

CODEX ALIMENTARIUS COMMISSION



Food and Agriculture
Organization of the
United Nations



World Health
Organization

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Agenda Item 4

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ORIGINAL LANGUAGE ONLY

JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX COMMITTEE ON METHODS OF ANALYSIS SAMPLING

Thirty-ninth Session
Budapest, Hungary, 7 – 11 May 2018

Report of the in-session WG on

Proposed Preamble and Document Structure for General Standard on Methods of Analysis and Sampling (CXS 234-1999)

REPORT OF THE PWG ON ENDORSEMENT OF METHODS OF ANALYSIS AND SAMPLING

The in-session WG met on Tuesday, 8 May 2018. The In-session WG considered comments submitted on the preamble and structure of the CXS 234.

The in-session WG had the following discussion and made recommendations.

INTRODUCTION

This Standard contains definitions, lists of methods of analysis, methods performance criteria, descriptions of some methods and a list of methods of sampling to verify the provisions in Codex standards to be applied to commodities moving in international trade.

The methods are primarily intended to allow competent national and/or regional authorities to select appropriate methods of analysis and sampling for the verification of provisions' commodities found in Codex standards.

It is recommended that this Standard should be read in conjunction with the related Codex standards, guidelines and other documents¹.

In case of disputes of analytical results, guidance is given in the *Guidelines for Settling Disputes over Analytical (Test) Results* (CXG 70-2009), including guidance on the use of methods of analysis.

When confirming compliance to a Codex standard the methods of analysis and sampling contained in this General Standard that relates to the provision identified in the commodity standard should be used.

¹ *Harmonized IUPAC Guidelines for the Use of Recovery Information in Analytical Measurement* (CXG 37-2001), *Harmonized IUPAC Guidelines for Single-Laboratory Validation of Methods of Analysis* (CXG 49-2003), *Guidelines on Sampling* (CXG 50-2004), *Guidelines on Measurement Uncertainty* (CAC/GL 54-2004), *Protocol for the Design, Conduct and Interpretation of Method Performance Studies* (CXG 64-1995), *Harmonized Guidelines for Internal Quality Control in Analytical Chemistry Laboratories* (CXG 65-1997)

This Standard consists of three main parts and three annexes:

PART I. PREAMBLE

PART II. METHODS OF ANALYSIS

SECTION I - METHODS OF ANALYSIS BY COMMODITY CATEGORIES

SECTION II - METHODS PERFORMANCE CRITERIA

SECTION III. COMPLETE DESCRIPTION OF THE METHOD OF ANALYSIS

PART III. METHODS OF SAMPLING BY COMMODITY CATEGORIES AND NAMES

Annex 1: LIST OF COMMODITIES CATEGORIES AND NAMES

Annex 2: LIST OF PROVISIONS

Annex 3: LIST OF THE PRINCIPLES OF THE METHODS

PART I - PREAMBLE

1. Scope

This Standard is intended to provide a single reference to methods of analysis and sampling for food as adopted by the Codex Alimentarius Commission.

2. Definition of Terms

2.1 Codex Method of Analysis: methods for the verification of provisions in Codex standards. The methods are classified as Defining Methods (Type I), Reference Methods (Type II), Alternative Approved Methods (Type III), & Tentative Methods (Type IV) (see Codex Procedural Manual, Section II: Elaboration of Codex texts, Definition of types of methods of analysis).

2.2 Identical methods: when the same method was published by several Standards Development Organizations (SDO), each SDO using its own format. The only difference between these methods is the fact that they were formatted

2.3 Technically equivalent methods: methods that deliver the equivalent result and where several elements of two methods are technically comparable but not identical: e.g. sample preparation, extraction, cleanup, identification technology (e.g. LC-UV). The methods should have validation parameters fit for purpose and meet with equivalent test results, ideally confirmed by the analysis of a series of common samples. Equivalent test results means results with the same metrological traceability and a measurement uncertainty fit for purpose. Technically equivalent methods do not apply to Type I methods.

2.4 Method of Analysis Principle: The science-based analytical principle of the method of analysis, described concisely, focusing on the technique.

2.5 Provision: A quality criterion of a commodity that needs to be confirmed by analysis to ensure that it conforms to that standard.

PART II - METHODS OF ANALYSIS

This part contains 3 sections depending on how the methodologies are proposed, endorsed and approved by CAC:

SECTION I. METHODS OF ANALYSIS BY COMMODITY CATEGORIES

This section contains:

- a) The name of the commodity/product (to choose from Annex 1);
- b) The provision to which the methods apply (to choose from Annex 2);
- c) Codex Standard to which the method is directed;
- d) Identification of the method;
- e) Method of Analysis Principle (to choose from Annex 3);
- f) Type of analytical method;
- g) The year of endorsement by CCMAS;
- h) Codex Committee responsible for the Standard and/or provision.

When there are no methods identified, refer to section II for method performance criteria or to section III for complete description of the method of analysis.

SECTION II. METHODS PERFORMANCE CRITERIA

This section contains:

- a) The name of the commodity/product (to choose from Annex 1);
- b) The provision to which the methods apply (to choose from Annex 2);
- c) Codex Standard to which the method is directed;
- d) Minimum applicable range;
- e) Limit of detection (LOD);
- f) Limit of quantification (LOQ);
- g) RSDR (Relative Standard Deviation of Reproducibility);
- h) % Recovery;
- i) Examples of Methods that meet the criteria and their principles also can be mentioned. However, any method that complies with the established performance criteria can be used.

SECTION III. COMPLETE DESCRIPTION OF THE METHOD OF ANALYSIS

This section contains:

- a) The name of the commodity (to choose from Annex 1);
- b) The provision to which the methods apply;
- c) Description.

PART II - METHODS OF ANALYSIS

The most updated version of the method should be used in application of ISO/IEC 17025 unless it is not appropriate or possible to do so.

Each line of the methods list corresponds to one method of analysis or more than one if they are necessary to reach a result, in this case they are called complementary with an "and" between them. When the methods are in the same row separated by a vertical bar "|", they are identical and published in a single document by different standards development organizations. When they are separated by a forward slash "/", the technical procedures are identical and published in separate documents that may have different formats. When a method is determined by calculation can be used one line with the method and a brief description of the calculation in the principle column

All Codex methods, including Type IV methods, could be used for control, inspection and regulation and when parties so agreed, for resolution of disputes. A Type I method determines a value that can only be arrived at in terms of the method per se and serves by definition as the only method for establishing the accepted value of the item measured. A Type II method is the one designated Reference Method where Type I methods do not apply. A Type III Method is one which meets the criteria required by the Committee on Methods of Analysis and Sampling and a Type IV is a method which has been used traditionally or else has been recently introduced but for which the criteria required for acceptance by the Committee on Methods of Analysis and Sampling have not yet been determined.

