

Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water —

Part 2: Methods of test —

Section 2.5: The extraction of substances that may be of concern to public health

ICS 13.060.20

Committees responsible for this British Standard

The preparation of this British Standard was entrusted to Technical Committee EH/6, *Effects of materials on water quality*, upon which the following bodies were represented:

Automatic Vending Association of Britain
British Cement Association
BCF — British Coatings Federation Ltd
British Malleable Tube Fittings Association
British Plastics Federation
British Plumbing Fittings Manufacturers' Association
British Precast Concrete Federation Ltd
British Rubber Manufacturers' Association Ltd
British Water
DEFRA — Water and Land Directorate
Galvanizers Association
Laboratory of the Government Chemist
Pipeline Industries Guild
UK Steel Association
Water Regulations Advisory Scheme
Water Research Centre plc

This British Standard, having been prepared under the direction of the Health and Environment Sector Committee, was published under the authority of the Standards Committee and came into effect on 15 May 2000

© The British Standards Institution 2014
Published by BSI Standards Limited 2014

The following BSI references relate to the work on this standard:
Committee reference EH/6
Drafts for comment
99/560130 DC, 13/30291607 DC

ISBN 978 0 580 84616 8

Amendments/corrigenda issued since publication

Amd. No.	Date	Comments
14721	21 January 2004	Revision of 10.5 and 10.6
A2	30 June 2014	Warning text updated and inserted in Foreword

Contents

	Page
Committees responsible	Inside front cover
Foreword	ii
Introduction	1
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Principle	2
5 Test premises	2
6 Safety	2
7 Reagents	3
8 Apparatus	4
9 Samples	4
10 Test procedures	5
11 Expression of results	6
12 Test report	7
Annex A (informative) Test sequence	8
Bibliography	9
Figure A.1 — Test sequence	8

Foreword

Publishing information

This subsection of BS 6920 is published by BSI Standards Limited, under licence from The British Standards Institution and came into effect on 15 May 2000. It was prepared by Technical Committee EH/6, *Effects of materials on water quality*.

Supersession

BS 6920-2.5:2000+A2:2014 supersedes BS 6920-2.5:2000, Incorporating Amendment 1, which is withdrawn.

Relationship with other publications

BS 6920 is published in several parts, namely *Part 1: Specification*, *Part 2: Methods of test*, *Part 3: High temperature tests* and *Part 4: Method for the GCMS identification of water leachable organic substances*.

Part 2 is further subdivided into a number of sections and subsections as follows.

Section 2.1: Samples for testing;

Section 2.2: Odour and flavour of water;

Subsection 2.2.1: General method of test;

Subsection 2.2.2: Method of testing odours and flavours imparted to water by multi-layered hoses and pipes;

Subsection 2.2.3: Method of testing odours and flavours imparted to water by hoses for conveying water for food and drink preparation;

Section 2.3: Appearance of water;

Section 2.4: Growth of aquatic microorganisms test;

Section 2.5: The extraction of substances that may be of concern to public health;

Section 2.6: The extraction of metals.

Information about this document

This edition introduces technical changes but it does not reflect a full review or revision of the standard. The start and finish of text introduced or altered by Amendment No. 2 is indicated in the text by tags **A2** **A2**. Minor editorial changes are not tagged.

Hazard warnings

WARNING. This British Standard calls for the use of substances and/or procedures that can be injurious to the health if adequate precautions are not taken.

As well as observing safe working practices, take particular care in handling continuous cell lines since they can become infected with pathogenic viruses and bacteria during the course of their manipulation. The nutrient media used in this test are capable of supporting microbial growth, and the cell line is capable of being infected by human viruses. It is essential that this test procedure is carried out only by persons with experience of mammalian tissue culture techniques and cell line morphology.

This British Standard refers only to technical suitability and does not absolve the user from legal obligations relating to health and safety at any stage.

Contractual and legal considerations

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 9 and a back cover.

The BSI copyright notice displayed in this document indicates when the document was last issued.

Introduction

A1 Text deleted **A1**

This section of BS 6920 describes a simple cytotoxicity technique to test leachates from materials and articles, used in customer's premises in contact with water for human consumption, for biologically active compounds. Materials and chemicals used by water suppliers are subjected to a fuller assessment using an extraction procedure followed by sophisticated analytical methods.

This method should be regarded as only an initial screening test for substances potentially hazardous to health. A satisfactory result indicates that the leachate probably does not contain significant amounts of acutely toxic substances, but it does not indicate the absence of small quantities of substances which may be harmful on prolonged exposure.

1 Scope

This section of BS 6920 specifies a screening procedure (simple cytotoxicity test) using a mammalian cell line and a leachate from a product. The results of this procedure will assist in the toxicological assessment of the product for use in contact with water intended for human consumption.

The procedure given in this section of BS 6920 is suitable for all non-metallic materials that may be used in contact with water intended for human consumption.

NOTE **A2** Under the relevant National Regulations [1] to [7], the National Regulator may specify additional provisions in some cases and will assess the significance of the results obtained. **A2**

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this section of BS 6920. For dated references, subsequent amendments to or revisions of any of these publications do not apply. For undated references, the latest edition of the publication referred to applies.

BS 748, *Specification for haemocytometer and particle counting chambers*.

BS 6920-2.1:2014, *Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water — Part 2: Methods of test — Section 2.1: Samples for testing*.

BS EN ISO 3696, *Water for analytical laboratory use — Specification and test methods*.

3 Terms and definitions

For the purposes of this section of BS 6920, the following definitions apply.

3.1

cytotoxic

poisonous (toxic) to cells under the conditions of the test

3.2

monolayer

resulting cell layer, only one cell thick, formed when a cell culture grows in contact with a suitable solid surface, normally provided by the walls of the culture vessel. The cells are contact dependent and spread out onto the surface and multiply until adjacent cells are in contact whereupon the growth ceases

NOTE Only certain types of cell culture (including the cell line used in this test) form monolayers.