticide agents

## 1 Scope

This International Standard specifies a guide for the selective quantitative analysis by immunoassays of environmental chemicals such as pesticides (including insecticides) or their metabolites in drinking, ground and surface water.

The application range of the procedure for the analysis of pesticides in drinking water applies to mass concentrations  $\geq 0,05 \mu\text{g/l}$ . Therefore, the determination limit should be in this case  $\leq 0,05 \mu\text{g/l}$ .

## 2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 5667-1:1980, *Water quality — Sampling — Part 1: Guidance on the design of sampling programmes*.

ISO 5667-2:1991, *Water quality — Sampling — Part 2: Guidance on sampling techniques*.

ISO 5667-3:1994, *Water quality — Sampling — Part 3: Guidance on the preservation and handling of samples*.

ISO/TR 13530:1997, *Water quality — Guide to analytical quality control for water analysis*.

## 3 Terms and definitions

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

### 3.1

#### **affinity**

strength of binding of antibody to analyte

NOTE The strength is defined by the equilibrium constant ( $K$ ) of the reaction  $\text{Ab} + \text{H} = \text{AbH}$ , where Ab = antibody combining site and H = hapten;  $K$  is given by the mass action equation  $K = c_{\text{AbH}}/(c_{\text{Ab}} \times c_{\text{H}})$ .

### 3.2

#### **analyte**

substance to be determined

### 3.3

#### **antibodies**

serum proteins produced in vertebrates in response to immunization and which selectively bind the antigen or hapten, respectively