Observation: The examples below will be deleted in the agreed document.

SECTION I - METHODS OF ANALYSIS BY COMMODITY CATEGORIES

Commodity	Provision	Codex Stan	Method	Principle	Type	Year of Endorsement	Committee
Processed fruits and vegetables	Benzoic acid	CXS 13	NMKL 124	Liquid Chromatography	II		CCPFV/CCFA
Processed fruits and vegetables	Fill of containers (metals containers)	CXS 13	CAC/RM 46 (link to complete description on Section III)	Weighing	I		CCPFV
Natural Mineral Waters	Mercury	CXS 108	See Section II (link to section II)				CCNMW

SECTION II - METHODS PERFORMANCE CRITERIA

Commodity	Provision	Applicable Codex Stan	Minimum applicable range	LOD	LOQ	RSD R (%)	Recovery (%)	Examples of methods that meet the criteria	Principle
Natural Mineral Waters	Mercury	108-1981	0.00056 mg/L	0.0002 mg/L	0.0004 mg/L	44	80-110	EN 1483 ISO 17852 ISO 5666 ISO 16590 EPA 200.8	AAS Enrichment by amalgamation (III) AFS AAS after tin(II) chloride reduction

SECTION III. COMPLETE DESCRIPTION OF THE METHOD OF ANALYSIS

Commodity	Provision
Processed fruits and vegetables	Fill of (metals) container
DESCRIPTION OF THE METHOD: DETERMINATION OF WATER CAPACITY OF CONTAINERS (CAC/RM 46)	
1. SCOPE	
This method applies to glass containers.	
2. DEFINITION	
The water capacity of a container is the volume of distilled water at 20°C which the sealed container will hold when completely filled.	
3. PROCEDURE	
3.1 Select a container which is undamaged in all respects.	
3.2 Wash, dry and weigh the empty container.	
3.3 Fill the container with distilled water at 20°C to the level of the top thereof, and weigh the container thus filled.	
4. CALCULATION AND EXPRESSION OF RESULTS	
Subtract the weight found in 3.2 from the weight found in 3.3. The difference shall be considered to be the weight of water required to fill the container. Results are expressed as mL of water.	

PART III- RECOMMENDED METHODS OF SAMPLING BY COMMODITY CATEGORIES AND NAMES

Commodity Categories	Method of Sampling	Notes
Cereals, Pulses and Legumes and Derived Products		
Wheat protein products including wheat gluten	ISO 13690	
Fats and Oils		
Olive Oils and Olive-Pomace Oils	ISO 661 and ISO 5555.	
Fish oils	ISO 5555	
Milk and milk products		
Milk products	ISO 707 IDF 50	General instructions for obtaining a sample from a bulk
Milk products	ISO 5538 IDF 113	Inspection by attributes
Milk products	ISO 3951-1	Inspection by variables

Processed Fruits and Vegetables

Desiccated coconut	Described in the Standard	
Certain canned vegetables, jams and jellies	Described in the Standard	
Chili sauce	Described in the Standard	
Table Olives	Described in the Standard	

Annex 1: LIST OF COMMODITIES CATEGORIES AND NAMES

This list serves as an inventory of commodities to choose from in order to refer to the commodity (or a group of commodities) in a consistent manner in the other sections of this standard. **This list is a provisional dataset that will be comprehensively revised according with Codex Stan 234 and all commodities standards.**

- 1. All Foods**
- 2. Individual Foods**
- 3. Cereals, Pulses and Legumes and Derived Products**
 - 3.1. Cereals, Pulses and Legumes and Derived Products
 - 3.2. Certain pulses
 - 3.3. Degermed maize (corn) meal and maize (corn) grits
 - 3.4. Maize (corn)
 - 3.5. Pearl millet flour
 - 3.6. Soy protein products
 - 3.7. Vegetable protein products
 - 3.8. Quinoa
 - 3.9. Pulses
 - 3.10. Peanuts (intended for further processing)
 - 3.11. Peanuts (raw)
 - 3.12. Peanuts(Cereals, shell-fruits and derived products (including peanuts))
 - 3.13. Cereals
 - 3.13.1. Whole and decorticated pearl millet grains
 - 3.13.2. Whole maize (corn) meal
 - 3.13.3. Oat
 - 3.13.4. Durum Wheat
 - 3.13.5. Wheat
 - 3.13.6. Rice
 - 3.14. Cereal Derived Products
 - 3.14.1. Durum wheat semolina and durum wheat flour
 - 3.14.2. Sorghum flour
 - 3.14.3. Sorghum grains
 - 3.14.4. Wheat protein products including wheat gluten
 - 3.14.5. Instant Noodles
 - 3.14.6. Cuscuz
- 4. Cocoa Products and Chocolate**
 - 4.1. Cocoa Products and Chocolate
 - 4.2. Chocolate and chocolate products
 - 4.3. Cocoa (Cacao) Mass or Cocoa/ Chocolate Liquor, and Cocoa Cake
 - 4.4. Cocoa butter
 - 4.5. Cocoa powders (cocoa) and dry cocoa-sugar mixtures
- 5. Fats and Oils and Related Products**
 - 5.1. Fat spreads and blended spreads
 - 5.2. Fats and oils
 - 5.3. Fats and oils not covered by individual standards
 - 5.4. Fish oils
 - 5.5. Named Animal Fats
 - 5.6. Named Vegetable Oils
 - 5.7. Olive Oils and Olive Pomace Oils
- 6. Fish and Fishery Products**
 - 6.1. Boiled Dried Salted Anchovies
 - 6.2. Canned shrimps or prawns
 - 6.3. Fish and fishery products: canned products
 - 6.4. Fish Sauce
 - 6.5. Frozen abalone (covered by glaze)
 - 6.6. Frozen fish and fishery products
 - 6.7. Live and raw bivalve molluscs
 - 6.8. Quick frozen blocks of fish fillet, minced fish flesh and mixtures of fillets and minced fish flesh
 - 6.9. Quick frozen fish fillets
 - 6.10. Quick Frozen Fish sticks (fish fingers) and fish portions - breaded or in batter
 - 6.11. Quick Frozen Fish Sticks (fish fingers) and Fish Portions-Breaded and in Batter (except for certain fish species with soft flesh)
 - 6.12. Raw bivalve molluscs
 - 6.13. Salted Atlantic Herring and Salted Sprat
 - 6.14. Salted Fish and Dried Salted Fish of the Gadidae Family of Fishes

