
INTERNATIONAL STANDARD



3595

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

Milk fat — Detection of vegetable fat by the phytosteryl acetate test

Matières grasses du lait — Détection des matières grasses végétales au moyen de l'essai à l'acétate de phytostérol

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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 3595 was drawn up by Technical Committee ISO/TC 34, *Agricultural food products*, and was circulated to the Member Bodies in August 1974.

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

Australia	Hungary	South Africa, Rep. of
Austria	India	Spain
Belgium	Ireland	Sweden
Bulgaria	Israel	Turkey
Chile	Mexico	United Kingdom
Czechoslovakia	Netherlands	U.S.S.R.
France	New Zealand	
Germany	Poland	

No Member Body expressed disapproval of the document.

NOTE — This International Standard 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 has also been published by the IDF (IDF Standard No. 32A) and by the AOAC (Official Methods of Analysis).

Milk fat — Detection of vegetable fat by the phytosteryl acetate test

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies a method for the detection in milk fat of the presence of the more common vegetable fats, using the phytosteryl acetate test.

2 REFERENCES

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

ISO 3594, *Milk fat — Detection of vegetable fat by gas-liquid chromatography of sterols (Reference method)*.

3 DEFINITION

sterols content of fat: The content of compounds precipitable as digitonides, expressed as a percentage by mass, as determined by the procedure described (see note under 8.2.9).

4 PRINCIPLE

4.1 Saponification of the fat and precipitation of the sterols as sterol digitonides by addition of an ethanolic digitonin solution.

4.2 Determination of the melting point of the steryl acetate after acetylation of the steryl digitonides with acetic anhydride.

4.3 Microscopical examination of the crystal form of the sterols after conversion of the steryl acetates into the sterols by saponification with a potassium hydroxide solution.

5 REAGENTS

All reagents shall be of analytical quality. Water shall be distilled water or water of at least equivalent purity.

5.1 Potassium hydroxide solution.

Dissolve 400 g of potassium hydroxide in 600 ml of water.

5.2 Digitonin, 10 g/l ethanolic solution.

Dissolve 10 g of digitonin in 1 l of ethanol (5.3).

5.3 Ethanol, 95 to 96 % (V/V).

5.4 Ethanol, 80 % (V/V).

5.5 Diethyl ether.

5.6 Acetic anhydride.

5.7 Pentane or light petroleum, boiling range 40 to 60 °C.

5.8 Copper(II) sulphate, 70 g/l solution.

Dissolve 70 g of copper(II) sulphate pentahydrate ($\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$) in 1 l of water.

5.9 Sodium sulphate, anhydrous.

6 APPARATUS

Usual laboratory equipment and

6.1 Analytical balance.

6.2 Conical flasks, capacity 500 ml, with ground joints and fitted with air condensers.

