
**Milk, milk products, infant
formula and adult nutritionals —
Determination of minerals and trace
elements — Inductively coupled
plasma atomic emission spectrometry
(ICP-AES) method**

*Lait, produits laitiers, formules infantiles et produits nutritionnels
pour adultes — Détermination de la teneur en minéraux et en oligo-
éléments — Méthode par spectrométrie d'émission atomique avec
plasma induit par haute fréquence (ICP-AES)*

ISO 15151:2018

<https://standards.iteh.ai/catalog/standards/iso/c45055b8-568c-4e80-bff7-13d615a07bb0/iso-15151-2018>



Reference numbers
ISO 15151:2018(E)
IDF 229:2018(E)

© ISO and IDF 2018

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

ISO 15151:2018

<https://standards.iteh.ai/catalog/standards/iso/c45055b8-568c-4e80-bff7-13d615a07bb0/iso-15151-2018>



COPYRIGHT PROTECTED DOCUMENT

© ISO and IDF 2018

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Fax: +41 22 749 09 47
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

International Dairy Federation
Silver Building • Bd Auguste Reyers 70/B
B-1030 Brussels
Phone: +32 2 325 67 40
Fax: +32 2 325 67 41
Email: info@fil-idf.org
Website: www.fil-idf.org

Contents

Page

Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Principle	2
5 Reagents	2
6 Apparatus	3
7 Sampling	4
8 Preparation of test sample	4
8.1 Milk and whey	4
8.2 Dried milk, dried whey and infant formula	4
8.3 Cheese	4
9 Procedure	4
9.1 Test portion	4
9.1.1 General	4
9.1.2 Milk and whey	4
9.1.3 Dried milk, dried whey, infant formula, butter and cheese	5
9.1.4 Blank test	5
9.2 Decomposition of organic matter	5
9.2.1 Wet digestion	5
9.3 Determination	5
9.3.1 Preparation of the test solution	5
9.3.2 ICP-AES measurement	6
10 Calculation and expression of results	7
10.1 Calculation	7
10.2 Expression of test results	7
11 Precision	7
11.1 General	7
11.2 Repeatability	8
11.3 Reproducibility	8
12 Test report	8
Annex A (informative) Precision data	9
Annex B (informative) Notes on the detection technique, interferences and quantification	23
Bibliography	26

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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 34, *Food products*, Subcommittee SC 5, *Milk and milk products* and the International Dairy Federation (IDF), in collaboration with AOAC INTERNATIONAL.

It is being published jointly by ISO and IDF and separately by AOAC INTERNATIONAL. The method described in this document is equivalent to the AOAC Official Method 2011.14: *Minerals and Trace Elements in Infant Formula*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

IDF (the International Dairy Federation) is a non-profit private sector organization representing the interests of various stakeholders in dairying at the global level. IDF members are organized in National Committees, which are national associations composed of representatives of dairy-related national interest groups including dairy farmers, dairy processing industry, dairy suppliers, academics and governments/food control authorities.

ISO and IDF collaborate closely on all matters of standardization relating to methods of analysis and sampling for milk and milk products. Since 2001, ISO and IDF jointly publish their International Standards using the logos and reference numbers of both organizations.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. IDF shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute and endorsement.

This document was prepared by the IDF Standing Committee on Analytical Methods for Composition and ISO Technical Committee ISO/TC 34, *Food products*, Subcommittee SC 5, *Milk and milk products*, in collaboration with AOAC INTERNATIONAL.

It is being published jointly by ISO and IDF and separately by AOAC INTERNATIONAL. The method described in this document is equivalent to the AOAC Official Method 2011.14: *Minerals and Trace Elements in Infant Formula*. All work was carried out by the ISO/IDF Action Team on C17 of the Standing Committee on Analytical Methods for Composition under the aegis of its project leader, Mr H. Cruijssen (NL).

(<https://standards.iteh.ai>)
Document Preview

ISO 15151:2018

<https://standards.iteh.ai/catalog/standards/iso/c45055b8-568c-4e80-bff7-13d615a07bb0/iso-15151-2018>