- 6.15. Salted Fish of the Gadidae Family
- 6.16. Smoked Fish, Smoke-Flavoured fish and Smoke-dried fish
- 6.17. Sturgeon Caviar
- 6.18. Fish and fishery products (Histamine)
- 7. Foods for Special Dietary Uses**
 - 7.1. Follow-up formula
 - 7.2. Foods with low-sodium content (including salt substitutes)
 - 7.3. Gluten-free foods
 - 7.4. Infant formula
 - 7.5. Special foods
- 8. Milk and Milk Products**
 - 8.1. Blend of evaporated skimmed milk and vegetable fat
 - 8.2. Blend of skimmed milk and vegetable fat in powdered form
 - 8.3. Blend of sweetened condensed skimmed milk and vegetable fat
 - 8.4. Butter
 - 8.5. Cheese
 - 8.6. Cheese (and cheese rind)
 - 8.7. Cheese, Unripened Including Fresh Cheese
 - 8.8. Cheeses in brine
 - 8.9. Cheeses, individual
 - 8.10. Cottage cheese
 - 8.11. Cream
 - 8.12. Cream and Prepared Creams
 - 8.13. Cream cheese
 - 8.14. Creams Lowered in Milkfat Content
 - 8.15. Creams, Whipped Creams and Fermented Creams
 - 8.16. Dairy fat spreads
 - 8.17. Edible casein products
 - 8.18. Emmental
 - 8.19. Evaporated milks
 - 8.20. Fermented milks
 - 8.21. Fermented milks - Yoghurt and yoghurt products
 - 8.22. Milk fat Products
 - 8.23. Milk fat products (anhydrous milk fat)
 - 8.24. Milk powders and cream powders
 - 8.25. Milk products
 - 8.26. Milk products (products not completely soluble in ammonia)
 - 8.27. Milkfat products (anhydrous milkfat)
 - 8.28. Mozzarella
 - 8.29. Reduced fat blend of evaporated skimmed milk and vegetable fat
 - 8.30. Reduced fat blend of skimmed milk powder and vegetable fat in powdered form
 - 8.31. Reduced fat blend of sweetened condensed skimmed milk and vegetable fat
 - 8.32. Reduced fat blend of sweetened condensed skimmed milk and vegetable fat
 - 8.33. Sweetened condensed milk
 - 8.34. Sweetened Condensed Milks
 - 8.35. Whey cheeses by coagulation
 - 8.36. Whey cheeses by concentration
 - 8.37. Whey powders
- 9. Miscellaneous Products**
 - 9.1. Chili sauce
 - 9.2. Date Paste
 - 9.3. Edible cassava flour
 - 9.4. Fermented Soybean Paste
 - 9.5. Food grade salt
 - 9.6. Foul medames
 - 9.7. Gari
 - 9.8. Ginseng Products
 - 9.9. Gochujang
 - 9.10. Halwa Tehenia
 - 9.11. Harissa
 - 9.12. Humus with tehena
 - 9.13. Laver products
 - 9.14. Non-fermented soybean products
 - 9.15. Sago Flour
 - 9.16. Tehena
 - 9.17. Tempe
 - 9.18. Unrefined shea butter
- 10. Natural Mineral Waters**

11. Processed Fruits and Vegetables

- 11.1. Fruit
 - 11.1.1. Aqueous Coconut Products
 - 11.1.2. Canned Apple Sauce
 - 11.1.3. Canned green peas
 - 11.1.4. Canned mangoes
 - 11.1.5. Canned Stone Fruits
 - 11.1.6. Canned strawberries
 - 11.1.7. Certain canned citrus fruits
 - 11.1.8. Citrus marmalade
 - 11.1.9. Dates
 - 11.1.10. Desiccated coconut
 - 11.1.11. Dried apricots
 - 11.1.12. Jams (fruit preserves) and jellies
 - 11.1.13. Mango chutney
 - 11.1.14. Preserved tomatoes
 - 11.1.15. Processed tomato concentrates
 - 11.1.16. Raisins
- 11.2. Vegetables
 - 11.2.1. Canned green beans and wax beans
 - 11.2.2. Canned palmito
 - 11.2.3. Certain Canned Vegetables (palmito)
 - 11.2.4. Pickled cucumbers
 - 11.2.5. Table olives
 - 11.2.6. Others
 - 11.2.7. Canned mushrooms
 - 11.2.8. Edible fungi and fungus products
 - 11.2.9. Dry Edible fungi

12. Processed Meat and Poultry Products and Soups and Broths

- 12.1. Bouillons and Consommés (soups and broths)
- 12.2. Canned corned beef
- 12.3. Cooked cured chopped meat
- 12.4. Cooked cured ham
- 12.5. Cooked cured pork shoulder
- 12.6. Luncheon meat
- 12.7. Meat Products
- 12.8. Processed meat and poultry products

13. Quick Frozen Fruits and Vegetables

- 13.1. Quick frozen French fried potatoes
- 13.2. Quick frozen fruits and vegetables(non-glazed)
- 13.3. Quick frozen fruits and vegetables: Berries, leek and carrot
- 13.4. Quick frozen fruits and vegetables: Berries, Whole kernel corn and Corn-on-the-cob
- 13.5. Quick frozen fruits and vegetables: Peaches and berries
- 13.6. Quick frozen fruits and vegetables: Vegetables
- 13.7. Quick frozen green and wax beans
- 13.8. Quick frozen peas
- 13.9. Quick frozen spinach

