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Analysis of formulated detergents —

Part 3: Quantitative test methods —

Section 3.13 Method for determination of total boron content

[ISO title: Surface active agents — Washing powders —
Determination of total boron content — Titrimetric method]

NOTE It is recommended that this Section be read in conjunction with the information in the “*General introduction*”, published separately as BS 3762-0.

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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 30 December 1983

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The committees responsible for this British Standard are shown in Part 0.
The following BSI references relate to the work on this standard:
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National foreword

This Section of BS 3762 has been prepared under the direction of the Chemicals Standards Committee. It is identical with ISO 6835:1981 “*Surface active agents — Washing powders — Determination of total boron content — Titrimetric method*”, published by the International Organization for Standardization (ISO).

This method supersedes method D2 of BS 3762:1964. The original method involved isolation of the inorganic material in a test portion [by low temperature ashing or by repeated extraction with 95 % (V/V) ethanol], dissolution in water, treatment with anionic and cationic exchange resins to obtain the boric acid present in the test portion and titrimetric determination with sodium hydroxide solution in the presence of mannitol using phenolphthalein as indicator. The revised method removes silicates by adjusting the original sample solution to pH 3 and filtering, and then removes anionic-active matter and phosphates by anion-exchange on a chloride form of resin. The boric acid is finally titrated potentiometrically with sodium hydroxide solution in the presence of mannitol.

Terminology and conventions. The text of the International Standard has been approved as suitable for publication as a British Standard without deviation. Some terminology and certain conventions are not identical with those used in British Standards; attention is drawn especially to the following.

The comma has been used as a decimal marker. In British Standards, it is current practice to use a full point on the baseline as the decimal marker.

Wherever the words “International Standard” appear, referring to this standard, they should be read as “Section of this British Standard”.

Cross-references

International Standard	Corresponding British Standard
ISO 607:1980	BS 3762 <i>Analysis of formulated detergents</i> Part 1:1983 <i>Methods of sample division</i> (Identical)
ISO 1042:1981	BS 1792:1982 <i>Specification for one-mark volumetric flasks</i> (Identical)

The Technical Committee has reviewed the provisions of ISO/R 385 and ISO 648, to which reference is made in clause 5, and has decided that they are suitable for use in conjunction with this standard.

Related British Standards to ISO/R 385 and ISO 648 are, respectively, BS 846 “*Specification for burettes*” and BS 1583 “*One-mark pipettes*”.

Additional information

Reagents. With reference to clause 4, water complying with BS 3978 “*Water for laboratory use*” is suitable.

With reference to 4.8 and its footnote, resins of this description from most chemical suppliers have been found suitable. In 4.8 the term “rate of reticulation of” may be ignored and it should be noted that the specified particle size range 150 to 300 µm is approximately equivalent to the now superseded designation “50–100 mesh” (see Appendix C of BS 410:1976 “*Specification for test sieves*”).

Apparatus. With reference to the footnote to 5.9 and 5.10, many commercial types have been found suitable and are readily available.

This standard describes a method of test only and should not be referred to as a specification defining limits of purity. Reference to the standard should indicate that the method of test used is in conformity with BS 3762-3.13.