

# ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

## ISO RECOMMENDATION R 707

MILK AND MILK PRODUCTS

SAMPLING

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## BRIEF HISTORY

The ISO Recommendation R 707, *Milk and milk products – Sampling*, was drawn up by Technical Committee ISO/TC 34, *Agricultural food products*, the Secretariat of which is held by the Magyar Szabványügyi Hivatal (MSZH).

Work on this question by the Technical Committee began in 1960 and led, in 1963, to the adoption of a Draft ISO Recommendation.

In January 1965, this Draft ISO Recommendation (No. 803) was circulated to all the ISO Member Bodies for enquiry. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies :

Argentina	Greece	Romania
Australia	Hungary	South Africa,
Belgium	India	Rep. of
Brazil	Iran	Spain
Canada	Ireland	Sweden
Chile	Israel	Switzerland
Czechoslovakia	Korea, Rep. of	Turkey
Denmark	Netherlands	United Kingdom
France	New Zealand	
Germany	Poland	

No Member Body opposed the approval of the Draft.

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council which decided, in April 1968, to accept it as an ISO RECOMMENDATION.

## MILK AND MILK PRODUCTS

## SAMPLING

## 1. SCOPE\*

This ISO Recommendation describes procedures for sampling milk and milk products, to obtain from a unit, (e.g. bulk container, small retail container, individual cheese, etc.), a portion (sub-sample) which is as representative as possible of that unit.

## 2. GENERAL INSTRUCTIONS

## 2.1 Instructions of an administrative character

2.1.1 Sampling should be performed by an authorized or sworn independent agent, properly trained in the appropriate technique.

The agent should be free from any infectious disease.

2.1.2 If possible, representatives of the parties concerned should be given the opportunity of being present when sampling is performed.

2.1.3 Samples should be accompanied by a report, signed by the sworn or authorized sampling agent and counter-signed by any witnesses present.

This report should give particulars of the place, date and time of sampling, the name and designation of the sampling agent and of any witnesses, the precise method of sampling which is followed if this deviates from the prescribed standard method, the nature and number of the units constituting the consignment together with their batch code markings where available, the number of samples duly identified as to the batches from which they were drawn, and the place to which the samples will be sent.

When appropriate, the report should also include any relevant conditions or circumstances; for example, the condition of the packages and their surroundings, temperature and humidity of the atmosphere, method of sterilization of the sampling equipment, whether a preservative substance has been added to the samples, and any other special information relating to the material being sampled.

2.1.4 Each sample should be sealed and labelled to give the nature of the product, the identification number and any code markings of the batch from which the sample has been taken, the date of sampling, and the name and signature of the sampling agent. When necessary, additional information may be required, as, for example, the mass of the sample and the unit from which it was taken.

2.1.5 All samples should be taken at least in duplicate, one set being held if necessary in cold storage and put as soon as possible at the disposal of the second party. It is recommended that, when previously agreed between the parties, additional sets of samples should be taken and retained for independent arbitration if necessary. The samples should be dispatched immediately after sampling to the testing laboratory.

\* The number and selection of samples to be taken in order to obtain a sample as representative as possible for a lot or a consignment, is not considered in this ISO Recommendation.

2.2.2.3 **SMALL RETAIL CONTAINERS.** The contents of the intact and unopened containers should constitute the samples.

2.2.3 *Sampling technique.* The precise method of sampling and the mass or volume of product to be taken as a sample vary with the nature of the products and the purpose for which sampling is required, and are defined for each particular case.

#### 2.2.4 *Preservation of samples*

2.2.4.1 A suitable preservative may be added to samples of liquid products or cheese required for chemical analysis. Such preservatives should not interfere with the subsequent analysis, and the nature and quantity of the addition should be indicated on the label and in any report.

Preservatives should not be added to samples of semi-solid, solid (except cheese) or dried products intended for chemical analysis. Samples should be rapidly cooled and stored in a refrigerator at a temperature between 0 and 5 °C, except for dried milks which may be kept at ambient temperature.

2.2.4.2 Preservatives should not be added to samples intended for bacteriological or organoleptic examination. Instead, they should be held at a low temperature (0 to 5 °C), except for conserved milk products when the sample comprises unopened hermetically sealed containers in which the products are sold.