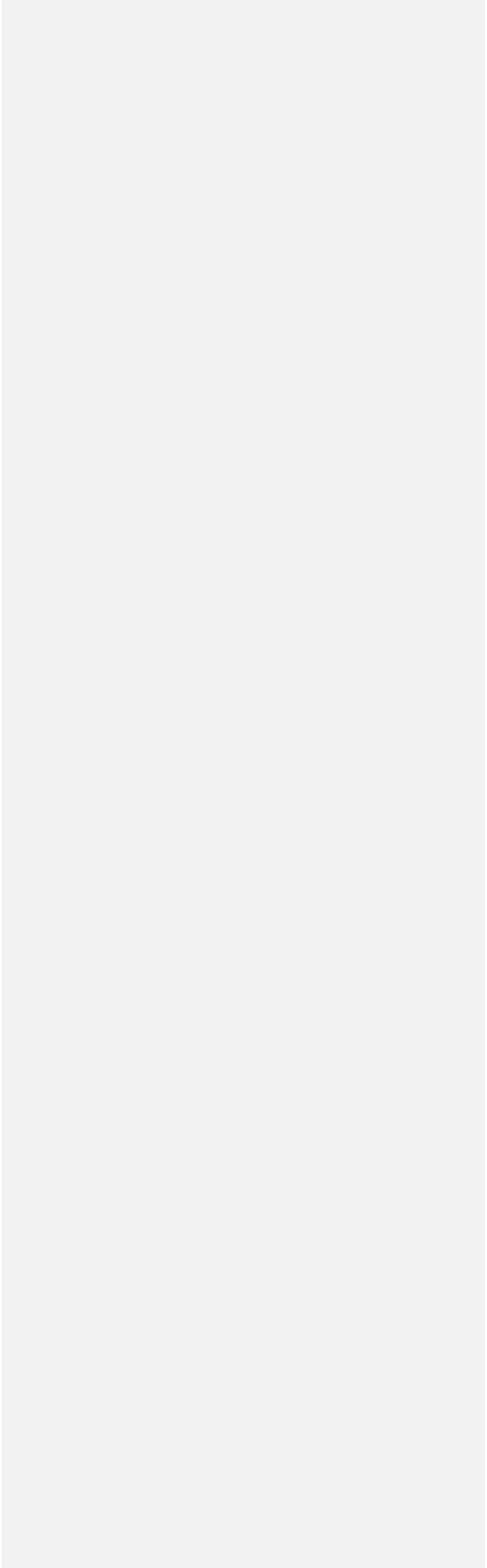
14. Spices and Culinary Herbs

- 14.1. Black and white pepper
- 14.2. Black pepper
- 14.3. Black, white and green pepper
- 14.4. Cumin
- 14.5. Thyme

15. Sugars and Honey

- 15.1. Honey
- 15.2. Sugars
 - 15.2.1. Sugars (dextrose anhydrous and dextrose monohydrate)
 - 15.2.2. Sugars (dextrose anhydrous and dextrose monohydrate, dried glucose syrup, glucose syrup, powdered dextrose, lactose)
 - 15.2.3. Sugars (fructose)
 - 15.2.4. Sugars (glucose syrup and dried glucose syrup)
 - 15.2.5. Sugars (lactose)
 - 15.2.6. Sugars (plantation and mill white sugar)
 - 15.2.7. Sugars (plantation or mill white sugar)
 - 15.2.8. Sugars (powdered sugar and powdered dextrose)
 - 15.2.9. Sugars (powdered sugar)
 - 15.2.10. Sugars (raw cane sugar)
 - 15.2.11. Sugars (soft white sugar and soft brown sugar)

15.2.12.	Sugars (soft white sugar)
15.2.13.	Sugars (white sugar)



Annex 2: LIST OF PROVISIONS

This list serves as an inventory of provisions to choose from in order to refer to the provisions in a consistent manner in the other sections of this standard and in the commodities standards.

Provision in CXS 234 and other Codex Standards	Provision suggested
(1→3)(1→4) Beta -D-Glucans	Beta-D-Glucans
Absorbency in ultraviolet	Absorbance
Acesulfame K, Aspartame	Acesulfame K
	Aspartame
Acetic acid (Sections 3.2 Quality criteria and 3.3 Authenticity)	Acetic acid
Acid Insoluble Ash	Ash, acid insoluble
Acid Soluble Ash	Ash, acid soluble
Acid Value	Acidity
Acidity	Acidity
Acidity, free (acid value)	Acidity, free
Acidity, titratable	Acidity, titratable
Acids, free	
Acrylonitrile	Acrylonitrile
Aflatoxins, total	Aflatoxins, total (sum of B1, B2, G1 and G2)
Aflatoxin M1	Aflatoxin M1
Alcohol (ethanol) (Sections 3.2 Quality criteria and 3.3 Authenticity)	Ethanol
alpha-Linolenic Acid	Linolenic acid, alpha
Alpha-tocopherol	Tocopherol, alpha
	Nitrogen, amino acid
Amino nitrogen	
Ammonium < 3 % (m/m)	Ammonium
Anthocyanins (Sections 3.2 Quality criteria and 3.3 Authenticity)	Anthocyanins
Apparent density	Density, apparent
Arsenic	Arsenic
Ascorbic acid-L (additives)	Ascorbic acid, L-Ascorbic acid
Ash	Ash
Ash (including P2O5)	Ash (including P2O5)
Ash (inorganic extraneous matter)	Ash, acid insoluble
Ash (semolina)	Ash
Ash in fruit products (Sections 3.2 Quality criteria and 3.3 Authenticity)	Ash
Ash insoluble in HCl in cocoa nib, cocoa mass and cocoa press cake	Ash, acid insoluble
Ash insoluble in HCl	Ash, acid insoluble
Beet sugar in fruit juices (Sections 3.2 Quality criteria and 3.3 Authenticity)	Stable isotope ratio, oxygen
Benzoic acid	Benzoic acid
Benzoic acid and its salts	Benzoic acid and its salts
Benzoic acid and its salts; sorbic acid and its salts	Benzoic acid and its salts
	Sorbic acid and its salts
Benzoic acid as a marker in orange juice (Sections 3.2 Quality criteria and 3.3 Authenticity)	Benzoic acid

Commented [C1]: USA: While understanding the need to simplify and harmonize Provisions, in some cases the simplification could create confusion or ambiguity. Specifically:

The Provisions should match those listed in the Commodity Standard, to avoid confusion and ambiguity.

Some changes to provisions (i.e., fiber) will cause the loss of critical information about the use of the different Type I methods. If changes are made, we may need to capture this detail in some other place

Commented [C2]: Norway: Concerning the proposed structure and the need for the annexes, we think the proposed structure is clear and well written, but we are unsure whether or not the annexes should be included. The reason for this is that ambiguities may arise following the suggested harmonization of specific provisions (annex 2) and principles (annex 3). Care must be taken when harmonizing provisions and principles so that important information is not lost. This harmonization should be carried out in close cooperation with the SDOs owning the methods for the specific commodities and provisions. The IUPAC color books, specifically the "Orange book" (currently under revision), may also be a good reference for the harmonization of principles in annex 3.

Commented [C3]: Canada: Would it be possible to provide additional context to aid in the understanding of each provision?

