**Agenda Item 3 CX/MAS 13/34/3 ENDORSEMENT OF METHODS OF ANALYSIS PROVISIONS IN CODEX STANDARDS**

**Comments from the IDF (International Dairy Federation) and ISO/TC34/SC5 (Subcommittee on milk and milk products of the International Organization for Standardization)**

Proposed changes are shown in **~~bold strikethrough~~** for deletion and **bold underlined** for additions.

**Foods for special dietary uses**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Products** | **Provisions** | **Method** | **Principle** | **Type** | **IDF comment** |
| Special foods | Loss on drying (milk based) | AOAC 925.23  ~~IDF Standard 21B:1987 ISO 6731:1989~~  **ISO 6731|IDF 21:2010** | Gravimetry | I | Reference update |
| Special foods | Sodium and Potassium | ~~ISO 8070:1987 (confirmed 1992)~~  ~~IDF Standard 119A:1987~~  **ISO 8070|IDF 119:2007** | Flame ~~emission~~ **atomic absorption** spectrometry | II | Reference and principle update (as adopted for sodium and potassium in infant formula) |
| Infant formula | Moisture/Total Solids | AOAC 990.20  ~~IDF 21B:1987 or~~  ~~ISO 6731:1989~~  **ISO 6731|IDF 21:2010** | Gravimetry | I | Reference update |

**Milk and Milk products**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Products** | **Provisions** | **Method** | **Principle** | **Type** | **IDF comment** |
| ~~Edible Casein Products~~ | ~~Casein in protein~~ | ~~ISO 17997-1|IDF 29-1:2004~~ | ~~Titrimetry, Kjeldahl~~ | ~~I~~ | This method is only valid for the determination of casein in fresh raw milk. While a test result will be obtained in other samples, the ‘casein” content will not be correct due to co precipitation of denatured whey protein. |

**Processed fruits and vegetables**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Products** | **Provisions** | **Method** | **Principle** | **Type** | **IDF comment** |
| Aqueous coconut products | Total Fats | ~~ISO 1211:1999~~  ~~IDF 1D:1996~~  **ISO 1211|IDF 1:2010\*** | Gravimetry (Röse-Gottlieb) | I | Reference update |
| Aqueous coconut products | Totals Solids | ~~ISO 6731:1989~~  ~~IDF 21B:1987~~  **ISO 6731|IDF 21:2010\*** | Gravimetry | I | Reference update |
| Aqueous coconut products | Non-fat solids | ~~ISO 1211:1999~~  ~~IDF 1D:1996~~  **ISO 1211|IDF 1:2010\***  ~~And~~  ~~ISO 6731:1989~~  ~~IDF 21B:1987~~  **ISO 6731|IDF 21:2010\*** | Calculation:  Gravimetry (Röse-Gottlieb)  Gravimetry | I | Reference update |
| Aqueous coconut products | Moisture | ~~ISO 6731:1989~~  ~~IDF 21B:1987~~  **ISO 6731|IDF 21:2010\*** | Gravimetry | I | Reference update |

**\*Coconut products are not covered in the scope of the IDF/ISO standard.**

**Appendix 1 for information: Changes adopted to references of IDF/ISO methods at CCMAS and CAC but not yet incorporated in CODEX STAN 234 - 2011**

Corrections are shown in **~~bold strikethrough~~** for deletion and **bold underlined** for additions, and reflect modifications adopted in 2008, 2010, 2011 and 2012 (Appendix III – Part D of the Alinorm 08/31/23 - CCMAS 2008, Appendix II Alinorm 10/33/23 CCMAS 2010, Appendix II of REP 11 MAS – CCMAS 2011, para 42-43 and Appendix II of REP12MA – CCMAS 2012).

**General comments**

The corrections below include editorial comments that were already discussed and decided on at previous sessions of CCMAS such as:

* Correction of the ISO/IDF reference to the correct order ISO reference followed by IDF reference and year: ISO XXX|IDF YYY:YEAR
* Corrections to the principle or type of the method based on CCMAS decision
* There is an inconsistent use of the abbreviations MSNF, the fully spelled Milk Solids not fat and the associated note 15 in Codex STAN 234 (**Milk total solids and MSNF content include water of crystallization of lactose**) for the products Blends of evaporated skimmed milk, butter, creams, and whipped creams
* The note for water (note 16) is missing for butter and edible casein products, and shows as “bookmark not defined”.

