BRITISH STANDARD

BS 6392-0: 1983

Incorporating Amendment No. 1

Testing of ethanol for industrial use —

Part 0: General introduction

Confirmed January 2011

UDC 661.722:543

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Chemicals Standards Committee (CIC/-) to Technical Committee CIC/4 upon which the following bodies were represented:

Chemical Industries Association
Ministry of Defence
Oil and Colour Chemists Association
Royal Society of Chemistry
Society of Chemical Industry

The following bodies were also represented in the drafting of the standard, through sub-committees and panels:

British Pharmacopoiea Commission
British Society of Perfumers
Cosmetic, Toiletry and Perfumery Association Limited
Department of Industry (Laboratory of the Government Chemist)

This British Standard, having been prepared under the direction of the Chemicals Standards Committee, was published under the authority of the Board of BSI and comes into effect on 31 August 1983

The following BSI references relate to the work on this standard:
Committee reference CIC/4
Draft for comment 80/51209 DC

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Amendments issued since publication

Amd. No.	Date of issue	Comments
4936	March 1986	Indicated by a sideline in the margin

Contents

Foreword

This British Standard has been prepared under the direction of the Chemicals Standards Committee and provides, in separate Parts, a comprehensive series of test methods for ethanol for industrial use. Although applicable to the material in general, it includes all the test methods required to assess compliance with the requirements of BS 507 and BS 3591.

In preparing this standard, the opportunity has been taken to implement, without technical alteration, the majority of the International Standards describing test methods for ethanol. These have been prepared, with the active participation of the UK, by Technical Committee 47, Chemistry, of the International Organization for Standardization (ISO), as separate parts of ISO 1388 and constitute the revision of ISO Recommendation 1388.

NOTE Annexes in each part of the International Standard, which are intended for information only and which serve no useful purpose in the British Standard, have not been included. In addition, references in the texts to International Standards have been replaced, where possible, by references to the corresponding British Standards. As a consequence the standards are not dual-numbered.

Subsequent International Standards in the series, if approved by the UK, will be published as further Parts of this British Standard, without technical alteration.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 and 2, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

1 Scope

This Part of this British Standard comprises a general introduction for this series of test methods for ethanol for industrial use and gives instructions which are generally applicable to the entire series.

Instructions relating to sampling and to preparation of the test report correspond to the instructions given in ISO 1388-1. The remainder are of general application in British Standard test methods.

Table 1 gives the relationship of the Parts of the standard to the corresponding Parts of ISO 1388. It also indicates the British Standards corresponding to the general test methods specified in ISO 1388-1 as being applicable to ethanol.

NOTE The titles of the publications referred to in this standard are listed on the inside back cover.

2 Sampling[1)]

Store the laboratory sample in a clean, dry and airtight, ground glass stoppered bottle, or a screw-capped bottle fitted with a polyethylene cone insert, of such capacity that it is almost filled by the sample. If it is necessary to seal the bottle, take care to avoid any risk of contamination of the contents.

NOTE 1 Sufficient ullage should be left in the bottle to avoid excessive pressure changes that could arise from temperature variations during storage and handling. About 10 % ullage is recommended.

NOTE 2 A sample of not less than 2 500 mL is necessary for performing all the tests described in this standard.

3 Ethanol

Unless otherwise specified in a particular method, the ethanol used as a reagent in these determinations may be replaced for these purposes by industrial methylated spirits, 95 % (*V*/*V*) complying with BS 3591. It should be noted that the use of industrial methylated spirits is governed by The Methylated Spirits Regulations 1983 (S.I. 1983, No. 252). It is not permissible to use duty-free ethanol, received under the provisions of The Alcoholic Liquors Duties Act 1979, Section 10, for purposes for which industrial methylated spirits is an acceptable alternative to ethanol.

4 Water

Unless otherwise specified in a particular method, water complying with BS 3978 is suitable for use in these determinations.

5 Test report

The test report, for each determination, should contain the following information:

a) an identification of the sample;

b) the reference to the method used;

c) the results, and the method of expression used;

d) any unusual features noted during the determination;

e) any operation not included in the appropriate Part of BS 6392 or in the British Standards to which reference is made, or regarded as optional.

