

Transcribed

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION

R 1735

CHEESE AND PROCESSED CHEESE PRODUCTS

DETERMINATION OF FAT CONTENT
(REFERENCE METHOD)

1st EDITION

November 1970

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Printed in Switzerland

Also issued in French and Russian. Copies to be obtained through the national standards organizations.

BRIEF HISTORY

The ISO Recommendation R 1735, *Cheese and processed cheese products – Determination of fat content (Reference method)*, was drawn up by Technical Committee ISO/TC 34, *Agricultural food products*, the Secretariat of which is held by the Magyar Szabványügyi Hivatal (MSZH).

Work on this question led to the adoption of Draft ISO Recommendation No. 1735, which was circulated to all the ISO Member Bodies for enquiry in November 1968. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies :

Australia	India	Romania
Belgium	Iran	South Africa, Rep. of
Brazil	Israel	Sweden
Chile	Korea, Rep. of	Switzerland
Colombia	Netherlands	Thailand
Czechoslovakia	New Zealand	Turkey
France	Norway	U.A.R.
Germany	Peru	United Kingdom
Greece	Poland	U.S.S.R.
Hungary	Portugal	

No Member Body opposed the approval of the Draft.

This Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided to accept it as an ISO RECOMMENDATION.

NOTE. – This ISO Recommendation has been developed jointly with the IDF (International Dairy Federation) and the AOAC (Association of Official Analytical Chemists; U.S.A.) on the basis of an IDF Standard, for the purpose of being included in the FAO/WHO Code of Principles concerning Milk and Milk Products and Associated Standards.

The text as approved by the above organizations was also published by FAO/WHO (Code of Principles, Standard No. B-3), by the IDF (IDF Standard 5A) and by the AOAC (Official Methods of Analysis, 11th Edition, 16.203).

CHEESE AND PROCESSED CHEESE PRODUCTS

DETERMINATION OF FAT CONTENT

(REFERENCE METHOD)

1. SCOPE

This ISO Recommendation describes a reference method for the determination of the fat content of cheese and of processed cheese products.

2. DEFINITION

By the *fat content* of cheese and of processed cheese products is meant the substances extracted by the procedure described.

The fat content is expressed as a percentage by mass.

3. PRINCIPLE

Digestion of the cheese with hydrochloric acid, addition of ethanol and subsequent extraction of the fat by means of diethyl ether and light petroleum, evaporation of the solvents and weighing of the residue (commonly known as the Schmid-Bondzynski-Ratzlaff method).

4. REAGENTS

All reagents should be of analytical reagent quality and should leave no residue greater than that permitted for the blank test (see clause 7.2). If necessary, solvents may be redistilled in the presence of about 1 g of butterfat per 100 ml of solvent. Water used should be distilled water or water of at least equivalent purity.

4.1 *Hydrochloric acid*, approximately 25 % (m/m) solution of HCl ($\rho_{20} = 1.125$ g/ml).

4.2 *Ethanol*, 94 to 97 % (V/V) or, if not available, ethanol denatured with methanol, ethyl methyl ketone, benzene or light petroleum.

4.3 *Diethyl ether*, peroxide-free.

NOTES

1. To test for peroxides, add to 10 ml of the diethyl ether in a small glass stoppered cylinder, previously rinsed with the ether, 1 ml of freshly prepared 10 % potassium iodide solution. Shake and let stand for 1 minute. No yellow colour should be observed in either layer.
2. Diethyl ether may be freed and maintained free from peroxides by adding wet zinc foil that has been completely immersed in dilute acidified copper sulphate solution for 1 minute and then washed in water. Approximately 80 cm² of zinc foil should be used per litre and it should be cut in strips long enough to reach at least half way up the container.

4.4 *Light petroleum* (petroleum ether), with any boiling range between 30 and 60 °C.

4.5 *Mixed solvent*, prepared shortly before use by mixing equal volumes of diethyl ether (4.3) and light petroleum (4.4).

NOTE. – Where mixed solvent is specified, the diethyl ether or the light petroleum may be used alone instead.