
**Water quality — Determination of
biochemical oxygen demand after n
days (BOD_n) —**

**Part 1:
Dilution and seeding method with
allylthiourea addition**

*Qualité de l'eau — Détermination de la demande biochimique en
oxygène après n jours (DBO_n) —*

*Partie 1: Méthode par dilution et ensemencement avec apport
d'allylthiourée*





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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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This document 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 5815-1:2003), which has been technically revised. The main changes compared to the previous edition are as follows:

- change of working range: 1 mg/l instead of 3 mg/l as lower limit;
- changes in test procedure;
- in 5.2, option to check seeding water suitability in advance with a CGA control analysis batch;
- in 5.3.2, phosphate buffer solution pH-value: requirement for preparation of a new solution if the pH value is out of the range pH 7 and pH 8;
- in 5.5, range for oxygen consumption of seeded dilution water 0,2 mg/l to 1,5 mg/l instead of upper limit 1,5 mg/l;
- in 5.9, allowable range BOD₅ of the CGA control solution changed to (198 ± 40) mg/l and BOD₇ (206 ± 40) mg/l;
- in 6.5, electrochemical probe option to measure the dissolved oxygen concentration added;
- in 8.4, interferences: subclause on presence of peroxides and peroxide compounds added;
- in 9.4, options to determinate the dilutions elaborated;
- in 9.7, control analysis: elaborated description of procedure;
- in 10.3, "approval of results/validity criteria" added;
- Annex A: title changed and "normative" instead of "informative"
- Annex C "Direct seeding of the analysis batches" added;

— new [Annex D](#) "Performance data" included.

A list of all parts in the ISO 5815 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

The incubation time specified in this document is 5 d or 7 d. The latter corresponds to the practice in several Nordic countries. [Annex A](#) describes an incubation time of (2 + 5) d.

ISO 5815-1 specifies the determination of the biochemical oxygen demand (BOD) of waters with an expected BOD in the range 1 mg/l to 6 000 mg/l using the dilution method. A lower limit of working range may result from validation data in the laboratory. For samples with an expected low BOD in the range of 0,5 mg/l to 6 mg/l ISO 5815-2 provides the option of the determination of the (BOD) of waters using undiluted samples.