**MILK AND MILK PRODUCTS**

| **Commodity** | | **Provisions** | **Method** | **Principle** | **Type** | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Milk products (products not completely soluble in ammonia)  *see Appendix III – Part D of the Alinorm 08/31/23 - CCMAS 2008* | Milk fat | **~~IDF 124-3|ISO 8262-3:2005~~**  **ISO 8262-3|IDF 124-3:2005** | Gravimetry (Weibull-Berntrop) | I | | | | |
| Blend of evaporated skimmed milk and  vegetable fat  *See Appendix II Alinorm 10/33/23 CCMAS 2010* | Total fat | ISO 1737| IDF 13:2008 | Gravimetry (Röse-Gottlieb) | ~~IV~~ **I** | | | | |
| Blend of evaporated skimmed milk and  vegetable fat  *See Appendix II Alinorm 10/33/23 CCMAS 2010* | Milk solids-not-fat~~\*~~**1**(MSNF) | ISO 6731|IDF 21:2010  and  ISO 1737| IDF 13:2008 | Calculation from total solids content and fat content  Gravimetry (Röse-Gottlieb) | I  **~~I~~** | | | | |
| Reduced fat blend of evaporated skimmed milk and vegetable fat  *See Part B - Appendix II Alinorm 10/33/23 CCMAS 2010* | Total fat | ISO 1737| IDF 13:2008 | Gravimetry (Röse-Gottlieb) | ~~IV~~ **I** | | | | |
| Blend of sweetened condensed skimmed  milk and vegetable fat  *See Appendix II REP12MA – CCMAS 2012* | Milk solids-notfat  (MSNF)2 | ISO 6734|IDF 15:2010 | Calculation from total  solids content, fat content  **and sugar content**. | IV | | | | |
| Reduced fat blend of sweetened condensed  skimmed milk and vegetable fat  *See Appendix II REP12MA – CCMAS 2012*. | MSNF2 | ISO 6734|IDF 15:2010 | Calculation from total  solids content, fat content  **and sugar content** | IV | | | | |
| Reduced fat blend of skimmed milk powder and vegetable fat in powdered form  *Bookmark error* | Water**2** | ISO 5537|IDF 26:2004 | Gravimetry, drying at 87 °C | I | | | | |
| Butter | Milk solids-not-fat1 | ISO 3727-2|IDF 80-2:2001 | Gravimetry | I | | | | |
| Butter  *See Appendix III – Part D of the Alinorm 08/31/23 - CCMAS 2008* | Milkfat | **~~IDF 194|ISO 17189:2003~~**  **ISO 17189|IDF 194:2003** | Gravimetry  Direct determination of fat using solvent extraction | I | | | | |
| Butter  *See Appendix III – Part D of the Alinorm 08/31/23 - CCMAS 2008* | Salt | **~~IDF 179|ISO 15648:2004~~**  **ISO 15648|IDF 179:2004** | Potentiometry (determination of chloride, expressed as sodium chloride) | **~~III~~** **II** | | | | |
| Butter  *See Appendix III – Part D of the Alinorm 08/31/23 - CCMAS 2008* | Salt | **~~IDF 12|ISO 1738:2004~~**  **ISO 1738|IDF 12:2004** /  AOAC 960.29 | Titrimetry (Mohr: determination of  chloride, expressed as sodium chloride) | **~~II~~ III** | | | | |
| Butter  *See Appendix III – Part D of the Alinorm 08/31/23 - CCMAS 2008* | Water**2** | **~~IDF 80-1|ISO 3727-1:2001~~**  **ISO 3727-1|IDF 80-1:2001** | Gravimetry | I | | | | |
| Cheese (and cheese rind) | | Natamycin | ISO 9233-1|IDF 140-1:2007 | Molecular absorption spectrophotometry | III | | | | |
