BRITISH STANDARD

BS 6092-10: 1981

Methods of

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

Part 10: Determination of matter insoluble in water

NOTE It is recommended that this Part be read in conjunction with the information in the *"General introduction"* published separately as BS 6092-0.

Confirmed January 2011

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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.

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

The following BSI references relate to the work on this standard:
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Amendments issued since publication

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Contents

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1 Scope

This Part of BS 6092 describes a method of test for determining the matter insoluble in water for sodium and potassium silicates for industrial use. It is particularly applicable to sodium metasilicate pentahydrate, but may be used for other silicates that are easily soluble in water.

There is no International Standard corresponding to this Part of BS 6092.

NOTE BS 6092-6 specifies a method for the determination of matter insoluble in water for sodium and potassium silicates that are not easily soluble in boiling water.

2 References

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

3 Principle

A solution of the test portion in carbon dioxide-free water is filtered through a tared filter crucible and the mass of the water-insoluble residue is obtained.

4 Reagents

The following reagents are required and shall be of recognized analytical quality. Water complying with the requirements of BS 3978, freshly boiled to free it from carbon dioxide, shall be used throughout.

4.1 *Phenolphthalein indicator,* 1 % (*m*/*V*) solution in aqueous ethanol. Dissolve 1 g of phenolphthalein in 60 ml of 95 % (*V*/*V*) ethanol and dilute to 100 ml with water.

5 Apparatus

Ordinary laboratory apparatus and the following are required.

5.1 *Oven,* capable of being controlled within the temperature range 100 °C to 105 °C.

5.2 *Crucible,* sintered glass or porous porcelain, of porosity grade 3, complying with the requirements of BS 1752.

6 Procedure

6.1 Test portion. Weigh, to the nearest 0.1 g, about 25 g of the sample.

6.2 Determination. Transfer the test portion (**6.1**) to a 400 ml beaker. Add 250 ml of water and warm, if necessary, until dissolution of all soluble matter is complete. Allow to stand for 1 h and filter the solution through the sintered glass or porous porcelain crucible (**5.2**) previously dried for 1 h in the oven (**5.1**) controlled at 100 °C to 105 °C and weighed to the nearest milligram, transferring any insoluble matter from the beaker to the crucible with a jet of water. Wash the filter with 5 ml portions of water until the filtrate is no longer alkaline to the phenolphthalein indicator (**4.1**). Dry the crucible in the oven (**5.1**) controlled at 100 °C to 105 °C, for 1 h, allow it to cool in a desiccator and weigh to the nearest milligram.

7 Expression of results

The matter insoluble in water, expressed as a percentage by mass, is given by the formula:

$$\frac{m_1}{m_0} \times 100$$

where

m_0 is the mass of the test portion, in g;

m_1 is the mass of the matter insoluble in water, in g.

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Publications referred to

BS 1752, *Laboratory sintered or fritted filters.*

BS 3978, *Water for laboratory use.*

BS 6092, *Methods of sampling and test for sodium and potassium silicates for industrial use.*

BS 6092-6, *Preparation of solutions of not readily soluble products and determination of matter insoluble in water.*

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