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Liquid milk — Determination of acid-soluble β -lactoglobulin content — Reverse-phase HPLC method

Lait liquide — Détermination de la teneur en β -lactoglobuline soluble dans l'acide — Méthode par chromatographie liquide haute performance en phase inverse



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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 13875|IDF 178 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.

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.

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All work was carried out by the Joint ISO/IDF/AOAC Action Team, *Characterization of heat treatment*, of the Standing Committee on *Minor components and characterization of physical properties*, under the aegis of its project leader, Prof. L. Pellegrino (IT).

Liquid milk — Determination of acid-soluble β -lactoglobulin content — Reverse-phase HPLC method

1 Scope

This International Standard specifies a method for the quantitative determination of the β -lactoglobulin content, soluble at pH 4,6, in liquid milk. The method has been tested over a range between 0 mg and 3 500 mg of β -lactoglobulin per litre of milk. It is suitable for distinguishing different categories of heat-treated liquid milk.

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 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

β -lactoglobulin content

β -LG content

mass fraction of substance determined by the procedure specified in this International Standard

NOTE It is expressed in milligrams per litre of test sample.

4 Principle

Casein and denatured whey protein are precipitated isoelectrically from milk at pH 4,6. The acid whey is separated by centrifuging and filtering. The acid-soluble β -LG content in the acid whey is determined by reverse-phase HPLC. The soluble β -LG content in the test sample is quantified by single-point or a multi-point calibration using a reference sample.

5 Reagents

Use only reagents of recognized analytical grade and distilled water or water of at least equivalent purity, unless otherwise specified.

5.1 Standard sample, pure β -lactoglobulin (A+B genetic variants).