International Standard 1740

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Butter — Determination of the acid value of the fat (Reference method)

Beurre — Détermination de l'indice d'acide de la matière grasse (Méthode de référence)

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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.

International Standard ISO 1740 was developed by Technical Committee ISO/TC 34, *Agricultural food products.*

It was submitted directly to the ISO Council, in accordance with clause 5.10.1 of the Directives for the technical work of ISO. It cancels and replaces ISO Recommendation R 1740-1971, which had been approved by the member bodies of the following countries :

Belgium	Hungary	Romania
Brazil	India	South Africa, Rep. of
Canada	Iran	Spain
Colombia	Israel	Sweden
Czechoslovakia	Korea, Rep. of	Switzerland
Egypt, Arab Rep. of	Netherlands	Thailand
France	Peru	Turkey
Germany, F.R.	Poland	United Kingdom
Greece	Portugal	USSR

The member bodies of the following countries had expressed disapproval of the document on technical grounds :

Australia
New Zealand

NOTE – The method specified in this International Standard has been developed jointly with the IDF (International Dairy Federation) and the AOAC (Association of Official Analytical Chemists, USA).

The text as approved by the above organizations was also published by FAO/WHO (Code of Principles, Standard No. B-4), by the IDF (IDF Standard 6A) and by the AOAC [Official Methods of Analysis, 12th edition (1975) 16.193-16.195].

Printed in Switzerland

Butter — Determination of the acid value of the fat (Reference method)

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies a reference method for the determination of the acid value of the fat from butter.

2 REFERENCES

ISO/R 385, *Burettes.*

ISO/R 707, *Milk and milk products — Sampling.*

3 DEFINITION

acid value of the fat from butter : The number of milligrams of potassium hydroxide required to neutralize the free fatty acids contained in 1 g of the fat.

4 PRINCIPLE

Separation of the fat by melting the butter, dissolution of the fat in a mixture of ethanol and diethyl ether, and titration of the free fatty acids with an alcoholic standard volumetric potassium hydroxide solution using phenolphthalein as indicator.

5 REAGENTS

All reagents shall be of recognized analytical quality. The water used shall be distilled water or water of at least equivalent purity.

5.1 Ethanol/diethyl ether mixture, 1 + 1 (*V/V*).

Mix equal volumes of 95 to 96 % (*V/V*) ethanol, or ethanol denatured with methanol, and diethyl ether. Immediately before use, neutralize the mixture with the alcoholic potassium hydroxide solution (5.2) in the presence of 0,3 ml of the phenolphthalein solution (5.3) per 100 ml of mixture.

5.2 Potassium hydroxide, standard volumetric solution, *c* (KOH)≈0,1 mol/l[1], in ethanol or methanol.

The exact concentration shall be determined immediately before use.

5.3 Phenolphthalein, neutral 10 g/l solution in 95 to 96 % (*V/V*) ethanol or ethanol denatured with methanol.

6 APPARATUS

Usual laboratory apparatus not otherwise specified, and the following :

6.1 Conical flask, of capacity 300 ml.

6.2 Burette, graduated in 0,1 ml, complying with the requirements for class A of ISO/R 385.

6.3 Analytical balance.

7 SAMPLING

See ISO/R 707.

8 PROCEDURE

8.1 Preparation of the test sample

Separate the fat by melting the laboratory sample and allowing it to stand for 2 to 3 h at 50 to 60 °C, decantation and filtration through a dry filter paper. Filter again if the filtrate obtained is not clear. Use the melted, clarified and well mixed fat.

8.2 Test portion

Weigh, to the nearest 0,01 g, 5 to 10 g of the fat into the flask (6.1).

1) Hitherto expressed as "approximately 0,1 N standard volumetric solution".