| *See Part B - Appendix II Alinorm 10/33/23 CCMAS 2010* | | **ISO 9233-2|IDF 140-2:2007** | **HPLC** | **II** | | | | |
| **Cheeses, individual**  *See Appendix III – Part D of the Alinorm 08/31/23 - CCMAS 2008* | **Milk fat in dry matter** | **ISO 1735|IDF 5:2004** | **Gravimetry (Schmid-Bondzynski-**  **Ratzlaff)** | **I** | | | | |
| Cheeses in brine  *See Appendix III – Part D of the Alinorm 08/31/23 - CCMAS 2008* | Milk fat in dry matter (FDM) | **~~IDF 5|ISO 1735:2004~~**  **ISO 1735|IDF 5:2004** | Gravimetry (Schmid-Bondzynski-Ratzlaff) | I | | | | |
| Creams lowered in milk fat content  *See Part B - Appendix II Alinorm 10/33/23 CCMAS 2010* | Milk fat | ISO 2450|IDF 16:2008 / AOAC 995.19 | Gravimetry **(Röse-Gottlieb)** | I | | | | |
| Creams, whipped creams and fermented creams | MSNF1 | ISO 3727-2|IDF 80-2:2001 AOAC 920.116 | Gravimetry | I | | | | |
| Edible casein products  *See Appendix III – Part D of the Alinorm 08/31/23 - CCMAS 2008* | | Copper | **~~IDF 76| ISO 5738:2004~~**  **ISO 5738|IDF 76:2004** | Colorimetry (diethyldiethiocarbamate) | III | | | | |
| Edible casein products  *See Appendix III – Part D of the Alinorm 08/31/23 - CCMAS 2008* | | Lactose | **~~IDF 106|ISO 5548:2004~~**  **ISO 5548|IDF 106:2004** | Photometry (phenol and H2SO4) | IV | | | | |
| Edible casein products  *See Appendix III – Part D of the Alinorm 08/31/23 - CCMAS 2008* | | Lead | **~~IDF/RM 133|ISO/TS 6733:2006~~**  **ISO/TS 6733|IDF/RM 133:2006** | Spectrophotometry (1,5-  diphenylthiocarbazone) | IV | | | | |
| Edible casein products  *Bookmark error* | Water**2** | ISO 5550|IDF 78:2006 | Gravimetry (drying at 102 °C) | I | | | | |
| ~~Edible casein products~~  *See Appendix II – Part B of the Alinorm 10/33/23 - CCMAS 2010* | ~~Moisture~~ | ~~ISO 5550|IDF 78:2006~~ | ~~Gravimetry (drying at 102 °C)~~ | ~~I~~ | | | | |
| Fermented milks  *See Appendix II REP12MA – CCMAS 2012* | ~~Lactic acid (total acidity expressed as lactic acid)~~ **Total acidity expressed as lactic acid** | ~~IDF 150:1991/ISO 11869:1997~~ **ISO/TS 11869|IDF/RM 150: 2012** | Potentiometry,  titration to pH 8.30  ~~Spectrophotometry~~ | | ~~IV~~ **I** | |
| Milk powders and cream powders  *Bookmark error* | Water**2** | ISO 5537|IDF 26:2004[[1]](#footnote-1) | Gravimetry (drying at 87°C) | I | | | | |
| ***~~Milk fat products~~***  *See Appendix II REP12MA – CCMAS 2012* | ***~~Milk fat~~*** | ***~~IDF 24:1964~~*** | ***~~Gravimetry (calculation from solids-not-fat content and water content)~~*** | | | ***~~IV~~*** | |
| ~~Processed cheese products~~  *See Part B - Appendix II Alinorm 10/33/23 - CCMAS 2010* | ~~Citric acid~~ | ~~ISO/TS 2963|IDF/RM 34:2006~~ | ~~Enzymatic method~~ | ~~IV~~ | | | | |
| ~~Processed cheese products~~  *See Part B - Appendix II Alinorm 10/33/23 - CCMAS 2010* | ~~Citric acid~~ | ~~AOAC 976.15~~ | ~~Photometry~~ | ~~III~~ | | | | |
