INTERNATIONAL STANDARD 1066

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Analysis of soaps — Determination of glycerol content — Titrimetric method

Analyse des savons — Dosage du glycérol — Méthode titrimétrique

First edition — 1975-05-01

UDC 661.185 : 543.062 : 547.426 **Ref. No. ISO 1066-1975 (E)**

Descriptors : surfactants, soaps, chemical anslysis, determination of content, glycerol, volumetric analysis.

Price based on 3 pages

FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up has the right to be represented on that Committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

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.

Prior to 1972, the results of the work of the Technical Committees were published as ISO Recommendations; these documents are now in the process of being transformed into International Standards. As part of this process, Technical Committee ISO/TC 91 has reviewed ISO Recommendation R 1066 and found it technically suitable for transformation. International Standard ISO 1066 therefore replaces ISO Recommendation R 1066-1969 to which it is technically identical.

ISO Recommendation R 1066 was approved by the Member Bodies of the following countries :

Austria	Iran	Romania
Belgium	Ireland	South Africa, Rep. of
Canada	Israel	Spain
Chile	Italy	Sweden
Czechoslovakia	Japan	Switzerland
Egypt, Arab Rep. of	Korea, Rep. of	Turkey
France	Netherlands	United Kingdom
Germany	New Zealand	Yugoslavia
Hungary	Poland	
India	Portugal	

No Member Body expressed disapproval of the Recommendation.

No Member Body disapproved the transformation of ISO/R 1066 into an International Standard.

Printed in Switzerland

Analysis of soaps — Determination of glycerol content — Titrimetric method

1 SCOPE

This International Standard specifies a titrimetric method for the determination of the glycerol content of commercial soaps, excluding compounded products.

2 FIELD OF APPLICATION

This method is applicable to soaps with glycerol contents equal to or greater than 0,5 % (*m/m*)[1]. This method is not applicable in the presence of organic compounds containing more than two hydroxyl groups on adjacent carbon atoms.

3 REFERENCES

ISO 2272, *Surface active agents — Analysis of soaps — Determination of low contents of free glycerol — Spectrophotometric method.*

ISO . . . , *Soaps — Sampling.*[2]

4 PRINCIPLE

Decomposition of the soap with sulphuric acid, and extraction of the fatty acids with light petroleum. Oxidation of the glycerol by periodic acid to formic acid and formaldehyde, and titration of the formic acid produced, using a pH meter.

5 REAGENTS

The reagents used shall be of recognized analytical purity and shall have the following properties.

5.1 Distilled water, from which carbon dioxide has been removed by boiling for 15 min and cooling in a vessel protected from atmospheric carbon dioxide.

5.2 Light petroleum, boiling range between 40 and 60 °C.

5.3 1,2-Ethanediol, 50 % (*V/V*) aqueous solution.

5.4 Sulphuric acid, approximately 7 N solution.

5.5 Sodium hydroxide, 2 N solution.

5.6 Sodium hydroxide, 0,05 N solution.

5.7 Sodium hydroxide, 0,125 N standard volumetric solution, carbonate free.

5.8 Sodium periodate solution, prepared as follows :

Dissolve, at room temperature, 60 ± 0,5 g of sodium periodate ($NaIO_4$), minimum purity 99,8 %, in distilled water containing 120 ml of approximately 0,1 N sulphuric acid solution. Dilute to 1 l.

If the solution is turbid, filter it through a glass filter of porosity 16 to 40 μm, and place it in a brown glass bottle, which should be kept stoppered and in the dark.

6 APPARATUS

Ordinary laboratory apparatus, and in particular :

6.1 Beakers, capacity 250 and 600 ml.

6.2 Separating funnels, capacity 250 ml.

6.3 One-mark volumetric flasks, capacity 250 ml, complying with the requirements of class A of ISO/R 1042.

6.4 Burette, capacity 50 ml, complying with the requirements of class A of ISO/R 385. The drainage time shall be not less than 90 s for 50 ml.

6.5 Flat-bottomed or round-bottomed flask, capacity 500 ml, complying with the requirements of ISO/R 1773.

6.6 Pipette, capacity 50 ml, complying with the requirements of class A of ISO/R 648, with a stated drainage time in order to ensure delivery of a constant volume.

6.7 Variable-speed stirrer (preferably magnetic) with glass paddles.

1) For a glycerol content of less than 0,5 % (*m/m*), the method specified in ISO 2272 should be used.

2) In preparation.