

Influence of organic materials on water intended for human consumption — Determination of odour and flavour assessment of water in piping systems —

Part 1: Test method

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National foreword

This British Standard is the English language version of EN 1420-1:1999.

The UK participation in its preparation was entrusted by Technical Committee EH/3, Water quality, to Subcommittee EH/3/7, Effects of materials on water quality, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

Further information

In Table 2 reference is made to elastomeric membranes. On the mainland of Europe this is taken to mean the bladders/membranes used for pressure relief in pressurized water heating systems. In the UK the term is used for reservoir lining membranes/geomembranes, etc. In this latter case, the S/V ratio in Table 2 is totally inappropriate. Geomembranes should be covered by further standards on water storage systems being developed by the responsible European committee.

Cross-references

The British Standards which implement international or European publications referred to in this document may be found in the BSI Standards Catalogue under the section entitled “International Standards Correspondence Index”, or by using the “Find” facility of the BSI Standards Electronic Catalogue.

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Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 12, an inside back cover and a back cover.

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Influence of organic materials on water intended for human consumption — Determination of odour and flavour assessment of water in piping systems —
Part 1: Test method

Influence des matériaux organiques sur l'eau destinée à la consommation humaine —
Détermination de l'odeur et de la saveur de l'eau dans les réseaux de conduites —
Partie 1: Méthode d'essai

Einfluß von Werkstoffen auf Wasser für den menschlichen Gebrauch — Bestimmung des Geruchs und Geschmacks des Wassers in Rohrleitungssystemen —
Teil 1: Prüfverfahren

This European Standard was approved by CEN on 1 August 1999.

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. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart 36, B-1050 Brussels

Foreword

This European Standard has been prepared by Technical Committee CEN/TC 164, Water supply, the Secretariat of which is held by AFNOR.

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 February 2000, and conflicting national standards shall be withdrawn at the latest by February 2000.

This European Standard consists of two parts:

- *Part 1: Test method;*
- *Part 2: Interpretation of laboratory values relative to field-use conditions.*

This standard is Part 1. It contains the following two annexes:

- annex A, which is informative, describes an arrangement for flushing large diameter pipes;
- annex B, which is informative, is a schematic presentation of the test method.

The material-dependent parameters and/or performance requirements are incorporated into the Product Standards, for example the System Standards for plastics piping systems.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

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Introduction

In respect of potential adverse effects on the quality of the water intended for human consumption caused by the materials, it is recalled to mind that, while awaiting the adoption of verifiable European acceptance criteria, national regulations remain in force.

1 Scope

This standard specifies a test method for determining the odour and flavour of test waters after their contact with the organic materials used in piping systems, where the term products comprises pipes, fittings and ancillaries including their coatings and joints.

The test method described in this standard is applicable to products to be used under various conditions for the transport of water intended for human consumption and raw water used for the manufacture of water intended for human consumption. Coatings or protective layers on products which are not intended to be in contact with these types of water are not covered by this method.

This standard specifies the test method comprising a set of procedures with and without a disinfection pretreatment and possible temperatures for the test waters. The use of the disinfection pretreatment and the choice of the test temperature are dependent on the relevant national regulations and/or the system or product standards.

2 Normative references

This European Standard incorporates, by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to, or revisions of, any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

ISO 5492, *Sensory analysis — Vocabulary*.

ISO 7393-2, *Water quality — Determination of free chlorine and total chlorine — Part 2: Colorimetric method using N,N-diethyl-1,4-phenylenediamine for routine control purposes*.

EN 1622:1997, *Water analysis — Method for the determination of threshold odour number (TON) and threshold flavour number (TFN)*.

3 Terms and definitions

For the purposes of this standard the following definitions apply.

3.1

odour

organoleptic attribute perceptible by olfactory organ on sniffing certain volatile substances (ISO 5492)

3.2

flavour

complex combination of the olfactory, gustatory and trigeminal sensations perceived during tasting. The flavour may be influenced by tactile, thermal, painful and/or kinaesthetic effects (ISO 5492)

NOTE The term taste should not be used to designate the combination of gustatory, olfactory and trigeminal sensations which are designated by the term flavour. If, in informal language, this term is used in this sense, it should always be associated with a qualifying term, e.g. musty taste, raspberry taste, corky taste.

3.3

threshold odour number (TON)

dilution ratio of the migration water with the reference water at the same temperature, beyond which this diluted sample does not have any perceptible odour

3.4

threshold flavour number (TFN)

dilution ratio of the migration water with the reference water at the same temperature, beyond which this sample does not have any perceptible flavour

3.5

reference water

water described as without any perceptible odour and flavour

3.6

test water

water used for testing purposes prepared as described in 6.3.2 and 6.3.3

3.7

migration water

test water which has been in contact with a test piece under specified conditions

3.8

blank water

test water which has been kept at the same specified conditions as migration water but without contact with the test piece

3.9

prewashing water

tapwater without any odour and flavour and a chlorine content less than 0,05 mg/l as Cl₂

3.10

disinfection treatment water

water containing chlorine prepared as described in 6.3.4

3.11

testing panel

group of people meeting the relevant requirements of EN 1622:1997