

TECHNICAL
SPECIFICATION

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**Processed cheese products —
Calculation of content of added
phosphate expressed as phosphorus**

*Fromage fondu et produits dérivés — Calcul de la teneur (exprimée
en phosphore) en phosphate ajouté*

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Foreword

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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. www.iso.org/directives

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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

The committee responsible for this document is 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.

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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 on 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.

The main task of Standing Committees is to prepare International Standards. Draft International Standards adopted by the Standing Committees are circulated to the National Committees for endorsement prior to publication as an International Standard. Publication as an International Standard requires approval by at least 50 % of IDF National Committees casting a vote.

In other circumstances, particularly when there is an urgent market requirement for such documents, a Standing Committee may decide to publish another type of normative document, which is called by IDF: *Reviewed method*. Such a method represents an agreement between the members of a Standing Committee and is accepted for publication if it is approved by at least 50 % of the committee members casting a vote. A *Reviewed method* is equal to an ISO/PAS or ISO/TS and will, therefore, also be published jointly under ISO conditions.

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ISO/TS 18083|IDF/RM 51 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 ISO-IDF experts from the Standing Committee on Analytical Methods for Processing Aids and Indicators (SCAMPAI).

This first edition of ISO/TS 18083|IDF/RM 51 cancels and replaces IDF 51B:1991, which has been technically revised.

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Processed cheese products — Calculation of content of added phosphate expressed as phosphorus

1 Scope

The method in this Technical Specification specifies the calculation of the approximate content of phosphorus from added phosphate salts and phosphorus containing pH-regulating agents in processed cheese products. The method is applicable to processed cheese products derived mainly from cheese varieties with a P:N ratio of $0,12 \pm 0,02$ and containing no ingredients in quantities substantially affecting the P:N ratio of the cheese raw material.

NOTE The Cheddar, Cheshire, Edam, Emmental, Gouda, Greyerzer (Gruyère), Hergards, Tilsiter, Samsøe and Svecia cheese varieties generally have P:N ratios within the limits stated in the Scope. A number of cheese varieties, e.g. white mould cheeses, cheeses of the Munster type, most goat cheeses, and various non-matured and matured cream cheeses can have lower P:N ratios. Limited amounts of milk or whey powder and ham can be present as optional ingredients without significantly changing the P:N ratio. In other cases, it is intended that the applicability of the approach be critically evaluated before use.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable to its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 2962|IDF 33, *Cheese and processed cheese products — Determination of total phosphorus content — Molecular absorption spectrometric method*

ISO/TS 17837|IDF/RM 25, *Processed cheese products — Determination of nitrogen content — Kjeldahl method*

3 Terms and definitions

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

3.1

content of added phosphate in processed cheese products

content of phosphorus calculated by the specified procedure

Note 1 to entry. It is expressed as phosphorus, and expressed as a mass fraction (%).

4 Principle

The contents of phosphorus and nitrogen are determined. The phosphorus content attributable to emulsifying agents and phosphorus-containing pH regulating agents is obtained by correcting the total phosphorus content of the sample for the phosphorus content derived from the cheese. The maximum likely P:N ratio for cheese is assumed.

5 Procedure

Determine the phosphorus and the nitrogen content of the sample, respectively, in accordance with ISO 2962|IDF 33:2010 and ISO/TS 17837|IDF/RM 25:2008, respectively.

6 Calculation and expression of results

Calculate the content of added phosphate derived from emulsifying agents or phosphoric acid pH agents, expressed as phosphorus, expressed as a mass fraction (%), using Formula (1).

The content of added phosphate is given by Formula (1):

$$W_P - 0,14W_N \quad (1)$$

where

w_P is the total phosphorus content of the sample, expressed as a mass fraction (%);

w_N is the nitrogen content of the sample, expressed as a mass fraction (%);

0,14 is the presumed maximum level of the P:N ratio (0,12 + 0,02).

7 Test report

The test report shall specify:

- a) a reference to this Technical Specification, i.e. ISO/TS 18083|IDF/RM 51;
- b) the method used;
- c) the result(s) obtained;
- d) any operating conditions not specified in this Technical Specification or regarded as optional, as well as any circumstances that might have influenced the results;
- e) all details required for the complete identification of the sample.