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# INTERNATIONAL STANDARD



# 5545

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## Rennet caseins and caseinates – Determination of ash (Reference method)

*Caséines présure et caséinates – Détermination des cendres (Méthode de référence)*

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**Descriptors :** caseins, chemical analysis, determination of content, ashes, gravimetric analysis.

## FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 5545 was developed by Technical Committee ISO/TC 34, *Agricultural food products*, and was circulated to the member bodies in September 1976.

It has been approved by the member bodies of the following countries :

|                     |                |                       |
|---------------------|----------------|-----------------------|
| Australia           | Germany        | Poland                |
| Austria             | Ghana          | Portugal              |
| Bulgaria            | Hungary        | Romania               |
| Canada              | India          | South Africa, Rep. of |
| Chile               | Iran           | Spain                 |
| Czechoslovakia      | Israel         | Turkey                |
| Egypt, Arab Rep. of | Korea, Rep. of | Yugoslavia            |
| France              | Netherlands    |                       |

The member bodies of the following countries expressed disapproval of the document on technical grounds :

New Zealand  
United Kingdom

NOTE — The method specified in this International Standard has been developed jointly with the IDF (International Dairy Federation) and the AOAC (Association of Official Analytical Chemists, U.S.A.). The text as approved by the above organizations will also be published by FAO/WHO (Code of Principles concerning Milk and Milk products and Associated Standards), by the IDF and by the AOAC (Official Methods of Analysis).

# Rennet caseins and caseinates – Determination of ash (Reference method)

## 1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies a reference method for the determination of the ash of caseins obtained by rennet precipitation and of caseinates, with the exception of ammonium caseinate.

NOTE – For the determination of ash ("fixed ash") of acid caseins, of ammonium caseinates, of their mixtures with rennet casein and with caseinates, and of caseins of unknown type, see ISO 5544.

## 2 REFERENCES

ISO/R 707, *Milk and milk products – Sampling*.

ISO 3310/1, *Test sieves – Technical requirements and testing – Part 1: Metal wire cloth*.

ISO 5550, *Caseins and caseinates – Determination of water content (Reference method)*.<sup>1)</sup>

## 3 DEFINITION

**ash of rennet caseins or of caseinates:** The substances determined by the procedure described in this International Standard and expressed as a percentage by mass.

## 4 PRINCIPLE

Incineration of a test portion at  $825 \pm 25$  °C. Weighing of the residue.

## 5 APPARATUS

5.1 **Analytical balance.**

5.2 **Silica or platinum dish**, about 70 mm diameter and 25 to 50 mm deep.

5.3 **Electrical furnace** with air circulation, capable of being controlled at  $825 \pm 25$  °C.

5.4 **Desiccator**, containing an effective desiccant.

5.5 **Grinding device**, for grinding the laboratory sample, if necessary (see 7.1.4), without development of undue heat and without loss or absorption of moisture. A hammer-mill shall not be used.

5.6 **Test sieve**, wire cloth, diameter 200 mm, nominal size of aperture 500 µm, with receiver, complying with ISO 3310/1.

## 6 SAMPLING

See ISO/R 707.

## 7 PROCEDURE

### 7.1 Preparation of the test sample

7.1.1 Thoroughly mix the laboratory sample by repeatedly shaking and inverting the container (if necessary, after having transferred all of the laboratory sample to an air-tight container of sufficient capacity to allow this operation to be carried out).

7.1.2 Transfer about 50 g of the thoroughly mixed laboratory sample to the test sieve (5.6).

7.1.3 If the 50 g portion directly passes or almost completely passes the sieve, use for the determination the sample as prepared in 7.1.1.

7.1.4 Otherwise, grind the 50 g portion, using the grinding device (5.5), until it passes the sieve. Immediately transfer all the sieved sample to an air-tight container of sufficient capacity and mix thoroughly by repeatedly shaking and inverting. During these operations, take precautions to avoid any change in the water content of the product.

7.1.5 After the test sample has been prepared, the determination (7.4) should be proceeded with as soon as possible.

### 7.2 Preparation of the dish

Heat the dish (5.2) in the electrical furnace (5.3), controlled at  $825 \pm 25$  °C, for 30 min. Allow the dish to cool in the desiccator (5.4) to the temperature of the balance room and weigh to the nearest 0,1 mg.

### 7.3 Test portion

Weigh, to the nearest 0,1 mg, directly in or by difference into the prepared dish, approximately 3 g of the test sample (7.1).

1) At present at the stage of draft.