BRITISH STANDARD

BS 1912:1990

Specification for

Soap flakes

Confirmed
January 2011

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Chemicals Standards Policy Committee (CIC/-) to Technical Committee CIC/34, upon which the following bodies were represented:

Chemical Industries Association
Chemical Industries Association (GOSIP)
Consumer Policy Committee of BSI
Department of Trade and Industry (Laboratory of the Government Chemist)
Ministry of Defence
Royal Society of Chemistry
Soap and Detergent Industry Association
Society of Dyers and Colourists

This British Standard, having been prepared under the direction of the Chemicals Standards Policy Committee, was published under the authority of the Board of BSI and comes into effect on 31 October 1990

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The following BSI references relate to the work on this standard:
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Contents

Foreword

This revision of BS 1912 has been prepared under the direction of the Chemicals Standards Policy Committee. It supersedes the 1985 edition of BS 1912, which is withdrawn and from which it differs principally in that the references to test methods have been changed to take account of the partial revision of BS 1715:1963, and that the requirement for rosin acids content has been deleted.

This British Standard is one of a series dealing with various kinds of soap. Other standards in the series are as follows:

BS 1545, *Specification for liquid toilet soap.*

BS 1911, *Specification for hard soap.*

BS 1913, *Specification for soft soap.*

BS 1914, *Specification for toilet soap.*

BS 4405, *Specification for liquid soap.*

Soap flakes represent soap in a form that facilitates the quick preparation of a washing solution; they are characterized by their flake form, high soap content and ready solubility in water.

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 British Standard specifies requirements and gives corresponding test methods for soap flakes for domestic purposes.

CAUTION. Soap flakes complying with this standard may be unsuitable for washing fabrics with a flame retardant finish, especially in hard water areas. A suitable warning should be given on soap flakes in retail size packs.

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

2 Properties

2.1 The content of the soap flakes shall be as given in Table 1. Compliance shall be checked by the methods given in Table 1 using analysis samples prepared as described in BS 1715-1.

2.2 In the case of the properties listed in items 2 to 6 of Table 1, the actual results obtained by the specified methods of test shall be recalculated in relation to the specified minimum total fatty matter content (see Table 1, item 1) by means of the following equation:

Recalculated result =

$$\text{Actual result} \times \frac{\text{Specified minimum total fatty matter content}}{\text{Actual total fatty matter content}}$$

NOTE Recalculation of the results is necessary because soap flakes are liable to lose moisture on keeping.

2.3 When measured in accordance with Appendix A, the average thickness of the soap flakes shall not be greater than 0.20 mm.

Table 1 — Properties and test methods

Property	Content	Test method
	% (*m*/*m*)	
1. Total fatty matter content min.	80	Described in BS 1715-2.1
2. Unsaponified saponifiable matter content max.	0.25	Described in BS 1715-2.5
3. Ethanol-insoluble matter content max.	2.0	Described in BS 1715-2.11
4. Total free alkali content (Na_2O) max.	0.3	Described in BS 1715-2.2 and Appendix B of this standard
5. Free caustic alkali content (Na_2O) max.	0.05	Described in BS 1715-2.3 and Appendix C of this standard
6. Chloride content (NaCl) max.	1.0	Described in BS 1715-2.7

Appendix A Measurement of thickness of soap flakes

A.1 Sampling

The sample of flakes of which the thickness is to be estimated shall be handled as lightly as possible in order to avoid breakage of flakes with deposition of soap particles on the surface of the whole flakes.

A.2 Measuring instrument

The instrument used shall be a micrometer gauge complying with BS 870 but, in order to accommodate small flakes the diameter of the travelling face should be reduced to 3.0 mm.

A.3 Procedure

Pour a portion of the sample to be tested on to a sheet of paper in such a way that a thin layer is made to cover a fairly large area. Select a flake and carefully trim off the edges with a razor blade in order to remove any edge irregularities. Check the zero reading of the gauge, open it approximately 3 mm, support it in a vertical position and transfer the trimmed flake to the lower fixed face of the gauge by means of a spatula or knife. Make sure the flake is as centrally placed as possible and then, by means of the milled ratchet-head, rotate the moving arm of the gauge until the flake is just gripped between the two faces. Turn the gauge into a horizontal position, give the ratchet-head approximately two complete rotations and read the thickness of the flake on the graduated collar of the gauge. Measure the thickness of 20 flakes, chosen at random from different parts of the layer on the paper, note the thickness of each flake and record the arithmetical average thickness found.

Appendix B Determination of total free alkali content

Use the method described in BS 1715-2.2 except that the calculation and formulae given in **9.1** of BS 1715-2.2:1989 should be replaced by the following.

The total free alkali content, expressed as a percentage by mass of Na_2O, is given by the formula:

$$0.031 \times \frac{V_0 T_0 - V_1 T_1}{m} \times 100$$

where

m is the mass of the test portion (in g);

V_0 is the volume of the sulphuric acid solution (see **5.2** of BS 1715-2.2:1989) used in the determination (in mL);

V_1 is the volume of the potassium hydroxide solution (see **5.3** of BS 1715-2.2:1989) used in the titration (in mL);

T_0 is the exact amount-of-substance concentration of the sulphuric acid solution (see **5.2** of BS 1715-2.2:1989) (in mol/L);

T_1 is the exact amount-of-substance concentration of the potassium hydroxide solution (see **5.3** of BS 1715-2.2:1989) used in the titration (in mol/L).

Appendix C Determination of free caustic alkali content

Use method A described in BS 1715-2.3, except that the calculation and formula given in **4.5.1** of BS 1715-2.3:1989 should be replaced by the following.

The free caustic alkali content, expressed as a percentage by mass of Na_2O, is given by the formula:

$$0.031 \times \frac{VT}{m} \times 100$$

where

m is the mass of the test portion (in g);

V is the volume of the ethanolic hydrochloric acid solution (see **4.2.3** of BS 1715-2.3:1989) used (in mL);

T is the amount-of-substance concentration of the ethanolic hydrochloric acid solution (see **4.2.3** of BS 1715-2.3:1989) used (in mol/L).

Publications referred to

BS 870, *Specification for external micrometers.*

BS 1545, *Specification for liquid toilet soap*[1)].

BS 1715, *Analysis of soaps.*

BS 1715-1, *General introduction, sampling, and test for presence of synthetic anionic-active surface active agents.*

BS 1715-2.1, *Method for determination of total alkali content and total fatty matter content.*

BS 1715-2.2, *Method for determination of total free alkali content.*

BS 1715-2.3, *Methods for determination of free caustic alkali content.*

BS 1715-2.5, *Method for determination of unsaponifiable, unsaponified and unsaponified saponifiable matter contents.*

BS 1715-2.7, *Method for determination of chloride content.*

BS 1715-2.11, *Method for determination of ethanol-insoluble matter content.*

BS 1911, *Specification for hard soap*[1)].

BS 1913, *Specification for soft soap*[1)].

BS 1914, *Specification for toilet soap*[1)].

BS 4405, *Specification for liquid soap*[1)].

[1)] Referred to in the foreword only.

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