

# CODEX ALIMENTARIUS COMMISSION



Food and Agriculture  
Organization of the  
United Nations



World Health  
Organization

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Agenda Item 2

CRD04 Rev

## JOINT FAO/WHO FOOD STANDARDS PROGRAMME CODEX COMMITTEE ON NUTRITION AND FOODS FOR SPECIAL DIETARY USES

Forty-fourth Session

Dresden, Germany

2 - 6 October 2024

(Prepared by the Codex Secretariat)

1. CCMAS43 noted that the determination of the protein content in foods was based on the quantification of the nitrogen contained in the foods which is calculated by applying a nitrogen conversion factor and it was necessary to be clear about the nitrogen to protein conversion factors that should be used.
2. As described in CX/NFSDU 24/44/2 Rev.1, to ensure practicality and accessibility, CCMAS43 (2024) agreed to:
  - forward the document titled "Nitrogen to protein conversion factors" for adoption as an Annex to CXS 234-1999 by CAC47 (reproduced as Annex II to this document);
  - inform the relevant commodity committees about the "Nitrogen to protein conversion factor" document and remind them that it was their responsibility to identify and report the proposed nitrogen conversion factors to CCMAS to facilitate the endorsement process; and
  - recommend that relevant commodity committees consider revoking the nitrogen to protein conversion factors values in their commodity standards.
3. In response to the recommendation from CCMAS43, the Codex Secretariat has reviewed the standards developed by CCNFSDU and identified two standards that include the nitrogen to protein conversion factor: the *Standard for infant formula and formulas for special medical purposes intended for infants* (CXS 72-1981) and the *Standard for follow-up formula for older infants and products for young children<sup>1</sup>* (CXS 156-1987).
4. It was also noted that the nitrogen to protein conversion factor for infant formula had been included in the Annex prepared by CCMAS43, while the conversion factor for follow-up formula for older infants and products for young children had been omitted from the Annex.
5. The following two options regarding the nitrogen to protein conversion factor in CXS 72-1981 and CXS 156-1987 are proposed:
  - Option 1: Retain the nitrogen to protein conversion factor in the respective commodity standards. The advantage of this option is that it maintains the completeness of the standards and facilitates its use, given the complexity of the standards. However, the downside is that it may lead to unnecessary duplication or potential future inconsistencies.
  - Option 2: Remove the nitrogen to protein conversion factor from the two standards, and revise these two standards to include a general reference to CXS 234-1999 (see Annex I). The benefit of this approach is that it would make CXS 234-1999 the sole source for the nitrogen to protein conversion factors. The disadvantage is that CXS 234-1999 would need to be consulted whenever the standard is applied.
6. CCNFSDU44 is invited to
  - consider the two options outlined above and make the appropriate decision; and
  - recommend that CCMAS include the nitrogen to protein conversion factor for follow-up formula for older infants and products for young children (See Annex II of this document).

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<sup>1</sup> \*Other equivalent names for this product are "Drink for young children with added nutrients", or "Product for young children with added nutrients", or "Drink for young children"

## Annex I

**Proposed amendments to the *Standard for infant formula and formulas for special medical purposes intended for infants (CXS 72-1981)* and the *Standard for follow-up formula for older infants and product for young children (CXS 156-1987)* related to the revocation of the nitrogen to protein conversion factor**

New text is indicated in **bold/underlined**. Text to be removed is indicated in ~~strikethrough~~.

**PROPOSED AMENDMENTS TO THE STANDARD FOR INFANT FORMULA AND FORMULAS FOR SPECIAL MEDICAL PURPOSES INTENDED FOR INFANTS (CXS 72-1981)**

**3.1.3** Infant formula prepared ready for consumption shall contain per 100 kcal (100 kJ) the following nutrients with the following minimum and maximum or guidance upper levels (GULs), as appropriate. The general principles for establishing these levels are identified in Annex II of this standard.

**a) Protein<sup>1), 2), 3)</sup>**

Unit	Minimum	Maximum	GUL
g/100 kcal	1.8 <sup>4), 5)</sup>	3.0	-
g/100 kJ	0.45 <sup>4), 5)</sup>	0.7	-

<sup>1)</sup> For the purpose of this standard, the calculation of the protein content of the final product prepared ready for consumption should be **based on the nitrogen to protein conversion factors referenced in CXS 234-1999 (Annex xxx)**, based on  $N \times 6.25$ , unless a scientific justification is provided for the use of a different conversion factor for a particular product. The protein levels set in this standard are based on a nitrogen conversion factor of 6.25. The value of 6.38 is generally established as a specific factor appropriate for conversion of nitrogen to protein in other milk products, and the value of 5.71 as a specific factor for conversion of nitrogen to protein in other soy products.

