

Analysis of formulated detergents —

Part 0: General introduction

Confirmed
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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)
 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

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

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Foreword

This Part of BS 3762 has been prepared under the direction of the Chemicals Standards Policy Committee and supersedes BS 3762-0:1989, which is withdrawn. BS 3762 provides a series of analytical methods for formulated detergents, i.e. products ready for use (possibly after dilution) in solid, paste or liquid form.

The revised BS 3762 is published in five Parts, the analytical methods in Parts 3 and 4 being published separately as Sections.

The Parts together supersede BS 3762:1964, which is withdrawn, and from which they differ in the following ways.

- a) Methods of analysis of detergent raw materials are not included as they are published in BS 6829 “*Analysis of surface active agents (raw materials)*”.
- b) Analytical methods applicable to all washing powders (including soap powders) are included. The test methods in BS 1715 apply only to soap.
- c) The schematic examination of active matter has been withdrawn.
- d) Certain physical and performance tests have been omitted.

In preparing this revision of BS 3762, the opportunity has been taken, if appropriate, to implement, preferably without alteration, International Standards describing test methods for surface active agents. These have been prepared, with the active participation of the UK, by Technical Committee 91, Surface active agents, of the International Organization for Standardization (ISO). In this Part of BS 3762, Table 1 gives the Parts and Sections of the standard and the analytical methods included therein and, where appropriate, their relationships to the corresponding International Standards.

The range of analytical methods, although wide, is not exhaustive and it is intended that work should continue with the object of improving existing test methods and preparing others for publication as further Sections of BS 3762.

BS 3762 does not include methods of sampling detergents from bulk. Guidance in this respect is given, however, in BS 5309-1, BS 5309-3 and BS 5309-4.

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.

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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.

1 Scope

This Part of BS 3762 outlines, in Table 1, the structure of BS 3762 and gives guidance on its use.

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

2 Reagents

During the analyses, unless otherwise stated, use only reagents of recognized analytical grade and water complying with grade 3 of BS 3978.

3 Other methods

In addition to the methods given in Table 1, other British Standards appropriate for the analysis of formulated detergents include BS 1647-1, BS 1796 and BS 3900-A11.

Table 1 — Methods of analysis for formulated detergents: structure and relationship between BS 3762 and International Standards

BS 3762		Subject	Corresponding International Standard no.	Relationship of International Standard to BS test method
Part no. and title	Section no.			
0. General introduction	—	Introduction	—	—
1. Methods of sample division	—	Sample division	607	Identical
2. Qualitative test method	—	Type of surface active agent	—	—
		Oxidizing agents	—	—
		Peroxy-compounds	—	—
		Urea	—	—
		Fluorescent whitening agents	—	—
3. Quantitative test methods	3.1	Anionic-active matter content	2271	Identical
	3.2	Hydrolyzable and non-hydrolyzable anionic-active matter content after alkaline hydrolysis	2869	Identical
	3.3	Hydrolyzable and non-hydrolyzable anionic-active matter content after acid hydrolysis	2870	Identical
	3.4	Lower molecular mass cationic-active matter content	2871-2	Identical
	3.5	Total organic matter content	—	—
	3.6	Matter soluble in light petroleum	—	—
	3.7	Total non-ionic matter content	—	—
	3.8	Alkanolamides content	—	—
	3.9	Soap content	—	—
	3.10	Short chain alkylbenzenesulphonates content	—	—
	3.11	Free formaldehyde content	—	—
	3.12	Ammonia content	—	—
	3.13	Total boron content	6835	Identical
	3.14	Carbonate content	—	—
	3.15	Carboxymethylcellulose content	—	—
	3.16	Chloride content	—	—
	3.17	Active oxygen content	4321	Identical
	3.18	Chlorine oxidizing agents content	—	—
	3.19	Total phosphorus(V) oxide content	4313	Identical
	3.20	Phosphate types	—	—
	3.21	Total silica content	8215	Identical
	3.22	Inorganic sulphate content	8214	Identical
	3.23	Chelating agents content	4325	Identical
	3.24	Low molecular mass alcohols content	—	—
	3.25	Water and volatile matter content	4317, 4318	Related
	3.26	High molecular mass cationic-active matter content	ISO 2871-1	Identical
4. Physical test methods	4.1	Clear point of liquid detergents	—	—
	4.2	Apparent bulk density	697	Identical

Publication(s) referred to

- BS 1647, *pH measurement*.
- BS 1647-1, *Specification for pH scale*.
- BS 1715, *Analysis of soaps*¹⁾.
- BS 1796, *Test sieving*.
- BS 3900, *Methods of test for paints*.
- BS 3900-A11, *Small scale test for combustibility*.
- BS 3978, *Specification for water for laboratory use*.
- BS 5309, *Methods for sampling chemical products*.
- BS 5309-1, *Introduction and general principles*¹⁾.
- BS 5309-3, *Sampling of liquids*¹⁾.
- BS 5309-4, *Sampling of solids*¹⁾.
- BS 6829, *Analysis of surface active agents (raw materials)*¹⁾.
- ISO 607, *Surface active agents and detergents — Methods of sample division*.
- ISO 697, *Surface active agents — Washing powders — Determination of apparent density — Method by measuring the mass of a given volume*.
- ISO 2271, *Surface active agents — Detergents — determination of anionic-active matter by manual or mechanical direct two-phase titration procedure*.
- ISO 2869, *Surface active agents — Detergents — Anionic-active matter hydrolyzable under alkaline conditions — Determination of hydrolyzable and non-hydrolyzable anionic-active matter*.
- ISO 2870, *Surface active agents — Detergents — Determination of anionic-active matter hydrolyzable and non-hydrolyzable under acid conditions*.
- ISO 2871-1, *Surface active agents — Detergents — Determination of cationic-active matter content*.
- ISO 2871-1, *High-molecular-mass cationic-active matter*.
- ISO 2871-2, *Surface active agents — Detergents — Determination of cationic-active matter content*.
- ISO 2871-2, *Cationic-active matter of low-molecular-mass (between 200 and 500)*.
- ISO 4313, *Washing powders — Determination of total phosphorus(V) oxide content — Quinoline phosphomolybdate gravimetric method*.
- ISO 4317, *Surface active agents — Determination of water content — Karl Fischer method*.
- ISO 4318, *Surface active agents and soaps — Determination of water content — Azeotropic distillation method*.
- ISO 4321, *Washing powders — Determination of active oxygen content — Titrimetric method*.
- ISO 4325, *Soaps and detergents — Determination of chelating agent content — Titrimetric method*.
- ISO 6835, *Surface active agents — Washing powders — Determination of total boron content — Titrimetric method*.
- ISO 8214, *Surface active agents — Washing powders — Determination of inorganic sulfates — Gravimetric methods*.
- ISO 8215, *Surface active agents — Washing powders — Determination of total silica content — Gravimetric method*.

¹⁾ Referred to in the foreword only.

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