Commented [C4]: Acidity free

Commented [C5]: Nitrogen, amino acid

Biotin	Biotin
Broken kernels	Kernels, broken
Butylhydroxyanisole, butylhydroxytoluene, tert-butylhydroquinone, & propyl gallate	Antioxidant, phenolics
C13/C12 ratio of ethanol derived from fruit juices (for the determination of quality and authenticity, according to Stan 247-2005 Sections 3.2 Quality criteria and 3.3 Authenticity)	Stable isotope ratio, carbon
cadmium	Cadmium
Cadmium and Lead	Cadmium
	Lead
Calcium	Calcium
Calcium and magnesium	Magnesium
	Calcium
Capsaicin	Capsaicin
Carbon dioxide (additives and processing aids)	Carbon dioxide
Carbon stable isotope ratio of apple juice (Sections 3.2 Quality criteria and 3.3 Authenticity)	Stable carbon isotope ratio
Carbon stable isotope ratio of orange juice (Sections 3.2 Quality criteria and 3.3 Authenticity)	Stable carbon isotope ratio
Carotenoid, total/individual groups (Sections 3.2 Quality criteria and 3.3 Authenticity)	Carotenoids, total and individual fractions
Carotenoids, total	Carotenoids, total
Casein in protein	Casein/protein ratio (expressed as percentage)
Cellobiose	Cellobiose
Centrifugable pulp(Sections 3.2 Quality criteria and 3.3 Authenticity)	Pulp, centrifugable
Chloride	Chloride
Chloride (expressed as sodium chloride)(Sections 3.2 Quality criteria and 3.3 Authenticity)	Chloride expressed as NaCl
Chloride in vegetable juice(Sections 3.2 Quality criteria and 3.3 Authenticity)	Chloride
Choline	Choline
Chromium (Section B of STAN 72 only)	Chromium
Citric acid	Citric acid
Citric acid (additives)	Citric acid
Cocoa Butter	Fat, cocoa butter
Cocoa shell	Shell, cocoa
Colour	Colour
Conductivity ash	Ash, conductivity
Cooking Procedure	Cooking procedure
Copper	Copper
Copper and iron	Copper
	Iron
Copper, manganese, zinc,magnesium, iron	Copper
	Manganese
	Zinc
	Magnesium
	Iron
Cottonseed oil	Oil, cottonseed
Creatinine	Creatinine

Crismer value	Crismer value
Crude fat	Fat
Crude fibre	Fibre, crude
Crude protein	Protein, crude
Crude protein (Nx6.25) \geq 5 m/m%	Protein, crude (total Nx6.25)
Cyclamate	Cyclamate
Determination of granularity	Particle size
Deoxynivalenol	Deoxynivalenol
D-Fructose	Fructose, D-Fructose
D-Glucose	Glucose, D-Glucose
Diastase activity	Diastase
Dietary Fibre, Method applicable for determining dietary fibres that do not include the lower molecular weight fraction.	Fibre, dietary
Dietary fibre, total	Fibre, dietary
Dietary fibre, total/ Method applicable for determining the content of dietary fibres of higher and lower molecular weight. The method is applicable in food that may, or may not, contain resistant starches	Fibre, dietary
Dietary fibres (Method applicable for determining dietary fibres that do not include the lower molecular weight fraction. Provides sugar residue composition of dietary fibre polysaccharides, as well as content of Klason lignin)	Fibre, dietary
Dietary fibres (Method applicable for determining the content of dietary fibres of higher and lower molecular weight, in food where resistant starches are not present)	Fibre, dietary
Dietary fibres (Method applicable for determining the content of dietary fibres of higher and lower molecular weight. The method is applicable in food that may, or may not, contain resistant starches.)	Fibre, dietary
Dietary fibres (not include the lower molecular weight fraction, in foods and food products containing more than 10% dietary fibres and less than 2% starch (e.g. fruits))	Fibre, dietary
Dietary fibres, Method applicable for determining dietary fibres that do not include the lower molecular weight fraction and also includes determination for soluble and insoluble dietary fibres	Fibre, dietary
Difference between the actual and theoretical ECN 42 triglyceride content	Triglyceride
Dissolved iron	Iron, dissolved
Drained weight	Drained weight
Drained weight of shucked molluscs	Drained weight
Drained Weight	Drained weight
Dry extract – soluble solids	Soluble solids
Dry matter	Dry matter
Dry matter (specified in individual standards)	Dry matter
Dry matter (total solids)	Dry matter
Electrical conductivity	Conductivity, electrical
Erythrodiol and uvaol	Erythrodiol and uvaol
Essential oils (in citrus fruit) (volume determination) (Sections 3.2 Quality criteria and 3.3 Authenticity)	Oils, essential
Essential oils (Scott titration) (Sections 3.2 Quality criteria and 3.3 Authenticity)	Oils, essential
Fat	Fat

Commented [C6]: India

•Crude fat: India suggested that the Provision should be Fat, Crude.

Rationale: As the method co-extracts other substances which are soluble under the method conditions and not necessarily fat alone.

Fat acidity	Acidity, fat
Fat content	Fat
Fat Crude	Fat, crude
Fat in foods not containing starch, meat or vegetable products	Fat
Fat, total	Fat
Fat-free cocoa solids	Fat-free cocoa solids
Fat-free dry matter	Fat-free dry matter
Fat-free Milk Solids	Fat-free dry matter
Fatty acid composition various levels	Fatty acid, composition
Fatty acid composition	Fatty acid, composition
Fatty acids (including trans fatty acid)	Fatty acid, composition
Fatty acids in the 2-position of the triglycerides	Fatty acid, composition in the 2-position of the triglycerides
Fatty acids, free (expressed as oleic acid)	Fatty acid, free
Fermentability	Fermentability
Fibre, crude	Fibre, crude
Fill of containers	Fill of containers
Fish content (declaration)	Fish content
Fish/mince proportions	Proportion of whole and fragmented product
Folate	Folate
Folic acid	Folic acid
Folic Acid (as monoglutamate)	Folic acid
Formol number (Sections 3.2 Quality criteria and 3.3 Authenticity)	Formol number
Free amino acids (Sections 3.2 Quality criteria and 3.3 Authenticity)	Amino acids, free
Free fatty acids	Fatty acids, free
Fructans (oligofructoses, inulin, hydrolyzed inulin, polyfructoses) fructooligosaccharides) (applicable to added fructans)	Fructans (oligofructoses, inulin, hydrolyzed inulin, polyfructoses, fructooligosaccharides)
Fructans (oligofructoses, inulin, hydrolyzed inulin, polyfructoses, fructooligosaccharides) (not applicable highly depolymerised fructans)	Fructans (oligofructoses, inulin, hydrolyzed inulin, polyfructoses, fructooligosaccharides)
Fructo-oligosaccharides (monomeric units<5)	Fructo-oligosaccharides (monomeric units<5)
Fructose and Glucose (sum of both)	Fructose and Glucose (sum of both)
Fumaric acid	Fumaric acid
Fumonisin	Fumonisin (sum of B1 and B2)
Gelatinous condition	Gelatinous, condition gelatinous
GLC ranges of fatty acid composition	Fatty acid, composition
Gluconic acid (Sections 3.2 Quality criteria and 3.3 Authenticity)	Gluconic acid
Glucose fructose and saccharose (Sections 3.2 Quality criteria and 3.3 Authenticity)	Glucose
	Fructose
	Saccharose
Glucose-D and fructose-D (permitted ingredients)	Glucose, D-Glucose
	Fructose, D-Fructose
Gluten	Gluten
Glycerol	Glycerol
Granularity	Particle size

Commented [C7]: India

•**Folate:** Provision suggested should differentiate between the two methods of analysis viz. Microbiological assay and HPLC method.

