International Standard 6092

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Dried milk — Determination of titratable acidity (Routine method)

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

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Foreword

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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 6092 was developed by Technical Committee ISO/TC 34, *Agricultural food products*, and was circulated to the member bodies in June 1977.

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

Australia	India	Portugal
Austria	Iran	Romania
Belgium	Ireland	South Africa, Rep. of
Bulgaria	Israel	Spain
Canada	Kenya	Thailand
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Egypt, Arab Rep. of	Mexico	United Kingdom
Ethiopia	Netherlands	USSR
France	New Zealand	Yugoslavia
Germany, F. R.	Philippines	

The member body of the following country expressed disapproval of the document on technical grounds :

Hungary

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, USA).

Printed in Switzerland

Dried milk — Determination of titratable acidity (Routine method)

1 Scope and field of application

This International Standard specifies a routine 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).*

ISO 6091, *Dried milk — Determination of titratable acidity (Reference method).*

3 Definition

titratable acidity of dried milk : The number of millilitres of 0,1 mol/l sodium hydroxide solution required to neutralize, in the presence of phenolphthalein, a quantity of the reconstituted milk corresponding to 10 g of solids-not-fat, until the apparition of a pink coloration.

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 using phenolphthalein as indicator and cobalt(II) sulphate as reference colour solution. 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 Reagents

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, $c(NaOH) = 0{,}1 \pm 0{,}000\ 2$ mol/l.[1)]

5.2 Reference colour solution.

Dissolve 3 g of cobalt(II) sulphate heptahydrate ($CoSO_4.7H_2O$) in water and make up to 100 ml.

5.3 Phenolphtalein solution.

Dissolve 2 g of phenolphthalein in 75 ml of 95 % (*V*/*V*) ethanol and add 20 ml of water. Add the sodium hydroxide solution (5.1) until 1 drop gives a faint pink coloration, and make up to 100 ml of water.

6 Apparatus

6.1 Analytical balance.

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

6.3 Pipettes, of capacity 2 ml.

6.4 Measuring cylinders, of capacity 50 ml.

6.5 Conical flasks, of capacity 100 or 150 ml, with ground necks and ground glass stoppers.

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