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STANDARD

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2004-02-01

**Milk and milk products — Determination
of nitrate and nitrite contents —**

Part 1:
**Method using cadmium reduction and
spectrometry**

*Lait et produits laitiers — Détermination des teneurs en nitrates et en
nitrites —*

Partie 1: Méthode par réduction au cadmium et spectrométrie



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 14673-1|IDF 189-1 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.

This second edition cancels and replaces the first edition (ISO 14673-1|IDF 189-1:2001), of which it constitutes a minor revision.

ISO 14673|IDF 189 consists of the following parts, under the general title *Milk and milk products — Determination of nitrate and nitrite contents*:

- *Part 1: Method using cadmium reduction and spectrometry*
- *Part 2: Method using segmented flow analysis (Routine method)*
- *Part 3: Method using cadmium reduction and flow injection analysis with in-line dialysis (Routine 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 the National Committees casting a vote.

ISO 14673-1|IDF 189-1 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 *Minerals and minor compounds*, of the Standing Committee on *Minor components characterization of physical properties*, under the aegis of its project leader, Mr G. Bråthen (NO).

This second edition, together with ISO 14673-2|IDF 189-2 and ISO 14673-3|IDF 189-3, cancels and replaces IDF 84A:1984, IDF 95A:1982, IDF 96A:1987, IDF 97A:1985 and IDF 120:1984, which have been technically revised.

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Milk and milk products — Determination of nitrate and nitrite contents —

Part 1: Method using cadmium reduction and spectrometry

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

1 Scope

This part of ISO 14673|IDF 189 specifies a method for the determination of the nitrate and nitrite contents of milk and milk products by cadmium reduction and spectrometry. The method is applicable to

- whole and partly skimmed and skimmed dried milk;
- hard, semi-hard and soft cheeses;
- processed cheese;
- whey cheese, caseins and caseinates, and dried whey

The method may be performed using automatic equipment, in particular by segmented flow analysis (SFA) or flow injection analysis (FIA), thus reducing cadmium contamination in laboratory work places and waste water.

NOTE These methods are described in ISO 14673-2|IDF 189-2 and ISO 14673-3|IDF 189-3, respectively.

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 565, *Test sieves — Metal wire cloth, perforated metal plate and electroformed sheet — Nominal sizes of openings*

ISO 648, *Laboratory glassware — One-mark pipettes*

ISO 835-1, *Laboratory glassware — Graduated pipettes — Part 1: General requirements*

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