[1)] Additional guidance on sampling is given in BS 5309-1 and BS 5309-3.

Table 1 — Methods of test for ethanol: relationship between British Standards and International Standards

BS 6392 Part no.	BS no.[a] (general test method)	Corresponding International Standard no.	Subject	Type of determination	Relationship of British Standard to International Standard
0	—	1388-1	General introduction	—	Incorporates technical content of ISO 1388-1 and lists the test methods in the series
1	—	1388-2	Detection of alkalinity, determination of acidity	Titrimetric	Technically equivalent
2	—	1388-3	Carbonyl compounds content, small amounts	Photometric	Technically equivalent
3	—	1388-4	Carbonyl compounds content, moderate amounts	Titrimetric	Technically equivalent
4	—	1388-5	Aldehydes content	Visual colorimetric	Technically equivalent
5	—	1388-6	Miscibility with water	—	Technically equivalent
6	—	1388-7	Methanol content, 0.01 % to 0.20 % (*V*/*V*)	Photometric	Technically equivalent
7	—	1388-8	Methanol content, 0.10 % to 1.50 % (*V*/*V*)	Visual colorimetric	Technically equivalent
8	—	1388-9	Esters content	Titrimetric	Technically equivalent
—	—	1388-10	Hydrocarbons content	Distillation	Not implemented, no UK requirement
—	—	1388-11	Detection of furfural	—	
9	—	1388-12	Permanganate time	—	Technically equivalent
—	2511	760	Water content	Karl Fischer method	Related
—	4522[b]	758	Density of liquids at 20 °C	—	Technically equivalent
—	4524	759	Residue on evaporation on a water bath	—	Identical
—	5339	2211	Colour measurement	Hazen units (platinum cobalt scale)	Identical

[a] The standards listed in this column are the British Standards corresponding to the general test methods specified in ISO 1388-1 as being applicable to ethanol.

[b] It is intended to revise this standard by implementing, without alteration, the corresponding International Standard.

Publications referred to

BS 507, *Specification for ethanol for industrial use*[2)].

BS 2511, *Methods for the determination of water (Karl Fischer method).*

BS 3591, *Industrial methylated spirits.*

BS 3978, *Water for laboratory use.*

BS 4522, *Method for the determination of density of liquids at 20 °C.*

BS 4524, *Method for the determination of residue on evaporation on a water bath.*

BS 5309, *Methods for sampling chemical products.*

BS 5309-1, *Introduction and general principles.*

BS 5309-3, *Sampling of liquids.*

BS 5339, *Method of measurement of colour in Hazen units (platinum-cobalt scale) of liquid chemical products.*

BS 6392, *Testing of ethanol for industrial use.*

BS 6392-1, *Method for detection of alkalinity or determination of acidity to phenolphthalein.*

BS 6392-2, *Method for determination of carbonyl compounds content present in small amounts (photometric method).*

BS 6392-3, *Method for determination of carbonyl compounds present in moderate amounts (titrimetric method).*

BS 6392-4, *Method for determination of aldehydes content.*

BS 6392-5, *Method of test for miscibility with water.*

BS 6392-6, *Method for determination of methanol content [0.01 % (V/V) to 0.20 % (V/V)].*

BS 6392-7, *Method for determination of methanol content [0.10 % (V/V) to 1.50 % (V/V)].*

BS 6392-8, *Method for determination of esters content.*

BS 6392-9, *Method for determination of permanganate time.*

ISO 758, *Liquid chemical products for industrial use — Determination of density at 20 °C.*

ISO 759, *Volatile organic liquid for industrial use — Determination of dry residue after evaporation on water bath — General method.*

ISO 760, *Determination of water — Karl Fischer method (General method).*

ISO 1388, *Ethanol for industrial use — Methods of test.*

ISO 2211, *Liquid chemical products — Measurement of colour in Hazen units (platinum-cobalt scale).*

[2)] Referred to in the foreword only.

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