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Interested committees:

Title: Draft BS EN 13946 BS Water quality - Guidance standard for the routine sampling and preparation of benthic diatoms from rivers and lakes.

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Introduction

This draft standard is based on national and international discussions. Your comments on this draft are invited and will assist in the preparation of the consequent standard.

For international standards, comments will be reviewed by the relevant UK national committee before sending the consensus UK vote and comments to the international committee, which will then decide appropriate action. If the international standard is approved, it is usual for the text to be published as a British Standard.

For national standards, comments will be reviewed by the relevant UK national committee and the resulting standards published as a British Standard.

UK Vote

Please indicate whether you consider the UK should submit a negative (with supporting technical reasons) or positive vote on this draft. Please indicate if you are aware of any reason why this draft standard should not be published as a British Standard.

Submission of Comments

- **Annotated drafts are not acceptable and will be rejected.**
- All comments should be submitted online at <https://standardsdevelopment.bsigroup.com/>. You will need to register in order to comment.

Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
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1	2	(3)	4	5	(6)	7
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/ Figure/Table/Note	Type of comment	Comment (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	

English Version

Water quality - Guidance standard for the routine sampling and preparation of benthic diatoms from rivers and lakes

Qualité de l'eau - Guide pour l'échantillonnage en
routine et le prétraitement des diatomées benthiques
de rivières et de plans d'eau

Wasserbeschaffenheit - Anleitung zur Probenahme und
Probenaufbereitung von benthischen Kieselalgen aus
Fließgewässern und Seen

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 230.

If this draft becomes a European Standard, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

This draft European Standard was established by CEN in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (prEN 13946:2024) has been prepared by Technical Committee CEN/TC 230 “Water analysis”, the secretariat of which is held by DIN.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 13946:2014.

This document (prEN 13946:2024) includes the following significant technical changes with respect to EN 13946:2014:

- the method has been adapted to process the samples obtained for subsequent molecular methods by adding additional solvents and requirements to avoid contamination of samples.

Introduction

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 health and safety practices and to ensure compliance with any national regulatory conditions.

Diatoms are an important component of aquatic ecosystems and constitute a water quality monitoring tool where the primary objective is either a measure of ecological status or the impact of specific components of water quality (e.g. eutrophication, acidification). The method is appropriate for assessments required by the Water Framework Directive (2000/60/EC) and Urban Waste Water Treatment Directive (91/271/EEC) in addition to other EU Directives and international agreements. This document covers aspects of sampling and preparation relevant to assessment of water quality and ecological status using benthic diatoms. These instructions will result in samples suitable for quantifying relative numbers of benthic diatom taxa present using either light microscopy or molecular methods. If it is necessary to quantify absolute numbers of taxa, or fresh weight per unit area, modifications to the method are required, which are not within the scope of this document.

The use of diatoms as indicators of river and lake quality is widely accepted both in Europe and beyond. The methodology is based on observations that all diatom species have distinct preferences for particular environmental conditions such as nutrients, organic pollution and acidity. Polluted waters will tend to support an increased abundance of those species whose optima correspond with the levels of the pollutant in question. Conversely, certain species are intolerant of elevated levels of one or more pollutants, whilst others may occur in a wide range of water qualities.

Methods using diatoms to assess water quality have been developed in several European countries (recent work is summarized in references [1] to [4]). The methods for evaluating the data vary but the sampling and preparation processes are similar [5, 6]. In recent years, molecular methods such as metabarcoding have been developed to the point where they are suitable for routine use [7, 8] and modifications to procedures appropriate for this approach have been included in this revision of the standard.

According to the precise usage to which this standard is to be put it is essential for specifiers and users to mutually agree on any necessary variations or optional procedural details prior to use.

All numerical values given in this document are approximate.