

INTERNATIONAL
STANDARD

ISO
7827

Second edition
1994-09-15

Water quality — Evaluation in an aqueous medium of the “ultimate” aerobic biodegradability of organic compounds — Method by analysis of dissolved organic carbon (DOC)

Qualité de l'eau — Évaluation en milieu aqueux de la biodégradabilité aérobie «ultime» des composés organiques — Méthode par analyse du carbone organique dissous (COD)



Reference number
ISO 7827:1994(E)

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.

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.

International Standard ISO 7827 was prepared by Technical Committee ISO/TC 147, *Water quality*, Subcommittee SC 5, *Biological methods*.

This second edition cancels and replaces the first edition (ISO 7827:1984), which has been technically revised.

Annex A of this International Standard is for information only.

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Water quality — Evaluation in an aqueous medium of the “ultimate” aerobic biodegradability of organic compounds — Method by analysis of dissolved organic carbon (DOC)

WARNING — Safety precautions — Activated sludge and sewage may contain potentially pathogenic organisms. Therefore appropriate precautions should be taken when handling them. Toxic test compounds and those whose properties are unknown should be handled with care.

1 Scope

This International Standard specifies a method for the evaluation of the “ultimate” biodegradability of organic compounds at a given concentration by aerobic microorganisms.

The conditions described in this International Standard do not necessarily always correspond to the optimal conditions allowing the maximum degree of biodegradation to occur.

The method applies to organic compounds which are

- soluble at the concentration used under the conditions of the test (10 mg/l to 40 mg/l DOC);
- non-volatile, or having a negligible vapour pressure under the conditions of the test (see note 5 in 8.3);
- not significantly adsorbable on glass and activated sludge (see note 6 in 8.3);
- not inhibitory to the test microorganisms at the concentration chosen for the test. Inhibitory effects can be determined as described in 8.3, or by using any other method for determining the inhibitory effect on bacteria of a substance (e.g. ISO 8192).

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 8192:1986, *Water quality — Test for inhibition of oxygen consumption by activated sludge.*

ISO 8245:1987, *Water quality — Guidelines for the determination of total organic carbon (TOC).*

ISO 9408:1991, *Water quality — Evaluation in an aqueous medium of the “ultimate” aerobic biodegradability of organic compounds — Method by determining the oxygen demand in a closed respirometer.*

ISO 9439:1990, *Water quality — Evaluation in an aqueous medium of the “ultimate” aerobic biodegradability of organic compounds — Method by analysis of released carbon dioxide.*

ISO 9887:1992, *Water quality — Evaluation of the aerobic biodegradability of organic compounds in an*