Rationale: Food folate quantified by microbiological assay gives total folate content whereas HPLC method separates and detects individual folate forms.

Halogenated solvents, traces	Halogenated solvents
Halphen test +/-	Oil, cotton seed
Hesperidin and naringin	Hesperidin
	Naringin
High Fructose Corn Syrup and Hydrolized Inulin Syrup in apple juice - HFCS & HIS in apple juice (permitted ingredients)	Fructose, high fructose
	Inulin
Histamine	Histamine
Hydrogen carbonate (Bicarbonate HCO ₃ -)	Bicarbonate
Hydroxymethylfurfural	Hydroxymethylfurfural
Insoluble dietary fibres in food and food products	Fibre, dietary insoluble
Insoluble glucans and mannans of yeast cell wall (for yeast cell wall only)	Glucans and mannans of yeast cell wall (for yeast cell wall only), insoluble
Insoluble impurities	Impurities, insoluble impurities
Insoluble matter	Insoluble matter
Insoluble impurities in light petroleum	Impurities, insoluble impurities in light petroleum
Insoluble impurities	Impurities, Insoluble impurities
Invert sugar	Sugar, Invert sugar
Iodine	Iodine
Iodine (milk based formula)	Iodine
Iodine value	Iodine value or Iodine Index
Iodine value (IV)	Iodine value or Iodine Index
Iodine value 6.3-148 % m/m absorbed iodine	Iodine value
Iodine (for milk-based formula)	Iodine
Iron	Iron
Iron and copper	Iron
	Copper
Irradiated food	Irradiation
Isocitric acid-D	Isocitric acid, D-Isoacitric acid
Lactic Acid	Lactic acid
Lactic acid- D and L	Lactic acid, D and L-Lactic Acid
Lactobacillus acidophilus	Lactobacillus acidophilus
Lactobacillus delbrueckii subsp bulgaricus & Streptococcus thermophilus	Lactobacillus delbrueckii subsp bulgaricus
	Streptococcus thermophilus
Lactose	Lactose
Lead	Lead
Lead (Pb)	Lead
Lead, cadmium, copper, iron and zinc	Lead
	Cadmium
	Copper
	Iron
	Zinc
Linoleate	Linoleate
Linoleate (in the form of glycerides)	Linoleate
Linolenic Acid	Linolenic acid
Lipid Content	Lipid
L-malic/total malic acid ratio in apple juice	Malic acid, L-malic/total malic acid ratio

Commented [C8]: India

•**Iodine:** India proposes to have a single listing of Iodine is sufficient if it is due to the methods of estimation.
Rationale: Iodine is listed two times firstly as "milk based formula" and secondly as "for milk based formula".

Loss on drying	Moisture
Loss on drying (milk based)	Moisture
Magnesium	Magnesium
Malic acid (additives)	Malic acid
Malic acid-D	Malic acid, D-Malic Acid
Malic acid-D in apple juice	Malic acid, D-Malic Acid
Malic acid-L	Malic acid, L-Malic Acid
Manganese	Manganese
Matter volatile at 105°C	Moisture
Melamine	Melamine
Mercury	Mercury
Methyl Mercury	Methyl Mercury
Microorganisms constituting the starter culture	Microorganisms
Milk fat	Fat, milk fat
Milk Fat (min. 3.5% on dry matter)	Fat, milk fat
Milk fat content (butyric acid)	Fat, milk fat
Milk fat in dry matter	Fat, Milk fat in dry matter
Milk fat in dry matter (FDM)	Fat, Milk fat in dry matter
Milk fat in dry matter with high moisture	Fat, Milk fat in dry matter
Milk fat in dry matter with low moisture	Fat, Milk fat in dry matter
Milk fat purity	Fat, milk fat, triglycerides
Milk protein	Milk protein (N x 6.38)
Milk protein (total N x 6.38 in dry matter)	Milk protein (N x 6.38)
Milk protein (total N x 6.38)	Milk protein (N x 6.38)
Milk protein in MSNF	Milk protein in MSNF
Milk solids-not-fat (MSNF)	Milk solids-not-fat (MSNF)
Milkfat	Fat, milk fat
Mineral (ash)	Ash
Mineral impurities	Mineral impurities
Mineral Impurities (Sand)	Mineral impurities (sand)
Mineral oil	Oil, mineral
Minimum Drained Weight	Weight, Drained weight
Moisture	Moisture
Moisture & volatile matter at 105°C	Moisture
Moisture and volatile matter	Moisture
Moisture Content	Moisture
Moisture Content (for expression of values on dry matter)	Moisture
Moisture on fat free basis	Moisture on fat free basis
Moisture, "Free"	Moisture
Moisture/Total Solids	Moisture
	Dry-matter
Molybdenum (Section B of Codex Stan 72 -1981 only)	Molybdenum
Mould count	Mould count
MSNF	Milk solids-not-fat (MSNF)
Naringin and neohesperidin in orange juice (Sections 3.2 Quality criteria and 3.3 Authenticity)	Naringin
	Neohesperidin
Natamycin	Natamycin

Net contents of products covered by glaze	Weight, Net weight
Net weight	Weight, Net weight
Net weight and drained weight drained wt/net wt \geq 60%	Weight, Drained weight
Net weight of products covered by glaze	Weight, Net weight
Net weight of products covered by glaze with water added inside a "block-frozen" product	Weight, Net weight
Niacin	Niacin
Nicotinamide for foods not based on milk	Nicotinamide
Nicotinamide for milk-based foods	Nicotinamide
Nitrates	Nitrates
Nitrates and/or Nitrites	Nitrates
	Nitrites
Nitrite, potassium and/or sodium Salts	Nitrites
Nitrites	Nitrites
Nitrogen	Nitrogen, total
Nitrogen, total	Nitrogen, total
Nitrogen/Protein	Nitrogen/Protein Ratio
Non-cocoa butter vegetable fat	Non-cocoa butter
Non-fat solids	Fat-free Dry matter
Non-starch polysaccharides	Polysaccharides, non-starch
Ochratoxin A	Ochratoxin A
Oil content	Oil, content
Organoleptic characteristics	Organoleptic characteristics
Packing medium \geq 10°Brix Canned berry fruits (raspberry, strawberry)	Packing medium
P-Anisidine value	Anisidine, P-Anisidine
Pantothenic acid	Pantothenic acid
Pantothenic acid/enriched foods	Pantothenic acid
Pantothenic acid/non-enriched foods	Pantothenic acid
Paralytic shellfish toxicity	Toxicity, paralytic shellfish
Particle Size (granularity)	Particle size
Patulin	Patulin
Pectin (additives)	Pectin
Peroxide value	Peroxide value
Peroxide value (expressed as meq. of oxygen/kg fat)	Peroxide value
Peroxide value(PV)	Peroxide value
pH	pH
pH \geq 4.0; 4.0-4.6 (if acid is added)	pH
pH 4.5-7.0	pH
pH of brine	pH
Phenols	Phenols
Phosphorous	Phosphate
Phosphorous/phosphate	Phosphate
	Phosphate
pH-value	pH
Polarization	Polarization

