

BRITISH STANDARD

**BS 3762 :
Section 3.4 :
1991
ISO 2871-2 :
1990**

Analysis of formulated detergents

Part 3. Quantitative test methods

Section 3.4 Method for determination of lower molecular mass cationic-active matter content

NOTE. It is recommended that this Section be read in conjunction with the information in the 'General introduction', published separately as BS 3762 : Part 0.

Analyse des détergents formulés
Partie 3. Méthodes d'essai quantitative
Section 3.4 Méthode de détermination de la
teneur en matière active cationique à faible
masse moléculaire

Analyse von konfektionierten
Reinigungsmitteln
Teil 3. Quantitative Prüfverfahren
Abschnitt 3.4 Bestimmung der
niedrigmolekularen kationenaktiven Anteile

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National foreword

This Section of BS 3762 has been prepared under the direction of the Chemicals Standards Policy Committee. It is identical with ISO 2871-2 : 1990 'Surface active agents — Detergents — Determination of cationic-active matter content — Part 2 : Cationic-active matter of low molecular mass (between 200 and 500)' published by the International Organization for Standardization (ISO).

This Section supersedes the 1986 edition of BS 3762 : Section 3.4, which is withdrawn, and from which it differs principally in that the masses of the test portions have been modified. ISO 2871-2 : 1990 was based upon BS 3762 : Section 3.4 : 1986.

A method for the determination of high molecular mass cationic-active matter content is given in BS 3762 : Section 3.26.

Cross-references

| International standard | Corresponding British Standard |
|------------------------|---|
| ISO 607 : 1980 | BS 3762 Analysis of formulated detergents Part 1 : 1983 Methods of sample division (Identical) |
| ISO 1042 : 1983 | BS 1792 : 1982 Specification for one-mark volumetric flasks (Identical) |
| ISO 2271 : 1989 | BS 3762 Analysis of formulated detergents Section 3.1 : 1990 Method for determination of anionic-active matter content (Identical) |
| ISO 3696 : 1987 | BS 3978 : 1987 Specification for water for laboratory use (Identical) |

The Technical Committee has reviewed the provisions of ISO 385-1 : 1984, to which reference is made in the text, and has decided that they are acceptable for use in conjunction with this standard.

With reference to 5.2, class A burettes complying with BS 846 : 1985 'Specification for burettes' are technically equivalent to, and may be used in place of, those complying with class A of ISO 385-1 : 1984.

Textual errors. When adopting the text of the international standard, the textual errors given below were discovered. They have been marked in the text and have been reported to ISO in a proposal to amend the text of the international standard.

In 7.1 '0,0002 mol' should read '0,002 mol'.

In 8.1 the two formulae are incorrect. They should read as follows.

$$\frac{VcM_r \times 1000 \times 100}{25 \times 1000 m_0}$$

$$= \frac{4VcM_r}{m_0}$$

Additional information. With reference to 4.2 and 4.2.1 it should be made clear that it is the purity of solid sodium dodecyl sulfate that is being determined. The solid is available commercially at 99 % plus purity.

This Section describes a method of test only and should not be used or quoted as a specification defining limits of purity. Reference to this Section should indicate that the method of test used is in accordance with BS 3762 : Section 3.4.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Surface active agents — Detergents — Determination of cationic-active matter content —

Part 2:

Cationic-active matter of low molecular mass (between 200 and 500)

1 Scope

This part of ISO 2871 specifies a method for the determination of low-molecular-mass cationic-active materials such as monoamines, amine oxides, quaternary ammonium compounds and alkylpyridinium salts which have a main chain of 10 to 22 carbon atoms and not more than 6 other carbon atoms in the cation.

The method is also suitable for other cationic-active materials.

The method is applicable to solids or to aqueous solutions of the active material. The relative molecular mass of the cationic-active matter shall be known or previously determined if its content is expressed as a percentage by mass. If more than one type of cationic-active material is present, an estimate of average relative molecular mass may be used.

The method is not applicable if anionic and/or amphoteric surface active agents are present.

NOTE 1 Low relative molecular mass sulfonates of toluene and xylene present as hydrotropes do not interfere when present in concentrations up to and including 15 % (*m/m*) with respect to the active material. At higher levels, their influence should be evaluated in each particular case.

Non-ionic surface active agents, soap, urea and the salts of (ethylenedinitrilo)tetraacetic acid do not interfere.

Typical inorganic components of detergent formulations, such as sodium chloride, sulfate, borate,

tripolyphosphate, perborate, silicate, etc., do not interfere, but bleaching agents other than perborate shall be destroyed before the analysis, and the sample shall be completely soluble in water.

This part of ISO 2871 should be read in conjunction with ISO 2271.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 2871. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 2871 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 385-1:1984, *Laboratory glassware — Burettes — Part 1: General requirements.*

ISO 607:1980, *Surface active agents and detergents — Methods of sample division.*

ISO 1042:1983, *Laboratory glassware — One-mark volumetric flasks.*

ISO 2271:1989, *Surface active agents — Detergents — Determination of anionic-active matter by manual or mechanical direct two-phase titration procedure.*

ISO 3696:1987, *Water for analytical laboratory use — Specification and test methods.*