Liquid products and butter should be kept cold and bacteriological examination of liquid products should start as soon as possible, and never later than 24 hours after sampling.

2.2.5 *Transport of samples.* Samples should be transported to the laboratory as quickly as possible after sampling. Precautions should be taken to prevent during transit, exposure to direct sunlight, to temperatures below 0 °C, or to high temperatures, which should not exceed 10 °C in the case of perishable products. For samples intended for bacteriological examination, an insulated transport container capable of maintaining a low temperature (0 to 5 °C) should be used, except for samples of conserved milk products in unopened containers, or in the case of very short journeys.

Samples of cheese should be maintained under such conditions so as to avoid separation of fat or moisture. Soft cheese should always be maintained at a temperature between 0 and 5 °C.

### 3. SAMPLING OF MILK AND LIQUID MILK PRODUCTS (Except evaporated and sweetened condensed milk)

#### 3.1 **Sampling equipment**

3.1.1 *Plungers or agitators*, necessary for mixing liquids in bulk.

The equipment referred to in clause 4.1.1 may be used. The plungers or agitators should be of sufficient area to produce adequate agitation of the product, and sufficiently light in weight for the operator to be able to move them rapidly through the liquid.

For mixing the contents of large vessels, mechanical stirring is advisable.

3.1.2 *A dipper of suitable size*, for collecting the sample. When the sample is required for bacteriological examination, the sampling equipment should be sterilized as prescribed in clause 2.2.1.3.

### 5.3 Sampling for bacteriological examination

- 5.3.1 Samples for bacteriological examination should be taken, wherever possible, from the same package as those taken for chemical and organoleptic examination. The sample for bacteriological examination should be taken first.
- 5.3.2 *Sampling equipment.* A suitable stainless steel or aluminium spoon or trier which must be sterilized as prescribed in clause 2.2.1.3 (a), (e) or (f).
- 5.3.3 *Sampling technique.* Using a sterile metal implement, for example a broad-bladed knife or a spoon, remove the surface layer of product from the sampling area. With another sterile spoon or trier, take a sample of 50 to 200 g, if possible from a point near the centre of the container. Place the sample as quickly as possible into the sample container, which should be closed immediately, taking aseptic precautions. In case of dispute concerning the bacteriological conditions of the top layer of the powder in the packing, it is advisable to take a special sample from this top layer.
- 5.3.4 *Sample containers.* Samples should be filled into clean, dry, sterile containers, preferably brown if transparent, which are capable of air-tight closure.

## 6. SAMPLING OF BUTTER

### 6.1 Sampling equipment

Butter triers, (see ISO Recommendation R ...,\* *Butter triers*), of sufficient length to pass diagonally to the base of the container. Spatulas or knives used for removing portions of the sample from the trier should be made from stainless steel. Triers, spatulas, and knives should be cleaned and dried before use and, if sampling for bacteriological purposes is required, they should be sterilized as prescribed in clause 2.2.1.3 (d), (e) or (f).

### 6.2 Sampling technique

- 6.2.1 *Butter in bulk.* Take two cores or more of butter so that the minimum mass of the total sample is not less than 200 g. For butter in barrels, one core is obtained by inserting the trier diagonally through the block of butter from the edge of the barrel. The others are taken from arbitrary points of the surface, vertically downwards to the bottom. For butter in cubes, the cores are obtained by inserting the trier from top corners diagonally through the centre to the bottom.

In both cases make one complete turn and withdraw the full core. Hold the point of the trier over the mouth of the sample container and immediately transfer the core of butter from the trier in about 75 mm pieces by means of a spatula or knife. Leave a plug of about 25 mm or more to place in the hole from which the core was removed. Do not include moisture adhering to the outside of the trier. Clean and dry the trier before each drawing. If the butter is frozen so hard as to resist the trier, it should be softened by storing at about 10 °C for 24 hours.

- 6.2.2 *Butter in pats or rolls.* Units weighing 250 g or over are divided into four, and two opposite quarters are taken as samples. In sizes weighing less than 250 g, the whole unit should be taken as a sample.

\* At present Draft ISO Recommendation No. 811.