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IDF
29-1

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**Milk — Determination of casein-nitrogen
content —**

**Part 1:
Indirect method (Reference method)**

Lait — Détermination de la teneur en azote de caséine —

Partie 1: Méthode indirecte (Méthode de référence)



Reference numbers
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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 17997-1|IDF 29-1 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.

ISO 17997|IDF 29 consists of the following parts, under the general title *Milk — Determination of casein-nitrogen content*:

- *Part 1: Indirect method (Reference method)*
- *Part 2: Direct method*

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 IDF National Committees casting a vote.

ISO 17797-1|IDF 29-1 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 Action Team on *Nitrogen compounds*, of the Standing Committee on *Main components in milk*.

This edition of ISO 17997-1|IDF 29-1, together with ISO 17997-2|IDF 29-2, cancels and replaces the first edition of IDF 29:1964, which has been technically revised.

ISO 17997|IDF 29 consists of the following parts, under the general title *Milk — Determination of casein-nitrogen content*:

- Part 1: *Indirect method (Reference method)*
- Part 2: *Direct method*

Introduction

This part of ISO 17997|IDF 29 is a classical reference method for the indirect determination of the casein-nitrogen content of milk. No collaborative study data were available for this method when publishing the first edition of IDF 29:1964.

Recent research has been completed to develop a better defined indirect reference method. A routine method for the direct measurement of the casein-nitrogen content of milk is given in ISO 17997-2|IDF 29-2. Both parts of ISO 17997|IDF 29 have been collaboratively studied and a reference to the obtained precision data is now included in each part.

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Milk — Determination of casein-nitrogen content —

Part 1: Indirect method (Reference method)

WARNING — The use of the method and equipment described in this standard may involve hazardous materials, operations and equipment. This standard does not purport to address all the safety risks associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of local regulatory limitations prior to use.

1 Scope

This part of ISO 17997|IDF 29 specifies a reference method for the indirect determination of the casein-nitrogen content of bovine milk.

The method can be modified for milk from other species or liquid dairy products.

NOTE Casein nitrogen will decrease with milk storage time due to casein breakdown even at 4 °C. The casein nitrogen of heat-treated milk will be artificially high because of whey-protein denaturation.

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 648:1977, *Laboratory glassware — One-mark pipettes*

ISO 1042:1998, *Laboratory glassware — One-mark volumetric flasks*

ISO 8968-1|IDF 20-1, *Milk — Determination of nitrogen content — Part 1: Kjeldahl method*

ISO 8968-2|IDF 20-2, *Milk — Determination of nitrogen content — Part 2: Block-digestion method (Macro method)*

3 Terms and definitions

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

3.1

non-casein-nitrogen content

mass fraction of substances determined according to the procedures specified in this part of ISO 17997|IDF 29