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Mleko in mleļni proizvodi - Navodila za vzorļenje (ISO 707:2008)

Milk and milk products - Guidance on sampling (ISO 707:2008)

Milch und Milchprodukte - Leitfaden zur Probenahme (ISO 707:2008)

Lait et produits laitiers - Lignes directrices pour l'echantillonnage (ISO 707:2008)

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Milk and milk products - Guidance on sampling (ISO 707:2008)

Lait et produits laitiers - Lignes directrices pour l'echantillonnage (ISO 707:2008)

Milch und Milcherzeugnisse - Leitfaden zur Probenahme (ISO 707:2008)

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Foreword

This document (EN ISO 707:2008) has been prepared by Technical Committee ISO/TC 34 "Agricultural food products" in collaboration with Technical Committee CEN/TC 302 “Milk and milk products - Methods of sampling and analysis” the secretariat of which is held by NEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by February 2009, and conflicting national standards shall be withdrawn at the latest by February 2009.

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The text of ISO 707:2008 has been approved by CEN as a EN ISO 707:2008 without any modification.

INTERNATIONAL STANDARD

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IDF 50

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Milk and milk products — Guidance on sampling

Lait et produits laitiers — Lignes directrices pour l'échantillonnage

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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.

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ISO 707 | IDF 50 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 third edition of ISO 707 | IDF 50 cancels and replaces the second edition (ISO 707:1997), which has been technically revised.

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.

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 707 | IDF 50 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 on *Sampling and sample preparation* of the Standing Committee on *Quality assurance, statistics of analytical data and sampling* under the aegis of its project leader, Mr. T. Berger (CH).

This edition of ISO 707 | IDF 50 cancels and replaces IDF 50:1995, which has been technically revised.

Introduction

Sampling is an operation that requires most careful attention; emphasis cannot be too strongly laid on the necessity of obtaining a properly representative sample. Written sampling procedures are demanded by ISO/IEC 17025[6] if sampling is performed by laboratories. Written procedures are also required for subsampling steps in the laboratory, e.g. the preparation of test portions. The sampling procedure is part of the measurement procedure, but not of the measurement itself. It therefore does not contribute to the measurement uncertainty. Variations resulting from sampling procedures handled by the laboratory contribute to the uncertainty of the reported result and have therefore to be added to the measurement uncertainty. Reference [10] is a guidance document on this issue.

The procedures described in this International Standard are recognized as good practice to be followed whenever practicable. However, it is impossible to lay down fixed rules to be followed in every case, and, however explicit, they cannot fully take the place of judgement, skill and experience. In particular, unforeseen circumstances may render some modifications desirable. Whenever special requirements are given for sampling and/or arise from a specific analysis to be performed, these requirements should be followed.

Heterogeneity in cheese provides particular challenges for sampling. Sampling uncertainty is mainly influenced by the heterogeneity of the sample, the sample size and the sampling method.

There are significant consequences for both microbiological as well as for chemical analyses in cheese. Normally the cheese curd is moulded into a specific shape and dimensions and this can affect the development. During ripening of the moulded cheese curd under regular conditions or in environments in which the humidity, temperature, and possibly composition of the atmosphere are controlled, the outside of the cheese will develop into a semi-closed layer with a lower moisture content, the rind, often initiated by brining. Due to the influence of the salt gradient in the brine, of oxygen, of drying out and of other reactions, the rind successively becomes of a somewhat different composition than the interior of the cheese.

Rennet and microorganisms, added as selected cultures or naturally available, by enzymatic and microbiological activity, change the structure and composition of the inner zone of the cheese. Moreover, microorganisms are often not homogeneously distributed throughout the cheese.

Ripening is influenced by storage temperature, time, humidity, and salt gradients. During or after ripening, the cheese rind can be treated or can be naturally colonized with desired cultures of microorganisms. The resulting layer, in the latter case referred to as smear, will have further influence on the ripening of the border zone. To be able to make correct decisions on the sampled material, specific knowledge of cheese ripening is necessary. Depending on the desired conclusion, it has to be decided where a sample is to be taken and how many samples are necessary.

For these reasons, ISO 707|IDF 50 has been written in the form of guidance rather than as an “imperative” standard.

The test samples obtained by the methods described in this International Standard are “laboratory samples” as defined in ISO 78-2:1999[1], 3.1. The “test portion” obtained by the methods described is also defined in ISO 78-2:1999[1], 3.3.

Milk and milk products — Guidance on sampling

1 Scope

This International Standard gives guidance on methods of sampling milk and milk products for microbiological, chemical, physical and sensory analysis, except for (semi)automated sampling.

NOTE See also Reference [9].

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 7002, *Agricultural food products — Layout for a standard method of sampling from a lot*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 7002, and the following, apply.

