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Dried milk — Determination of sodium and potassium contents — Flame emission spectrometric method

Lait sec — Détermination des teneurs en sodium et potassium — Méthode par spectrométrie d'émission de flamme

Reference number
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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.

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. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 8070 was prepared by Technical Committee ISO/TC 34, *Agricultural food products.*

NOTE — The method specified in this International Standard has been developed jointly with the International Dairy Federation (IDF) and the Association of Official Analytical Chemists (AOAC) and will also be published by these organizations.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

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Dried milk — Determination of sodium and potassium contents — Flame emission spectrometric method

1 Scope and field of application

This International Standard specifies a flame emission spectrometric method for the determination of the sodium and potassium contents of all types of dried milk.

2 References

ISO 707, *Milk and milk products — Methods of sampling.*

ISO 3696, *Water for laboratory use — Specifications and test methods.*[1)]

3 Definition

sodium and potassium contents of dried milk: The contents of substances determined by the procedures specified in this International Standard and expressed as percentages by mass.

4 Principle

Dissolution of the dried milk in warm water. Atomization of the solution and of reference solutions directly into the flame of a flame emission spectrometer and spectrometric measurement of the intensity of the emitted light.

5 Reagents

All reagents shall be of recognized analytical grade. The water used shall be distilled water or water of at least equivalent purity, complying with the requirements of ISO 3696, grade 2.

5.1 Hydrochloric acid, about 4 mol/l.

Dilute 300 ml of concentrated [37 % (*m*/*m*)] hydrochloric acid to 1 000 ml with water and mix.

5.2 Standard solutions

Store the standard solutions in vessels of hard polyethylene or of other material of at least equivalent quality.

5.2.1 Sodium, standard solution.

Dissolve 1,016 8 g of sodium chloride (NaCl), dried to constant mass at 110 to 120 °C, in water, dilute to 1 000 ml and mix.

1 ml of this standard solution contains 0,4 mg of Na.

5.2.2 Potassium, standard solution.

Dissolve 1,906 8 g of potassium chloride (KCl), dried to constant mass at 110 to 120 °C, in water, dilute to 1 000 ml and mix.

1 ml of this standard solution contains 1 mg of K.

5.2.3 Calcium, standard solution.

Dissolve 2,497 2 g of calcium carbonate ($CaCO_3$), dried to constant mass at 110 to 120 °C, in 15 ml of the hydrochloric acid (5.1), dilute to 1 000 ml with water and mix.

1 ml of this standard solution contains 1 mg of Ca.

5.2.4 Phosphorus, standard solution.

Dissolve 10,660 g of diammonium monohydrogenorthophosphate [$(NH_4)_2 HPO_4$] in water, dilute to 1 000 ml and mix.

1 ml of this standard solution contains 2,5 mg of P.

1) At present at the stage of draft.