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Responsible committee: EH/3/5 Biological Methods

Interested committees:

Title: Draft BS ISO 17805 Water quality - Sampling, capture and preservation of environmental DNA from water.

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- i) has any issues related to 3rd party IPR, patent or copyright
- ii) affects other national standard(s)
- iii) requires additional national guidance or information

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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 Please indicate if you are aware of any reason why this draft standard should not be published as a British Standard.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.	



DRAFT International Standard

ISO/DIS 17805

Water quality — Sampling, capture and preservation of environmental DNA from water

ICS: 13.060.70

ISO/TC 147/SC 5

Secretariat: DIN

Voting begins on:
2024-06-21

Voting terminates on:
2024-09-13

This document is circulated as received from the committee secretariat.

FAST TRACK PROCEDURE

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European foreword

This document (EN 17805:2023) has been prepared by Technical Committee CEN/TC 230 “Water analysis”, the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by September 2023, and conflicting national standards shall be withdrawn at the latest by September 2023.

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Introduction

WARNING — Persons using this document should be familiar with water sampling protocols to assess biological diversity. 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.

Moreover, the need of notification, obtaining certificates or permits prior to sampling, depending on national or international laws and regulations such as the Nagoya Protocol on Access to Genetic Resources (<https://www.cbd.int/abs/>), needs to be considered.

The monitoring of organisms is key to the assessment of the status of aquatic ecosystems and is required by national and international legislation such as the European Union Water Framework Directive (2000/60/EC). A range of methods have been described how to monitor organisms in aquatic environments, leading to a wide range of European standards (e.g. EN 14011:2003, EN 14757:2015, EN 15460:2007). These approaches, however, necessitate the capture and/or collection of the organisms of interest, which can be a laborious and time-consuming process.

The possibility to detect the presence of organisms and/or quantify relative abundance (e.g. [6]) in aquatic environments via the analysis of environmental DNA (eDNA) provides a novel means to monitor biodiversity across a wide range of taxonomic groups, including microorganisms, plants and animals ([7][8][9]). This approach allows to examine organismic diversity without the need to directly isolate and capture organisms and it is expected to play a key role for future biomonitoring aiming at temporally and spatially highly resolved species inventories [10]. Albeit the power of the eDNA approach has been repeatedly reported [11], there is a great need for standardizing the application of eDNA-based assessment of aquatic biodiversity ([12], [13]). Note, however, that eDNA-based biomonitoring currently does not allow to obtain certain population parameters (e.g. individual size, sex) which can be obtained by traditional sampling techniques.

This document provides guidance how to sample and preserve eDNA from water samples, addressing the first and crucial step for any further downstream eDNA-based analyses of biodiversity. A specific technical report for the routine sampling of benthic diatoms from rivers and lakes adapted for metabarcoding analyses is CEN/TR 17245:2018.