Polydextrose	Polydextrose
Potassium	Potassium
Preservatives in fruit juices (sorbic acid and its salts)	Sorbic acid and its salts
Proline by photometry – non-specific determination	Proline
Proper fill (in lieu of drained weight)	Proper fill
Proportion of fish fillet and minced fish	Proportion of whole and fragmented product
Proportion of fish flesh in fish sticks (fish core)	Proportion of fish flesh in fish sticks (fish core)
Protein	Protein (N x 6.38)
Protein (N x 5.7)	Protein (Nx5.7)
Protein (Nx6.21)	Protein (Nx6.21)
Protein (Nx6.25)	Protein (Nx6.25)
Protein (Solubilized wheat protein)	Protein (N x 6.38)
Protein (Vital wheat gluten and devitalized wheat gluten)	Protein (N x 6.38)
Protein content	Protein (N x 6.38)
Protein Efficiency Ratio (PER)	Protein Efficiency Ratio (PER)
Quinic, malic and citric acid in cranberry juice cocktail and apple juice	Quinic acid
	Malic acid
	Citric acid
Reducing sugar	Sugar, Reducing sugar
Refractive index	Refractive index
Reichert value and Polenske value	Reichert value
	Polenske value
Relative density (40 0C/water at 20 0C)	Density, relative density
Relative density	Density, relative density
Resistant starch (Recommended for RS3)	Resistant starch
Riboflavin	Riboflavin
Saccharin	Saccharin
Salt	Chloride expressed as NaCl
Salt (NaCl)	Chloride expressed as NaCl
Salt (sodium chloride)	Chloride expressed as NaCl
Salt content	Chloride expressed as NaCl
Salt in brine	Chloride expressed as NaCl
Sample preparation	Sample preparation
Saponification value	Saponification, Saponification value
Saturated fat	Fat, saturated fat
Saxitoxin Group	Saxitoxin
Scorched particles	Particles, Scorched particles
Sediment (scorched particles)	Particles, Scorched particles
Selenium	Selenium
Sesame seed oil	Oil, content
Silica (colloidal, calcium silicate)	Silica
Slip point	Slip point
Soap content	Soap content
Sodium	Sodium
Sodium + Potassium	Sodium
	Potassium
Sodium & Potassium	Sodium
	Potassium

Sodium and Potassium	Sodium Potassium
Sodium Chloride	Chloride expressed as NaCl
Sodium chloride $\leq 15\%$ m/m (dry basis)	Chloride expressed as NaCl
Sodium, potassium, calcium, magnesium in fruit juices	Sodium Potassium Calcium Magnesium
Solids	Dry matter
Solids (soluble)	solids, soluble
Solids, alcohol insoluble	solids, alcohol insoluble
Solids, total	Dry matter
Solubility Index	Solubility Index
Soluble dietary fibres in food and food products	Fibre, dietary, soluble
Soluble solids	solids, soluble solids
Soluble solids, total	Solids, soluble solids
Sorbate	Sorbates
Sorbates	Sorbates
Sorbitol	Sorbitol
Sorbitol-D	Sorbitol, D
Stable carbon isotope ratio in the pulp of fruit juices	Stable carbon isotope ratio
Stable carbon isotope ratio of sugars from fruit juices	Stable carbon isotope ratio
Stable hydrogen isotope ratio of water from fruit juices (Sections 3.2 Quality criteria and 3.3 Authenticity)	Stable hydrogen isotope ratio
Stable oxygen isotope ratio in fruit juice water	Stable oxygen isotope ratio
Starch	Starch
Sterol composition and total sterols	Sterols, total and composition
Sterol composition content	Sterols, composition
Sterol content	Sterols
Stigmastadienes	Stigmastadienes
Sucrose (permitted ingredients)	Sucrose
Sucrose content	Sucrose
Sucrose plus invert	Sucrose
Sugar beet derived syrups in frozen concentrated orange juice $\delta^{18}\text{O}$ Measurements in Water	Stable oxygen isotope ratio
Sugars	Sugars
Sugars added: detection of corn and cane sugar products.	Sugar, sugar profile
Sugars added: detection of high fructose syrup, corn syrup.	Sugar, high-fructose
Sugars added: for sugar profile	Sugars, sugar profile
Sulphate	Sulphates
Sulphated ash	Ash, sulphated ash
Sulfates	Sulphates
Sulphide	Sulphites
Sulphites	Sulphites
Sulphur dioxide	Sulphur dioxide
Sulphur dioxide (additives)	Sulphur dioxide
Sum of aflatoxins B1, B2, G1 and G2	Aflatoxins, total (sum of B1, B2, G1 and G2)

Commented [C9]: India

•**Sterol composition and total sterols:** Provision suggested should be Sterols, Total and individual composition

Rationale: To differentiate it from the Sterol composition content.

Syrup measurements (Refractive index)	Refractive index
Tannins	Tannins
Tartaric acid in grape juice (additives)	Tartaric acid
Thawing procedure	Thawing procedure
Thiamine	Thiamine
Tin	Tin
Tin (Products in other containers)	Tin
Titration acids, total	Acidity titrable
Titre (0°C)	Titre
Tocopherol content	Tocopherol
Tomato soluble solids	Solids, soluble solids
Total acidity	Acidity, total
Total acidity (as lactic acid)	Acidity, total
Total acidity expressed as percentage of lactic acid	Acidity, total expressed as percentage of lactic acid
Total acidity of the extracted oil	Acidity, total
Total Acidity	Acidity, total
Total Ash	Ash, total
Total Ash, (Max, 10% m/m on fat free .dry matter or 14% m/m) when treated with alkalizing agents	Ash, total
Total carbohydrates	Carbohydrates, total
Total carbohydrates Moisture/Total Solids Ash	Carbohydrates, total
	Moisture
	Dry matter
	Ash
Total carotenoids 300-2000 mg--carotene/kg	Carotenoids, total
Total dietary fiber	Fibre, dietary
Total dry matter (vacuum-oven drying at 70°C)	Dry matter
Total fat	Fat
Total fat for milk-based infant formula (products not completely soluble in ammonia)	Fat
Total fats	Fat
Total nitrogen	Nitrogen
Total phospholipids	Phospholipids
Total protein content	Protein
Total solids	Dry matter
Total solids (Microwave oven drying)*	Dry matter
Total solids ≥ 70.0% m/m (glucose syrup) ≥ 93.0 m/m (dried glucose syrup)	Dry matter
Total soluble solids	Solids, soluble solids
Total Solids	Dry matter
Tough Strings	Tough Strings
Traces of halogenated solvents	Solvents, halogenated
Trans fatty acids content	Fatty acids, trans
Trans-galacto-oligo saccharides	Galacto-oligo saccharides, trans
Types of peas, distinguishing	Classification, type of peas
Unsaponifiable matter	Unsaponifiable matter