**PROPOSED AMENDMENTS TO STANDARD FOR FOLLOW-UP FORMULA FOR OLDER INFANTS AND PRODUCT FOR YOUNG CHILDREN<sup>2</sup> (CXS 156-1987)**

**SECTION A: FOLLOW-UP FORMULA FOR OLDER INFANTS**

**a) Protein<sup>1), 2), 3)</sup>**

Unit	Minimum	Maximum	GUL
g/100 kcal	1.8 <sup>4), 5)</sup>	3.0	-
g/100 kJ	0.43 <sup>4), 5)</sup>	0.72	-

<sup>1)</sup> For the purpose of this standard the calculation of the protein content of the final product ready for consumption should be **based on the nitrogen to protein conversion factors referenced in CXS 234-1999 (Annex xxx)**, based on  $N \times 6.25$ , unless a scientific justification is provided for the use of a different conversion factor for a particular product. The protein levels set in this standard are based on a nitrogen conversion factor of 6.25. For information the value of 6.38 is used as a specific factor appropriate for conversion of nitrogen to protein in other Codex standards for milk products.

**SECTION B: DRINK FOR YOUNG CHILDREN WITH ADDED NUTRIENTS OR PRODUCT FOR YOUNG CHILDREN WITH ADDED NUTRIENTS OR DRINK FOR YOUNG CHILDREN OR PRODUCT FOR YOUNG CHILDREN**

**a) Protein<sup>1), 2)</sup>**

Unit	Minimum	Maximum	GUL
g/100 kcal	1.8	-	-
g/100 kJ	0.43	-	-

<sup>1)</sup> For the purpose of this standard, the calculation of the protein content of the final product ready for consumption should be **based on the nitrogen to protein conversion facts referenced in CXS 234-1999 (Annex xxx)**, based on  $N \times 6.25$ , unless a scientific justification is provided for the use of a different conversion factor for a particular product. The protein levels set in this standard are based on a nitrogen conversion factor of 6.25. For information the value of 6.38 is used as a specific factor appropriate for conversion of nitrogen to protein in other Codex standards for milk products.

<sup>2</sup> \*Other equivalent names for this product are "Drink for young children with added nutrients", or "Product for young children with added nutrients", or "Drink for young children"

**NITROGEN TO PROTEIN CONVERSION FACTORS FOR COMMODITIES APPROVED BY COMMODITY COMMITTEES<sup>3</sup>**

(proposal to include the Nx for follow-up formula for older infants and product for young children<sup>4</sup> in the annex in CXS 234-1999)

**Animal Protein Source**

Milk and milk products - 6.38

Meat - 6.25

Cook cured ham - 6.25

Infant formula - The calculation of the protein content of products prepared ready for consumption may be based on N x 6.25, unless a scientific justification is provided for the use of a different conversion factor for a particular product. The value of 6.38 is generally established as a specific factor appropriate for conversion of nitrogen to protein in other milk products, and the value of 5.71 as a specific factor for conversion of nitrogen to protein in other soy products.

**Follow-up formula for older infants and product for young children<sup>5</sup> -The calculation of the protein content of the final product ready for consumption should be based on N x 6.25, unless a scientific justification is provided for the use of a different conversion factor for a particular product. The protein levels set in this standard are based on a nitrogen conversion factor of 6.25. For information the value of 6.38 is used as a specific factor appropriate for conversion of nitrogen to protein in other Codex standards for milk products.**

**Fish and fishery products**

Crackers from marine and freshwater fish, crustaceans and molluscan shellfish - 6.25

**Plant Protein Source**

Wheat, wheat protein products - 5.71

Soya and non-ferment soybean products - 5.71

Maize - 6.25

Quinoa - 6.25

Sorghum - 6.25

Tempe - 5.71

Gochujang - 6.25

Products produced by separation from wheat and soya grains and flours of certain non-protein constituents (starch, other carbohydrates) - 6.25

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<sup>3</sup> REP24/MAS Appendix II, Part 3

<sup>4</sup> \*Other equivalent names for this product are "Drink for young children with added nutrients", or "Product for young children with added nutrients", or "Drink for young children"

<sup>5</sup> See footnote 4.