3.1
laboratory sample
sample as prepared for sending to the laboratory and intended for inspection or testing

[ISO 78-2:1999[1], 3.1]

3.2
test portion
quantity of material drawn from the laboratory sample on which the test or observation is actually carried out

[Adapted from ISO 78-2:1999[1], 3.3]

NOTE It is possible that test portions of milk and milk products may require further processing, e.g. removal of parts that impair the test result, aseptic extraction of parts or grating.

4 General arrangements

This International Standard is not suitable as a basis for formulating legal obligations between contracting parties. In such cases, additional written requirements are necessary.

The number of units to be selected for sampling by inspection by attributes may be determined according to ISO 5538 | IDF 113[3]. Sampling for inspection by variables may be determined according to ISO 8197 (IDF 136A)[5].

The following instructions are not necessarily applicable for routine sampling:

a) the parties concerned or their representatives should be given the opportunity to be present when sampling is performed;

b) whenever special requirements are given for the sampling and/or arise from a specific analysis to be performed, these requirements should be followed.

4.1 Sampling personnel[1)]

An authorized person, properly trained in the appropriate technique, e.g. for microbiological purposes, and free from any infectious disease, shall perform sampling.

4.2 Sealing and labelling of samples

Samples should be sealed (if this is a legal requirement or if agreed between the parties concerned) and a label attached, reproducing integrally the identification of product, the nature of the product and, at least, the identification number, name and signature (or initials) of the authorized person (4.1) responsible for taking the samples.

If necessary, additional information may be included, such as the purpose of sampling, the mass or volume of sample, and the unit from which the sample was taken and the condition of product and storage conditions at the moment of sampling.

4.3 Replicate samples

Samples should be taken in duplicate, or in greater numbers, if this is a legal requirement or if agreed between the parties concerned.

It is recommended that additional sets of samples be taken and retained for arbitration purposes, if agreed between the interested parties.

4.4 Sampling report

Samples should be accompanied by a report, signed or initialled by the authorized sampling personnel (4.1) and countersigned — as far as necessary or agreed by the parties concerned — by witnesses present.

The report should include at least the following information:

a) the place, date and time of sampling (the time only being required when agreed between the parties concerned);

b) the names and designations of the authorized sampling personnel and of any witnesses;

c) the precise method of sampling, including sample preparation and homogenization techniques;

d) the nature and number of units constituting the consignment, together with their batch code markings, where available;

e) the identification number and any code markings of the batch from which the samples were taken;

f) the number of samples duly identified as to the batches from which they were taken;

g) if necessary, the place to which the samples are to be sent;

h) if possible, the name and address of the producer or trader or of the persons responsible for packing the product.

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1) In some countries it is the practice to employ a sworn person for sampling.

When appropriate, the report should also include any relevant conditions or circumstances (e.g. the condition of the product containers and their surroundings, temperature and humidity of the atmosphere, the age of the product, method of sterilization of the sampling equipment, whether a preservative substance has been added to the samples), and any special information relating to the product being sampled, e.g. difficulty in achieving homogeneity of the product.

Test portion size and handling vary according to the test(s) intended and are found under the appropriate headings in the individual International Standards specifying the tests.

Sampling also includes preparation of the laboratory sample. Therefore, the sampling report or a separate laboratory report should clearly state how the laboratory samples were prepared. Sampling reports are transmitted to the appropriate authority together with the test report. The example of a sampling report for cheese is given in Annex D (see also 16.3).

5 Apparatus

5.1 Sampling equipment

5.1.1 General

Sampling equipment should be made of stainless steel, or other suitable material of adequate strength, which does not bring about a change in the sample which could affect the results of subsequent examinations.

All surfaces should be smooth and free from crevices. All corners should be rounded except in the case of method D mentioned in 5.1.2. The equipment should be dry prior to use.

5.1.2 For microbiological examination

Sampling equipment for microbiological examination should be clean and sterilized prior to use. Disposable plastics equipment should be sterile.

If solder is used in the manufacture of the equipment, it should be capable of withstanding a temperature of 180 °C. If possible, sterilization should be performed by one of the three following methods:

a) Method A: Exposure to hot air at 170 °C for at least 1 h or equivalent (see ISO 7218[4]);

b) Method B: Exposure to steam in an autoclave set at 121 °C ± 1 °C for at least 15 min (see ISO 7218[4]);

c) Method C: Exposure to a sufficient dose of γ-radiation.

After sterilization by one of methods A, B or C, the sampling equipment should be stored under conditions to ensure sterility until ready to sample.

If, in a particular situation, sterilization by methods A, B or C is impossible, one the following alternative methods might be used provided that the sampling equipment is used immediately after treatment. However, these methods should be regarded as secondary methods only.

d) Method D: Exposure of all working surfaces of the sampling equipment to a suitable flame;

e) Method E: Immersion in ethanol of at least 70 % volume fraction (see 5.5.1) followed by 5 min drying time;

f) Method F: Ignition with ethanol of 96 % volume fraction (see 5.5.2).

After treatment by either method D or method F, the sampling equipment should be cooled under appropriate conditions to maintain sanitation before sampling.