

INTERNATIONAL
STANDARD

ISO
5548

IDF
106

Second edition
2004-12-01

**Caseins and caseinates — Determination
of lactose content — Photometric method**

*Caséines et caséinates — Détermination de la teneur en lactose —
Méthode photométrique*



Reference numbers
ISO 5548:2004(E)
IDF 106:2004(E)

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Published in Switzerland

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established 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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 5548|IDF 106 was prepared by Technical Committee ISO/TC 34, *Food products*, Subcommittee SC 5, *Milk and milk products*, and the International Dairy Federation (IDF), in collaboration with AOAC International. It is being published jointly by ISO and IDF and separately by AOAC International.

This edition of ISO 5548|IDF 106 cancels and replaces ISO 5548:1980, of which it constitutes a minor revision. Only editorial changes have been made.

Foreword

IDF (the International Dairy Federation) is a worldwide federation of the dairy sector with a National Committee in every member country. Every National Committee has the right to be represented on the IDF Standing Committees carrying out the technical work. IDF collaborates with ISO and AOAC International in the development of standard methods of analysis and sampling for milk and milk products.

Draft International Standards adopted by the Action Teams and Standing Committees are circulated to the National Committees for voting. Publication as an International Standard requires approval by at least 50 % of the National Committees casting a vote.

ISO 5548|IDF 106 was prepared by Technical Committee ISO/TC 34, *Food products*, Subcommittee SC 5, *Milk and milk products*, and the International Dairy Federation (IDF), in collaboration with AOAC International. It is being published jointly by ISO and IDF and separately by AOAC International.

All work was carried out by the Joint ISO/IDF/AOAC Group of Experts, *Methods for caseins and caseinates* (E36), under the aegis of its project leader, Mr J. Eisses (NL).

This edition of ISO 5548|IDF 106 cancels and replaces IDF 106:1982. Only editorial changes have been made.

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Caseins and caseinates — Determination of lactose content — Photometric method

1 Scope

This International Standard specifies a photometric method for the determination of the content of lactose and other soluble carbohydrates in caseins and caseinates containing less than 2,0 % of total soluble carbohydrates.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 3310-1, *Test sieves — Technical requirements and testing — Part 1: Test sieves of metal wire cloth*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

lactose content of caseins and caseinates

content of total soluble carbohydrates, expressed as anhydrous lactose, determined by the procedure specified in this International Standard

NOTE It is expressed as a mass fraction in percent.

4 Principle

A test portion is dissolved

- a) in hot water in the case of caseinates;
- b) in hot water with the addition of sodium hydrogen carbonate in the case of acid caseins;
- c) in hot water with the addition of pentasodium triphosphate in the case of rennet casein.

The casein is precipitated with a solution of acetic acid and sodium acetate at pH 4,6, then filtered to obtain a protein-free solution of the carbohydrates. Phenol solution and concentrated sulfuric acid are added to an aliquot portion of the filtrate, thus producing a colour which is proportional to the amount of carbohydrate present, which is measured photometrically at a wavelength of 490 nm.