AS ISO 8968.1:2021
ISO 8968-1:2014

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Milk and milk products — Determination of nitrogen content

Part 1: Kjeldahl principle and crude protein calculation

AS ISO 8968.1:2021

This Australian Standard ® was prepared by FT-024, Food Products. It was approved on behalf of the Council of Standards Australia on 15 February 2021.

This Standard was published on 26 February 2021.

The following are represented on Committee FT-024:

Australian Food and Grocery Council
Australian Institute of Food Science and Technology
Consumers Federation of Australia
CSIRO
Joint Accreditation System of Australia and New Zealand
Meat and Livestock Australia
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This Standard was issued in draft form for comment as DR AS ISO 8968.1:2020.

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ISBN 978 1 76113 216 2

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Part 1: Kjeldahl principle and crude protein calculation

First published as AS ISO 8968.1:2021.

Preface

This Standard was prepared by the Standards Australia Committee FT-024, Food Products.

The objective of this document is to specify a method for the determination of the nitrogen content and crude protein calculation of milk and milk products by the Kjeldahl principle, using traditional and block digestion methods.

The methods are applicable to —

(a) liquid cow's milk (whole, partially skimmed or skimmed);

(b) goat's and sheep's whole milk;

(c) hard, semi-hard and processed cheese; and

(d) dried milk and dried milk products (including milk-based infant formulae, milk protein concentrate, whey protein concentrate, casein and caseinate).

The methods are not applicable to samples containing ammonium caseinate.

NOTE Inaccurate crude protein results will be obtained if non-milk sources of nitrogen are present in the products specified in this International Standard.

This document is identical with, and has been reproduced from, ISO 8968-1:2014, *Milk and milk products — Determination of nitrogen content — Part 1: Kjeldahl principle and crude protein calculation* which was jointly published by ISO and the International Dairy Federation as IDF 20-1:2014.

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Forewords

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2. www.iso.org/directives

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 34, *Food and food products*, Subcommittee SC 5, *Milk and milk products* and the International Dairy Federation (IDF) and is being published jointly by ISO and IDF.

This second edition of ISO 8968-1|IDF 20-1 cancels and replaces the first edition of ISO 8968-1|IDF 20-1:2001, ISO 8968-2|IDF 20-2:2001, ISO 3549:1978/ IDF 92:1979 and ISO/TS 17837|IDF/RM 25:2008 which have been technically revised.

The International Dairy Federation (IDF) is a worldwide federation of the dairy sector with a National Committee in every member country. Every National Committee has the right to be represented on the IDF Standing Committees carrying out the technical work. IDF collaborates with ISO in the development of standard methods of analysis and sampling for milk and milk products.

Draft International Standards adopted by the Standing Committees are circulated to the National Committees for voting. Publication as an International Standard requires approval by at least 50 % of IDF National Committees casting a vote.

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ISO 8968-1|IDF 20-1 was prepared by the International Dairy Federation and Technical Committee ISO/TC 34, *Food products*, Subcommittee SC 5, *Milk and milk products*. It is being published jointly by ISO and IDF.

The work was carried out by the IDF-ISO Project Group on Nitrogen, of the Standing Committee on *Analytical Methods for Composition (SCAMC)*, under the aegis of its project leaders Mr. R. Johnson (NZ), Mr. J. Romero (US), Dr. Barbano (US), Dr. Orlandini (IT), and Mr. Psatha (CY).

This second edition of ISO 8968-1|IDF 20-1 cancels and replaces the first edition of ISO 8968-1|IDF 20-1:2001, ISO 8968-2|IDF 20-2:2001, ISO 5549:1978, IDF 92:1979 and ISO/TS 17837|IDF/RM 25:2008 which have been technically revised.

NOTES

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1 Scope

This International Standard specifies a method for the determination of the nitrogen content and crude protein calculation of milk and milk products by the Kjeldahl principle, using traditional and block digestion methods.

The methods are applicable to:

— liquid cow's (whole, partially skimmed or skimmed milk), goat's and sheep's whole milk;

— hard, semi-hard and processed cheese;

— dried milk and dried milk products (including milk-based infant formulae, milk protein concentrate, whey protein concentrate, casein and caseinate).

The methods are not applicable to samples containing ammonium caseinate.

NOTE Inaccurate crude protein results will be obtained if non-milk sources of nitrogen are present in the products specified in this International Standard.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable to its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 385, *Laboratory glassware — Burettes*

ISO 8655-3, *Piston-operated volumetric apparatus — Part 3: Piston burettes*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
nitrogen content
mass fraction of nitrogen determined by the specified procedure

Note 1 to entry: It is expressed as a percentage.

3.2
crude protein content
mass fraction of crude protein calculated as specified

Note 1 to entry: It is expressed as a percentage.