International Standard 6091

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Dried milk — Determination of titratable acidity (Reference method)

Lait sec — Détermination de l'acidité titrable (Méthode de référence)

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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 6091 was developed by Technical Committee ISO/TC 34, *Agricultural food products*, and was circulated to the member bodies in November 1978.

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

Australia	Hungary	Portugal
Belgium	India	Romania
Brazil	Ireland	South Africa, Rep. of
Bulgaria	Israel	Sri Lanka
Canada	Kenya	Thailand
Cyprus	Korea, Rep. of	Turkey
Czechoslovakia	Malaysia	United Kingdom
Egypt, Arab Rep. of	Netherlands	USSR
Ethiopia	New Zealand	Yugoslavia
France	Peru	
Germany, F. R.	Poland	

No member body expressed disapproval of the document.

NOTE — The method specified in this International Standard has been developed jointly with the IDF (International Dairy Federation) and AOAC (Association of Official Analytical Chemists, USA); it will also be included in the FAO/WHO Code of Principles concerning milk and milk products and associated standards.

Printed in Switzerland

Dried milk — Determination of titratable acidity (Reference method)

1 Scope and field of application

This International Standard specifies a reference method for the determination of the titratable acidity of all types of dried milk.

2 References

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

ISO/R 1736, *Dried milk — Determination of fat content (Reference method).*

3 Definition

titratable acidity of dried milk : The number of millilitres of 0,1 mol/l sodium hydroxide solution required to titrate a quantity of the reconstituted milk corresponding to 10 g of solids-not-fat to the pH of 8,40.

4 Principle

Preparation of reconstituted milk by addition of water to a test portion of dried milk corresponding accurately to 5 g of solids-not-fat. Titration with 0,1 mol/l sodium hydroxide solution to the pH of 8,40. Multiplication of the number of millilitres used in the titration by the factor 2, in order to obtain the number of millilitres in terms of 10 g of solids-not-fat.

The amount of sodium hydroxide solution required is a function of the amount of natural buffering substances present in the product, and of developed or added acid or alkaline substances.

5 Reagent and material

All reagents shall be of recognized analytical quality. Water shall be distilled or deionized water, freed from carbon dioxide by boiling for 10 min before use.

5.1 Sodium hydroxide, standard volumetric solution, c(NaOH) = 0,1 ± 0,000 2 mol/l[1], carbonate free.

Protect this solution against absorption of carbon dioxide.

5.2 Nitrogen.

6 Apparatus

6.1 Analytical balance.

6.2 pH meter, with slope control, capable of being read to 0,01 pH unit, with a glass measuring electrode and a suitable reference electrode, calibrated using two buffer solutions of pH approximately 7 and 9 respectively, known to within ± 0,01 pH unit.

6.3 Magnetic stirrer.

6.4 Burette, graduated in 0,1 ml and with an accuracy of 0,05 ml.

6.5 Measuring cylinder, of capacity 50 ml.

6.6 Conical flask, of capacity 100 ml or 150 ml, with a ground neck and ground glass stopper. The neck shall be sufficiently wide to accommodate the two electrodes, the burette tip and the nitrogen line.

7 Sampling

See ISO/R 707.

8 Procedure

8.1 Preparation of the test sample

Transfer the sample to a clean, dry container (provided with an air-tight lid) of a capacity about twice the volume of the sample.

Close the container immediately and thoroughly mix the contents by repeatedly shaking and inverting the container. During these operations, exposure of the sample to the atmosphere should be avoided as far as possible, to minimize absorption of water.

1) Hitherto expressed as "0,1 ± 0,000 2 N standard volumetric solution".