

Methods of

# Sampling and test for sodium and potassium silicates for industrial use —

Part 0: General introduction

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Confirmed  
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## Cooperating organizations

The Chemicals Standards Committee, under whose direction this British Standard was prepared, consists of representatives from the following:

Association of Fatty Acid Distillers  
 British Tar Industry Association  
 Chemical Industries Association\*  
 Chemical Society (Analytical Division)  
 Consumer Standards Advisory Committee of BSI  
 Department of Health and Social Security  
 Department of Industry (Laboratory of the Government Chemist)  
 Fertiliser Manufacturers' Association Ltd.  
 Hydrocarbon Solvents Association  
 Ministry of Agriculture, Fisheries and Food  
 Ministry of Defence\*  
 National Sulphuric Acid Association  
 Paintmakers' Association of Great Britain Ltd.  
 Royal Institute of Public Health and Hygiene  
 Soap and Detergent Industry Association\*  
 Standardization of Tar Products Tests Committee

The organizations marked with an asterisk in the above list, together with the following, were directly represented on the Technical Committee entrusted with the preparation of this British Standard:

Asbestos Cement Manufacturers' Association Limited  
 British Man-made Fibres Federation  
 British Textile Employers' Association  
 Fabric Care Research Association  
 Society of Glass Technology

This British Standard, having been prepared under the direction of the Chemicals Standards Committee, was published under the authority of the Executive Board and comes into effect on 27 February 1981

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The following BSI reference relates to the work on this standard:  
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### Amendments issued since publication

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# 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 sodium and potassium silicates for industrial use, both in solid form and in aqueous solution. Although applicable to the materials in general, it includes all the test methods required to assess compliance with the requirements of BS 3984. This specification is in the process of being revised and, in accordance with current BSI policy, will no longer include test methods, which in the 1966 edition are given in appendices.

In preparing this standard, the opportunity has been taken to implement, without alteration, the majority of the International Standards describing test methods for sodium and potassium silicates. These have been prepared, with the active participation of the UK, by Subcommittee 5 of Technical Committee 47, Chemistry, of the International Organization for Standardization (ISO). Although all such Parts are applicable to the materials in general, most of them also relate to requirements of BS 3984 and replace the corresponding methods appended to that standard. There are, however, some test requirements in the specification for which there are no corresponding International Standards and, in these cases, the relevant test methods from BS 3984:1966 have been included, technically unchanged, as Parts 10 to 12 of this standard.

In this Part of BS 6092, Table 1 gives the relationship of the other Parts of the standard to the corresponding International Standards. This Part also includes information on sampling which is technically equivalent that in ISO 1686 *“Sodium and potassium silicates for industrial use — Samples and methods of test — General”*

## Additional information

*Ethanol* The ethanol used in these determinations may be replaced for these purposes by industrial methylated spirits, 95 % (V/V), complying with the requirements of BS 3591. It should be noted that the use of industrial methylated spirits is governed by the Methylated Spirits Regulations, 1952 (S.I. 1952, No 2230) as amended by The Alcoholic Liquors (Amendment of Units and Methods of Measurement) Regulations 1979 (S.I. 1979, No 1149). 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 for ethanol.

*Sampling.* Approximately 750 g of material is required to carry out all the tests in the series. Not less than 500 g is required for the tests specified in BS 3984. When sampling, precautions should be taken in order to avoid absorption of moisture and carbon dioxide by the samples, and it is advisable to store them in sealed containers. In the case of solid chemicals, the lumps, if any, should be crushed before mixing; precautions should be taken in order to avoid the absorption of moisture and carbon dioxide during crushing.

NOTE Additional guidance on sampling is given in BS 5302-1, BS 5302-3 and BS 5302-4.

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.

**Table 1 — Methods of test for sodium and potassium silicates: relationship between BS and international series**

BS 6092 Part no	Corresponding International Standard no	Subject	Type of determination	Relationship of International Standard to BS test method
0	—	General introduction (including sampling)	—	Includes the sampling requirements of ISO 1686
—	1686	Samples and methods of test: general	—	Not to be implemented
1	1687	Solution density at 20 °C	—	Identical
2	1688	Total solids content	Gravimetric	Identical
—	1689	Calculation of silica/alkali ratio	—	Disapproved by UK
3	1690	Silica content	Gravimetric	Identical
4	1691	Carbonate content	Gas-volumetric	Identical
5	1692	Total alkali content	Titrimetric	Identical
6	2122	Preparation of solutions of not readily soluble products and determination of matter insoluble in water	—	Identical
—	2123	Dynamic viscosity	—	Not implemented. Reference to be made to BS 188
7	2124	Silica content	Titrimetric	Identical
8	3200	Sulphate content	Gravimetric	Identical
9	3201	Iron content	Photometric (1,10-phenanthroline)	Identical
10	—	Matter insoluble in water	Gravimetric	} No equivalent International Standard
11	—	Chloride content	Titrimetric	
12	—	Sulphate limit test	Turbidimetric	



## Publications referred to

BS 188, *Methods for determination of viscosity of liquids.*

BS 3591, *Industrial methylated spirits.*

BS 3984, *Specification for sodium silicates.*

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