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**Processed cheese and processed cheese products — Calculation of the content of added citrate emulsifying agents and acidifiers/pH-controlling agents, expressed as citric acid**

*Fromages fondus — Détermination, par calcul, de la teneur en émulsifiants et substances acidifiantes/de contrôle du pH ajoutés, à base de citrate, exprimée en acide citrique*

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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.

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 12082|IDF 52 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 edition of ISO 12082|IDF 52 cancels and replaces ISO 12082:1997, of which it constitutes a minor revision.

## 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 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 IDF National Committees casting a vote.

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

ISO 12082|IDF 52 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 former Joint ISO/IDF/AOAC Group of Experts on *Lactose, lactulose and lactate determination* (E401), under the aegis of its chair, Mr E. Langridge (UK).

This edition of ISO 12082|IDF 52 cancels and replaces IDF 52A:1992, of which it constitutes a minor revision.

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# Processed cheese and processed cheese products — Calculation of the content of added citrate emulsifying agents and acidifiers/pH-controlling agents, expressed as citric acid

## 1 Scope

This International Standard specifies a method for the calculation of the approximate content of added citrate emulsifying agents and acidifiers/pH-controlling agents, expressed as citric acid, in processed cheese and processed cheese products. The method is applicable to those processed cheeses and processed cheese products that contain no major ingredients with an appreciable content of citric acid, other than milk powder and/or whey powder.

## 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/TS 2963|IDF/RM 34, *Cheese and processed cheese products — Determination of citric acid content — Enzymatic method*

ISO 5765-1|IDF 79-1, *Dried milk, dried ice-mixes and processed cheese — Determination of lactose content — Enzymatic methods — Part 1: Enzymatic method utilizing the glucose moiety of the lactose*

ISO 5765-2|IDF 79-2, *Dried milk, dried ice-mixes and processed cheese — Determination of lactose content — Enzymatic methods — Part 2: Enzymatic method utilizing the galactose moiety of the lactose*

## 3 Terms and definitions

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

### 3.1

**content of added citrate emulsifying agents and acidifiers/pH-controlling agents in processed cheese and processed cheese products**

content of citric acid calculated by the procedure specified in this International Standard

NOTE The citric acid content is expressed as a mass fraction in percent.

## 4 Principle

The total citric acid content of a sample is determined and a correction is made for the citric acid content derived from milk powder and/or whey powder, the latter content being calculated using a constant citric acid/lactose ratio of 0,04 for the milk powder and/or whey powder.

## 5 Procedure

Determine the citric acid content of the sample using the method specified in ISO/TS 2963.

Determine the lactose content of the sample using the method specified in ISO 5765-1|IDF 79-1 or ISO 5765-2|IDF 79-2.

## 6 Calculation and expression of results

Calculate the content of added citrate emulsifying agents and acidifiers/pH-controlling agents,  $w_a$ , expressed as a mass fraction of citric acid in percent, using the following equation:

$$w_a = w_c - r w_l$$

where

$w_c$  is the citric acid content of the sample, as a mass fraction in percent;

$w_l$  is the lactose content of the sample, as a mass fraction in percent;

$r$  is the constant ratio of citric acid/lactose for the milk powder and/or whey powder ( $r = 0,04$ ).

NOTE Whey powder obtained from whey with changes in its composition, such as sweet whey or sour whey, can have other citric acid/lactose ratios.

Express the results to two decimal places.

## 7 Test report

The test report shall specify:

- a) all information necessary for the complete identification of the sample;
- b) the sampling method used, if known;
- c) the test method used, with reference to this International Standard;
- d) all operating details not specified in this International Standard, or regarded as optional, together with details of any incidents which may have influenced the test result(s);
- e) the test result(s) obtained or, if the repeatability has been checked, the final quoted result obtained.