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**Milk — Determination of fat content —  
Acido-butyrometric (Gerber method)**

*Lait — Détermination de la teneur en matière grasse — Méthode  
acido-butyrométrique (méthode de Gerber)*



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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

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For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document 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.

**IDF (the International Dairy Federation)** is a non-profit private sector organization representing the interests of various stakeholders in dairying at the global level. IDF members are organized in National Committees, which are national associations composed of representatives of dairy-related national interest groups including dairy farmers, dairy processing industry, dairy suppliers, academics and governments/food control authorities.

ISO and IDF collaborate closely on all matters of standardization relating to methods of analysis and sampling for milk and milk products. Since 2001, ISO and IDF jointly publish their International Standards using the logos and reference numbers of both organizations.

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This document was prepared by the IDF Standing Committee on Analytical Methods for Composition and ISO Technical Committee ISO/TC 34, *Food products*, Subcommittee SC 5, *Milk and milk products*. It is being published jointly by ISO and IDF.

All work was carried out by the ISO/IDF Project Group C21 of the Standing Committee on Analytical Methods for Composition under the aegis of its project leader, Mr Philippe Trossat (FR).



# Milk — Determination of fat content — Acido-butyrometric (Gerber method)

## 1 Scope

This document specifies a method, the acido-butyrometric or “Gerber”, for determining the fat content of milk. It is applicable to whole milk and partially skimmed milk.

It is also applicable to milk containing authorized preservatives (potassium dichromate, bronopol).

It does not apply to formalin milk, nor to milks that have undergone a homogenisation treatment.

## 2 Normative references

There are no normative references in this document.

## 3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

### 3.1

#### acido-butyrometric method

traditional technique which, when applied to a whole milk having a fat content between 3 g and 5 g per 100 ml or 100 g, gives a fat content that is equivalent, after correction by the density at 20 °C, to that obtained by the gravimetric reference method

## 4 Principle

Dissolution of the proteins by the addition of sulfuric acid, followed by separation of the milk's fat by centrifuging in a butyrometer. The separation is assisted by the addition of amyl alcohol.

Determination of the fat content in grams per 100 ml or 100 g of milk by direct reading on the butyrometer scale.

## 5 Reagents

All reagents shall be of recognised analytical grade and the water used shall be distilled water or water of at least equivalent purity.

**5.1 Concentrated sulfuric acid**, density  $\rho_{20} = 1,820 \text{ g/ml} \pm 0,005 \text{ g/ml}$ , colourless or barely amber, free from any impurity that may influence the result.