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Milk — Enumeration of somatic cells —

Part 1:
Microscopic method (Reference method)

Lait — Dénombrement des cellules somatiques —

Partie 1: Méthode au microscope (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 13366-1|IDF 148-1 was prepared by Technical Committee ISO/TC 34, *Food products*, Subcommittee SC 5, *Milk and milk products,* and the International Dairy Federation (IDF). It is being published jointly by ISO and IDF.

This second edition of ISO 13366-1|IDF 148-1 cancels and replaces the first edition (ISO 13366-1:1997), of which it constitutes a technical revision.

ISO 13366 consists of the following parts, under the general title *Milk — Enumeration of somatic cells*:

- *Part 1: Microscopic method (Reference method)*
- *Part 2: Guidance on the operation of fluoro-opto-electronic counters*

Foreword

IDF (the International Dairy Federation) is a non-profit organization representing the dairy sector worldwide. IDF membership comprises National Committees in every member country as well as regional dairy associations having signed a formal agreement on cooperation with IDF. All members of IDF have the right to be represented at the IDF Standing Committees carrying out the technical work. IDF collaborates with ISO 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 IDF National Committees casting a vote.

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

ISO 13366-1|IDF 148-1 was prepared by the International Dairy Federation (IDF) and Technical Committee ISO/TC 34, *Food products*, Subcommittee SC 5, *Milk and milk products.* It is being published jointly by IDF and ISO.

All work was carried out by the Joint ISO-IDF Action Team *Automated methods* of the Standing Committee on *Quality assurance, statistics of analytical data and sampling* under the aegis of its project leaders, Mrs. S. Orlandini (IT) and Mr. H.J.C.M. van den Bijgaart (NL).

This edition of ISO 13366-1|IDF 148-1 cancels and replaces IDF 148A:1995.

ISO 13366 consists of the following parts, under the general title *Milk — Enumeration of somatic cells*:

- *Part 1: Microscopic method (Reference method)*
- *Part 2: Guidance on the operation of fluoro-opto-electronic counters*

Milk — Enumeration of somatic cells —

Part 1:
Méthode au microscope (Méthode de référence)

1 Scope

This part of ISO 13366|IDF 148 specifies a microscopic method (reference method) for the counting of somatic cells in both raw and chemically preserved milk.

This part of ISO 13366|IDF 148 is applicable for the counting of somatic cells in cows' milk, provided that the eventually mentioned prerequisites are met.

This method is suitable for preparing standard test samples and determining reference method values that are required for calibrating mechanized and automated cell-counting methods.

WARNING — The use of this standard may involve hazardous materials, operations and equipment. This standard does not purport to address all of the safety problems 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 regulatory limitations prior to use.

2 Terms and definitions

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

2.1
somatic cells
those cells with nuclei, that is all leucocytes and epithelial cells, determined according to the procedure described in this part of ISO 13366|IDF 148

3 Principle

A test portion of milk to be examined is spread over a slide to form a smear. The smear is dried. During this process, the cells are stained. Subsequently, the stained cells are counted using a microscope. The number of cells counted in a defined area are multiplied by a working factor, to give the number of cells per millilitre.

4 Reagents

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

4.1 Dye solutions

WARNING — Tetrachloroethane is poisonous. Ethidium bromide is mutagenic. Proper actions for deactivation should be taken in case of spilling. Preparation and application of the dye solution shall be carried out in a fume cupboard, using protective equipment.