BRITISH STANDARD

BS 5688-0: 1986

Methods of test for

Orthoboric acid (boric acid), *di*boron trioxide (boric oxide), *di*sodium tetraborates, sodium perborates and crude sodium borates for industrial use —

Part 0: General introduction

Confirmed January 2011

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British Pharmacopoeia Commission

Chemical Industries' Association

Soap and Detergent Industry Association

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Contents

Foreword

This Part of BS 5688 has been prepared under the direction of the Chemicals Standards Committee. BS 5688 provides a comprehensive series of test methods for orthoboric acid, *di*boron trioxide, *di*sodium tetraborates, sodium perborates and crude sodium borates for industrial use.

This Part of BS 5688 is a revision of BS 5688-0:1979, which is withdrawn. In this revision the list of methods in Table 1 has been brought up to date.

The recommended names, in accordance with BS 2474 "*Recommendations for names for chemicals used in industry*", for the chemicals having the formulae H_3BO_3 and B_2O_3 are, respectively, "orthoboric acid" and "*di*boron trioxide". The names "boric acid" and "boric oxide" are now non-preferred but may still appear in place of the recommended names in earlier parts of BS 5688 and in other British Standards. The titles of new Parts of this standard have been altered to incorporate the recommended terms.

General introduction

For some years the United Kingdom has participated in the work of preparing methods of test applicable to these materials, organized by Subcommittee 8, Boric acid, boric oxide, borates, perborates, of Technical Committee 47, Chemistry, of the International Organization for Standardization (ISO). After international agreement has been reached on each of the methods, they have been published, without alteration, as separate Parts of this British Standard.

Table 1 lists the published test methods and summarizes their fields of application. Subsequent International Standards in the series, if approved by the UK, will be published as further Parts of this British Standard.

Ethanol. The ethanol required for the preparation of certain reagents in some of the test methods may be replaced for these purposes by industrial methylated spirits, of the same strength, 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 Liquor Duties Act 1979, Section 10, for purposes for which Industrial Methylated Spirits is an acceptable alternative to ethanol.

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.

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Summary of pages

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

Table 1 — Methods of test included in BS 5688

BS 5688 Part no.	Corresponding International Standard ISO no.	Determination of	Type of determination	Applicable to				
				Orthoboric acid	*di*Boron trioxide	*di*Sodium tetraborates	Sodium perborates	Crude sodium borates
1	1914:1972	Orthoboric acid content	Titrimetric	×				
2	1915:1972	*di*Boron trioxide content	Titrimetric		×			
3	1916:1972	Sodium oxide and *di*boron trioxide contents and loss on ignition	Titrimetric/gravimetric			×		
4	1917:1972	Sodium oxide, *di*boron trioxide and available oxygen contents	Titrimetric				×	
5	1918:1972	Sulphur compounds	Titrimetric	×	×	×		×
6	2214:1972	Manganese content	Spectrometric	×	×	×		
7	2215:1972	Copper content	Spectrometric	×	×	×		
8	2216:1972	Sodium oxide and *di*boron trioxide contents	Titrimetric					×
9	2218:1972	Loss in mass after heating at 900 °C	—					×
10	2217:1975	Matter insoluble in alkaline medium and preparation of test solutions	—					×
11	2760:1975	Total aluminium content	Titrimetric					×
12	2761:1975	Total titanium content	Spectrometric					×
13	3118:1976	Particle size distribution	Mechanical sieving				×	
14	3119:1976	Chromium content	Spectrometric	×	×	×		
15	3120:1976	Water content	Gravimetric			×		×
16	3121:1976	Chloride content	Mercurimetric	×	×	×		
17	3122:1976	Total iron content	Spectrometric	×	×	×	×	×
18	3123:1976	Rate of solution	Conductivity				×	
19	3124:1976	Alkali-soluble iron content	Spectrometric					×
20	3125:1976	Alkali-soluble aluminium content	Titrimetric					×
21	3424:1975	Bulk density	—				×	
22	5932:1980	Cobalt content	Spectrometric	×	×	×		
23	5933:1980	Nickel content	Spectrometric	×	×	×		×[a]
24	5934:1980	Alkali-soluble copper and manganese contents	Spectrometric					×
25	5936:1980	Carbonate content	Gravimetric					×
26	5937:1980	Degree of attrition	—				×	
27	5935:1984	Total and alkali-soluble silica contents	Spectrometric					×
28	6918:1984	Total and alkali-soluble calcium and magnesium contents	Atomic absorption Titrimetric					×
29	6920:1984	Total and alkali-soluble calcium and magnesium contents						×

[a] Alkali-soluble nickel content.

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