| ~~Processed cheese products~~  S*ee Part B - Appendix II Alinorm 10/33/23 - CCMAS 2010* | ~~Milkfat~~ | ~~ISO 1735|IDF 5:2004~~ | ~~Gravimetry (Schmid- Bondzynski-Raztlaff)~~ | ~~I~~ | | | | |
| ~~Processed cheese products~~  S*ee Part B - Appendix II Alinorm 10/33/23 - CCMAS 2010* | ~~Phosphate, added (expressed as phosphorus)~~ | ~~IDSF 51B:1991~~ | ~~Calculation from phosphorous and nitrogen content~~ | ~~IV~~ | | | | |
| ~~Processed cheese products~~  S*ee Part B - Appendix II Alinorm 10/33/23 - CCMAS 2010* | ~~Phosphorus~~ | ~~IDF 33C:1987/ISO 2962:1984~~ | ~~Spectrophotometry (molybdate-ascorbic acid)~~ | ~~II~~ | | | | |
| ~~Processed cheese products~~  S*ee Part B - Appendix II Alinorm 10/33/23 - CCMAS 2010* | ~~Salt~~ | ~~ISO 5943|IDF 88:2004~~ | ~~Potentionmetry (determination of chloride, expressed as sodium chloride)~~ | ~~II~~ | | | | |
| Sweetened condensed milk  S*ee Part B - Appendix II Alinorm 10/33/23 - CCMAS 2010* | Milk fat | **~~ISO 1737:1999~~** ISO 1737| IDF 13:2008 | Gravimetry (Röse-Gottlieb) | I | | | | |
| ~~Whey Cheese~~  *See Appendix III – Part D of the Alinorm 08/31/23 - CCMAS 2008* | ~~Dry matter (for denomination)~~ | ~~IDF 58 | ISO 2920:2004~~ | ~~Gravimetry, drying at 88 °C~~ | ~~I~~ | | | | |
| ~~Whey cheeses by concentration~~  *See Appendix III – Part D of the Alinorm 08/31/23 - CCMAS 2008* | ~~Dry matter (total solids)~~ | ~~IDF 58 | ISO 2920:2004~~ | ~~Gravimetry, drying at 88 °C~~ | ~~I~~ | | | | |
| ~~Whey cheeses by coagulation~~  *See Appendix III – Part D of the Alinorm 08/31/23 - CCMAS 2008* | ~~Dry matter (total solids)~~ | ~~IDF 4:2004~~  ~~ISO 5534:2004~~ | ~~Gravimetry, Drying at 102°C~~ | ~~IV~~ | | | | |
| ~~Whey cheese~~  *See Appendix III – Part D of the Alinorm 08/31/23 - CCMAS 2008* | ~~Fat on the dry basis~~ | ~~IDF 59 A:1986 / ISO 1854:1999~~  ~~and~~  ~~IDF 58:2004 |~~  ~~ISO 2920:2004~~ | ~~Calculation from fat content and dry matter content~~ | ~~I~~ | | | | |
| ~~Whey cheese~~  *See Appendix III – Part D of the Alinorm 08/31/23 - CCMAS 2008* | ~~Milkfat (in dry matter)~~ | ~~IDF standard 59A:1986~~ **~~/~~** ~~ISO 1854:1999~~ | ~~Gravimetry (Röse-Gottlieb)~~ | ~~I~~ | | | | |
| ~~Whey cheeses including~~~~whey cheeses by concentration~~  *See Appendix III – Part D of the Alinorm 08/31/23 - CCMAS 2008* | ~~Total fat~~ | ~~IDF 59A:1986~~ **~~/~~** ~~ISO 1854:1999~~ | ~~Gravimetry (Röse Gottlieb)~~ | ~~I~~ | | | | |
| ~~Whey cheeses by coagulation~~  *See Appendix III – Part D of the Alinorm 08/31/23 - CCMAS 2008* | ~~Total fat~~ | ~~IDF 5:2004 |~~  ~~ISO 1735:2004~~ | ~~Gravimetry (Schmid-Bondzynski-Ratzlaff~~ | ~~I~~ | | | | |
