

This is a preview of "ISO 20636:2018". [Click here to purchase the full version from the ANSI store.](#)

First edition  
2018-07

---

---

## **Infant formula and adult nutritionals — Determination of vitamin D by liquid chromatography- mass spectrometry**

*Formules infantiles et produits nutritionnels pour adultes —  
Détermination de la teneur en vitamine D par chromatographie  
liquide couplée à la spectrométrie de masse*



Reference number  
ISO 20636:2018(E)

© ISO 2018



**COPYRIGHT PROTECTED DOCUMENT**

© ISO 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](mailto:copyright@iso.org)  
Website: [www.iso.org](http://www.iso.org)

Published in Switzerland

This is a preview of "ISO 20636:2018". [Click here to purchase the full version from the ANSI store.](#)

## Contents

	Page
<b>Foreword</b> .....	<b>iv</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions</b> .....	<b>1</b>
<b>4 Principle</b> .....	<b>1</b>
<b>5 Reagents and materials</b> .....	<b>2</b>
5.1 General.....	2
5.2 Reagent preparation.....	2
5.3 Standard preparation.....	3
5.4 Calibration standard solutions.....	4
<b>6 Apparatus</b> .....	<b>4</b>
<b>7 Sample preparation</b> .....	<b>5</b>
7.1 Powder sample preparation.....	5
7.2 Slurry sample preparation.....	5
7.3 Liquid sample preparation.....	5
<b>8 Procedure</b> .....	<b>6</b>
8.1 Extraction and derivatisation.....	6
8.2 Chromatography.....	6
8.3 Mass spectrometry.....	7
<b>9 Calculations</b> .....	<b>8</b>
<b>10 Results</b> .....	<b>12</b>
<b>11 Precision</b> .....	<b>12</b>
11.1 General.....	12
11.2 Repeatability.....	12
11.3 Reproducibility.....	13
<b>Annex A (informative) Examples of spectra and chromatograms</b> .....	<b>15</b>
<b>Annex B (informative) Precision data</b> .....	<b>18</b>
<b>Annex C (informative) Alternative instrument settings</b> .....	<b>20</b>
<b>Annex D (informative) Comparison between ISO 20636 and EN 12821</b> .....	<b>21</b>
<b>Bibliography</b> .....	<b>23</b>

## 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](http://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](http://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](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 34, *Food products*, in collaboration with AOAC INTERNATIONAL. It is being published by ISO and separately by AOAC INTERNATIONAL. The method described in this document is equivalent to the AOAC Official Method 2016.05, *Analysis of Vitamin D<sub>2</sub> and Vitamin D<sub>3</sub> in Fortified Milk Powders, Infant Formulas, and Adult/Pediatric Nutritional Formulas*.

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](http://www.iso.org/members.html).