International Standard

ISO 10253

Water quality — Marine algal growth inhibition test with *Skeletonema* sp. and *Phaeodactylum tricornutum*

Qualité de l'eau — Essai d'inhibition de la croissance des algues marines avec Skeletonema *sp. et* Phaeodactylum tricornutum

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Contents

Page

Foreword ... **iv**

1 Scope ... **1**

2 Normative references ... **1**

3 Terms and definitions ... **1**

4 Principle ... **2**

5 Materials ... **2**
5.1 Test organisms ... 2
5.2 Reagents ... 4
5.2.1 Water ... 4
5.2.2 Hydrochloric acid or sodium hydroxide solution ... 4
5.2.3 Synthetic sea water ... 4
5.2.4 Nutrient stock solution ... 4

6 Apparatus ... **5**

7 Procedure ... **6**
7.1 Preparation of growth medium ... 6
7.2 Preparation of pre-culture and inoculum ... 6
7.3 Choice of test concentrations ... 6
7.4 Preparation of test substance stock solutions ... 6
7.5 Preparation of test and control batches ... 7
7.6 Incubation ... 7
7.7 Measurements ... 8

8 Validity criteria ... **8**

9 Interpretation of data ... **8**
9.1 Plotting growth curves ... 8
9.2 Calculation of percentage inhibition ... 8
9.3 Determination of $EC(r)_x$ ... 9

10 Expression of results ... **9**

11 Interpretation of results ... **9**

12 Test report ... **10**

Annex A (informative) **Preparation of dilution series of mixtures in sea water(effluents or elutriates)** ... **11**

Annex B (informative) **Test procedure starting from stored algal inocula, and with direct measurement of algal growth in spectrophotometric cells** ... **12**

Annex C (informative) **Performance data** ... **18**

Annex D (informative) **Marine algal growth inhibition test with *Phaeodactylum tricornutum* applied in 24-well microwell plates** ... **19**

Bibliography ... **26**

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Foreword

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This document was prepared by Technical Committee ISO/TC 147, *Water quality*, Subcommittee SC 5, *Biological methods*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 230, *Water analysis*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This fourth edition cancels and replaces the third edition (ISO 10253:2016), which has been technically revised.

The main changes are as follows:

— in Table 2, K_3PO_4 has been substituted with K_2HPO_4 in stock solution 3;

— Annex D has been added to describe the marine algal growth inhibition test with *Phaeodactylum tricornutum* applied in 24-well-microwell plates;

— in Table A.1, dilution step 5 was changed to dilution step 6.

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Water quality — Marine algal growth inhibition test with *Skeletonema* sp. and *Phaeodactylum tricornutum*

WARNING — Persons using this document should be familiar with normal laboratory practice. This document 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.

IMPORTANT — It is absolutely essential that tests conducted according to this document be carried out by suitably qualified staff.

1 Scope

This document specifies a method for the determination of the inhibition of growth of the unicellular marine algae *Skeletonema* sp. and *Phaeodactylum tricornutum* by substances and mixtures contained in sea water or by environmental water samples (effluents, elutriates, etc.).

The method can be used for testing substances that are readily soluble in water and are not significantly degraded or eliminated in any other way from the test medium.

NOTE With modifications, as described in ISO 14442 and ISO 5667-16, the inhibitory effects of poorly soluble organic and inorganic materials, volatile compounds, metal compounds, effluents, marine water samples and elutriates of sediments can be tested.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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*

ISO 14442, *Water quality — Guidelines for algal growth inhibition tests with poorly soluble materials, volatile compounds, metals and waste water*

3 Terms and definitions

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

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
cell density
number of cells per unit volume of medium

Note 1 to entry: The cell density is expressed as x cells ml^{-1}.

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