INTERNATIONAL STANDARD ISO 2870

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Surface active agents — Detergents — Anionic-active matter hydrolyzable under acid conditions — Determination of hydrolyzable and non-hydrolyzable anionic-active matter

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FOREWORD

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Draft International Standards adopted by the Technical Committees are circulated to the Member Bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 2870 was drawn up by Technical Committee ISO/TC 91, *Surface active agents,* and circulate to the Member Bodies in August 1972.

It has been approved by the Member Bodies of the following countries :

Austria	Ireland	Spain
Belgium	Japan	Switzerland
Egypt, Arab Rep. of	Mexico	Thailand
France	New Zealand	Turkey
Germany	Poland	United Kingdom
Hungary	Romania	U.S.A.
India	South Africa, Rep. of	U.S.S.R.

This International Standard has also been approved by the International Union of Pure and Applied Chemistry (IUPAC).

No Member Body expressed disapproval of the document.

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Surface active agents — Detergents — Anionic-active matter hydrolyzable under acid conditions — Determination of hydrolyzable and non-hydrolyzable anionic-active matter

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies a method for the determination, in detergents, of anionic-active matter hydrolyzable under acid conditions.

This active matter includes alkyl sulphates and hydroxysulphates alkylphenol and fatty alcohol ethoxysulphates. The method is applicable to the analysis of mixtures containing hydrolyzable and non-hydrolyzable anionic-active matter.

The molar mass of the two types of active matter must be known or previously determined, if their content is expressed as a percentage by mass. If the detergent contains perborate, this must be destroyed before the hydrolysis.

2 REFERENCE

ISO 2771, *Surface active agents — Detergents — Determination of anionic-active matter (direct two-phase titration procedure).*

3 PRINCIPLE

Titration of an aliquot portion of a sample solution with benzethonium chloride solution according to the direct two-phase titration procedure described in ISO 2271.

Hydrolysis, by refluxing under acid conditions, of a second aliquot portion of the sample solution after destruction, if necessary, of any perborate in the sample by the addition of sodium sulphite.

Titration of unhydrolyzed anionic-active matter with benzethonium chloride solution as before.

Calculation of the contents of hydrolyzable and non-hydrolyzable anionic-active matter from the results obtained.

4 REAGENTS

The water used shall be distilled water or water of at least equivalent purity.

In addition to the reagents mentioned in ISO 2271 and given below as a reminder :

4.1 Chloroform, ρ_{20} 1,48 g/ml, distilling between 59,5 and 61,5 °C.

4.2 Sulphuric acid, 5 N solution.

4.3 Sulphuric acid, 1,0 N solution.

4.4 Sodium hydroxide, 1,0 N standard volumetric solution.

4.5 Sodium lauryl sulphate, 0,004 M standard volumetric solution.

4.6 Benzethonium chloride, 0,004 M standard volumetric solution.

4.7 Phenolphthalein solution.

4.8 Mixed indicator solution.

the following reagents are necessary :

4.9 Sulphuric acid, 10 N solution.

4.10 Sodium hydroxide, 10 N solution.

4.11 Sodium hydroxide, 1 N solution.

4.12 Sodium sulphite, 2 % solution.

5 APPARATUS

Ordinary laboratory apparatus and

5.1 Conical flask, 250 ml, with a conical ground glass joint.

5.2 Reflux condenser, water-cooled, with a conical ground glass joint at the bottom.

6 PROCEDURE

6.1 Determination of total anionic-active matter

Carry out the determination of total anionic-active matter present in the sample by the procedure described in ISO 2271.