

CODEX ALIMENTARIUS COMMISSION



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World Health
Organization

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Agenda Item 3.3 and 9

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JOINT FAO/WHO FOOD STANDARDS PROGRAMME CODEX COMMITTEE ON METHODS OF ANALYSIS AND SAMPLING

43rd Session
Budapest, Hungary

13 – 18 May 2024

(Comments of IDF and ISO)

Agenda Item 3.3: Matters pending from CCMAS42 (Comments of IDF and ISO)

Determination of Moisture Content in Dried Milk Products

IDF/ISO note that during CCMAS42 it was agreed to seek further data on the applicability of the method described in Annex D of REP23/MAS-Appendix II as a Codex type IV method for the determination of moisture in whey powder and dairy permeate powders.

In response to the circular letter CL 2024/08-MAS, on page 20 of CX/MAS 24/43/3 Add.3 Uruguay refers to earlier provided data in CX/MAS 23/42/3 Appendix II Annex 2. However, additional data on whey powders or new data on permeate powders are not provided. Their submission contains no new factual information.

IDF/ISO reiterate their concern on the applicability of the method in Annex D of REP23/MAS-Appendix II (normal oven drying at 102 °C).

Our main reason for this concern is the high lactose content (60-80 %m/m) of these products. With drying at temperatures over 90 °C, possible crystal water (bound water) with lactose is gradually released without reaching constant weight within an acceptable time. Moreover, the high lactose content of whey powders and dairy permeate powders makes test results more prone to the effect of varying relative air humidity, see Heinrich (1970) and De Knecht & Van den Brink (1998). These two effects do result in less favourable values for repeatability and reproducibility with normal oven drying at 102 °C.

ISO 5537|IDF 26 (controlled air flow oven drying at 87 °C), being the current Codex Type I method, was specifically developed to counteract these shortcomings with normal oven drying at 102 °C. Moreover, the mentioned issues with oven drying at 102 °C may especially for whey powders and dairy permeate powders result in structurally deviating test results as compared to the Codex Type I method.

Recommendation

For the reasons mentioned above, IDF/ISO recommend not to adopt the method described in Annex D of REP23/MAS-Appendix II (oven drying at 102 °C) as Codex Type IV method for the determination of moisture in whey powders and dairy permeate powders.

IDF/ISO encourage users of alternative methods for moisture determination in dried milk products to secure traceability of their results to ISO 5537 | IDF 26, the method of choice in case of measurements for official purposes or when dispute resolution is required.

References

Heinrich, C. 1970. Thermogravimetrische Untersuchungen zur Wassergehaltsbestimmung von Milchpulver. *Milchwissenschaft* 25 p. 387-391 (English translation available)

Knecht, R.J. & van den Brink, H. 1998. Improvement of the Drying Oven Method for the Determination of the Moisture Content of Milk Powder. *Int. Dairy J.* 8, p 733-738.

As a further information

In response to earlier raised concerns on the cost and complexity of ISO 5537|IDF 26, IDF/ISO have produced a short video, which is available in [English](#) and [Spanish](#). The video presents the required equipment, which is limited in expenses, and demonstrates the ease of operation of the method. Further guidance on the use of the method is available on request to IDF.

Agenda Item 9: Approach for the placement of nitrogen conversion factors (comments of IDF)

The IDF welcomes this discussion paper intending to have a consistent approach for the placement of nitrogen conversion factors (NCFs).

IDF agrees to include all established nitrogen conversion factors in an annex to CXS 234, as it would enhance usability for users. However, IDF recognizes that if the list of nitrogen conversion factors is placed in an annex, it would necessitate modification whenever a conversion factor is updated in the relevant standard. For that, we consider that Appendix II provides a better approach.

If the format presented in Appendix I would go forward, IDF does not support the harmonization of the provision name. The provisions are defined within commodity standards. Therefore, altering provision names in the proposed table in Appendix I would necessitate changing provision terms in numerous referenced standards.

IDF supports keeping the nitrogen conversion factor of 6.38 for milk and milk products. In the case that the conversion factor is not included in the standard, IDF supports providing the value of the conversion factor of 6.38, as applies for the following:

- Blend of evaporated skimmed milk and vegetable fat
- Blend of skimmed milk and vegetable fat in powdered form
- Blend of sweetened condensed skimmed milk and vegetable fat (for products sweetened with sucrose only)
- Reduced fat blend of evaporated skimmed milk and vegetable fat
- Reduced fat blend of sweetened condensed skimmed milk and vegetable fat (for products sweetened with sucrose only)
- Cheese, unripened Including fresh cheese
- Cream and prepared creams
- Evaporated milks
- Milk powders and cream powders
- And Sweetened condensed milks (for products sweetened with sucrose only).