| ~~Creamed whey cheese~~  *See Appendix III – Part D of the Alinorm 08/31/23 - CCMAS 2008* | ~~Fat on the dry basis~~ | ~~IDF 59 A: 1986~~ **~~/~~** ~~ISO 1854: 1999~~  ~~and~~  ~~IDF 58:2004 |~~  ~~ISO 2920:2004~~ | ~~Calculation from fat content and dry matter content~~ | ~~I~~ | | | | |
| ~~Skimmed whey cheese~~  *See Appendix III – Part D of the Alinorm 08/31/23 - CCMAS 2008* | ~~Fat on the dry basis~~ | ~~IDF 59 A:1986~~ **~~/~~** ~~ISO 1854:1999~~  ~~and~~  ~~IDF 58:2004 |~~  ~~ISO 2920:2004~~ | ~~Calculation from fat content and dry matter content~~ | ~~I~~ | | | | |
| **Whey cheeses by coagulation**  *See Appendix III – Part D of the Alinorm 08/31/23 - CCMAS 2008* | | **Milk fat** | **ISO 1735|IDF 5:2004** | **Gravimetry (Schmid-Bondzynski-Ratzlaff)** | | | **I** | |
| **Whey cheeses by coagulation**  *See Appendix III – Part D of the Alinorm 08/31/23 - CCMAS 2008* | | **Milk fat in dry matter** | **ISO 1735|IDF 5:2004**  **and**  **ISO 5534|IDF 4:2004** | **Calculation from fat content and dry matter content**  **Gravimetry (Schmid-Bondzynski-Ratzlaff)**  **Gravimetry, drying at 102 °C** | | | **I** | |
| **Whey cheeses by concentration**  *See Appendix III – Part D of the Alinorm 08/31/23 - CCMAS 2008* | | **Milk fat** | **ISO 1854|IDF 59:2008** | **Gravimetry (Röse Gottlieb)** | | | **I** | |
| **Whey cheeses by concentration**  *See Appendix III – Part D of the Alinorm 08/31/23 - CCMAS 2008* | | **Milk fat in dry matter** | **ISO 1854|IDF 59:2008 and**  **ISO 2920|IDF 58:2004** | **Calculation from fat content and dry matter content**  **Gravimetry (Röse Gottlieb)**  **Gravimetry, drying at 88 °C** | | | **I** | |
| ~~Yoghurt products~~  S*ee Part B - Appendix II Alinorm 10/33/23 - CCMAS 2010* | | ~~Lactobacillus bulgaricus & Streptococcus thermophilus~~ | ~~IDF 117 | ISO 7889:2003~~ | ~~Colony count at 37°C~~ | | |  | |
| ~~Yoghurt products~~  S*ee Part B - Appendix II Alinorm 10/33/23 - CCMAS 2010* | | ~~Lactobacillus bulgaricus & Streptococcus thermophilus~~ | ~~IDF 146 | ISO 9232:2003~~ | ~~Test for identification~~ | | |  | |
| ~~Yoghurt products~~  S*ee Part B - Appendix II Alinorm 10/33/23 - CCMAS 2010* | | ~~Solids, Total~~ | ~~IDF 151 | ISO 13580:2005~~ | ~~Gravimetry (drying at 102°C)~~ | | | ~~I~~ | |
| ~~Yoghurt~~  S*ee Part B - Appendix II Alinorm 10/33/23 - CCMAS 2010* | | *~~Streptococcus thermophilus~~* ~~&~~ *~~Lactobacillus delbrueckii~~* ~~subsp.~~ *~~bulgaricus~~* ~~>= 10~~~~7~~ ~~cfu/g~~ | ~~ISO 7889/IDF 117:2003~~ | ~~Colony count at 37°C~~ | | | ~~I~~ | |
| ~~Yoghurt~~  S*ee Part B - Appendix II Alinorm 10/33/23 - CCMAS 2010* | | *~~Streptococcus thermophilus~~* ~~&~~ *~~Lactobacillus delbrueckii~~* ~~subsp.~~ *~~bulgaricus~~* ~~>= 10~~~~7~~ ~~cfu/g~~ | ~~ISO 9232~~**~~/~~**~~IDF 146:2003~~ | ~~Test for identification: morphological, cultural and biochemical characteristics~~ | | | ~~I~~ | |

1. The method has only been validated for milk powders, not for cream powders [↑](#footnote-ref-1)