Unsaponifiable matter 0-30 g/kg	Unsaponifiable matter
Vegetable fat (sterols)	Fat, sterols
Vinyl chloride monomer	Monomer, Vinyl chloride
Vitamin A	Vitamin A
Vitamin A above 500 IU/l milk after reconstitution	Vitamin A
Vitamin A in foods in which carotenes have been added as a source of vitamin A	Vitamin A
Vitamin B12	Vitamin B12
Vitamin B6	Vitamin B6
Vitamin C	Vitamin C
Vitamin C (dehydro-ascorbic acid and ascorbic acid)	Vitamin C
Vitamin D	Vitamin D
Vitamin D (D3, milk based infant formula)	Vitamin D3
Vitamin E	Vitamin E
Vitamin E (milk based infant formula)	Vitamin E
Vitamin K	Vitamin K
Vitamin K1	Vitamin K1
Wash drained weight	Drained weight
Water	Water activity
Water activity	Water activity
Water activity ≤ 0.75	Water activity
Water capacity	Fill of containers
Water capacity and fill of containers	Fill of containers
Water content	Water
Water phase salt	Salt, salt in water phase
Water-insoluble solids content	Solids, Water-insoluble solids
Wax content	Wax
Zinc	Zinc

Tocotrienols: India proposes to add Tocotrienols in the list of provisions.

Rationale: Tocotrienol has not been listed and may be added as it is a natural compound found in vegetable oils, wheat germ, barley and certain types of nuts, seeds and grains

Annex 3: LIST OF THE PRINCIPLES OF THE METHODS

This list serves as an inventory of principles to choose from in order to refer to the principles in a consistent manner in the other sections of this standard. **This list will be updated based on recent discussion carried out by physical working group for method endorsement on CCMAS 39.**

Commented [C10]: Mexico: We believe that it is necessary to have harmonized principles, but these principles should not be simplified so much, that they do not provide relevant information in the selection of a method.

Principle in CXS 234	Principle suggested
AAS	Flame atomic absorption spectrometry
AAS (Flame absorption)	Flame atomic absorption spectrometry
AAS after drying ashing	Flame atomic absorption spectrometry
Absorption in ultra violet	Spectrophotometry
Acid hydrolysis and spectrophotometry	Spectrophotometry
Acid hydrolysis, preparation of methyl esters and gas chromatography	Gas chromatography
Acidimetry and nephelometry	Titrimetry Nephelometry
Air drying	Gravimetry
Alkali hydrolysis	Sample Preparation
Analysis of triglycerides of HPLC and calculation	High Performance Liquid Chromatography
Anodic stripping voltametry	Anodic stripping voltametry
Ashing	Gravimetry
Atomic absorption	Graphite furnace atomic absorption spectrometry
Atomic absorption spectrophotometry	Flame Atomic absorption Spectrometry
Atomic absorption spectrophotometry (Atomic absorption Spectrophotometry (direct graphite furnace)	Graphite furnace atomic absorption spectrometry
Atomic absorption spectrophotometry (direct graphite furnace)	Graphite furnace atomic absorption spectrometry
Atomic absorption spectrophotometry (Flame absorption)	Flame atomic absorption spectrometry
Atomic absorption spectroscopy	Flame Atomic absorption spectrometry
Atomic absorption spectrophotometry (direct graphite furnace)	Graphite furnace atomic absorption spectrometry
Bioassay	Bioassay
Calculation	Calculation
Calculation from determination triglycerides by gas chromatography	Gas chromatography
Calculation from dry matter content and content fat Gravimetry, drying at 102 °C Gravimetry (Schmid-Bondzynski-Ratzlaff)	Gravimetry
Calculation from fat content and dry matter content Gravimetry (Röse Gottlieb) Gravimetry, drying at 88 °C	Gravimetry
Calculation from fat content and dry matter content Gravimetry (Schmid-Bondzynski-Ratzlaff) Gravimetry, drying at 102 °C	Gravimetry
Calculation from fat content and moisture content Gravimetry drying at 102°C (forced air oven) Gravimetry (Schmid-Bondzynski-Ratzlaff)	Gravimetry
Calculation from total solids content and fat content Gravimetry (Röse-Gottlieb)	Gravimetry

Calculation from total solids content, fat content and sugar content	Gravimetry
Calculation: Gravimetry (Röse-Gottlieb) Gravimetry	Gravimetry
CAP GC Method	Gas chromatography
Capillary gas chromatography	Gas chromatography
Capillary GLC	Gas chromatography
Carbon isotope ratio mass spectrometry	Isotope ratio mass spectrometry
Centrifugation	Centrifugation
Centrifugation/% value	Centrifugation
Ceramic fiber filtration	Gravimetry
Chemical & HPAEC-PAD	High Performance Liquid Chromatography
cold vapour atomic absorption spectrometry	Cold vapour atomic absorption spectrometry
Colony count at 25 °C, 30 °C, 37 °C a 45 °C according to the starter organism question	Colony count
Colony count at 37 °C	Colony count
Colony-count at 25 °C	Colony count
Colorimetric	Spectrophotometry
Colorimetry	Spectrophotometry
Colorimetry (cadmium reduction)	Spectrophotometry
Colorimetry (dichloroindophenol)	Spectrophotometry
Colorimetry (diethyldithiocarbamate)	Spectrophotometry
Colorimetry (dithizone)	Spectrophotometry
Colorimetry (Molybdenum blue)	Spectrophotometry
Colorimetry (molybdovanadate)	Spectrophotometry
Colorimetry using specific colour grader	Spectrophotometry
Colorimetry, diethyldithiocarbamate	Spectrophotometry
Colorimetry, diethyldithiocarbamates	Spectrophotometry
Colour reaction	Colour reaction
Complexometry Titrimetry	Titrimetry
Conductimetry	Conductimetry
Continuous hydride generation atomic absorption spectrometry (HGAAS)	Hydride generation atomic absorption spectrometry
Cooking	Cooking
Densitometry	Densitometry
Determination by difference Gravimetry Gravimetry	Gravimetry
Determining formaldehyde titration method subtracting by ammoniacal nitrogen (magnesium oxide method)	Titrimetry
Deuterium Nuclear Magnetic Resonance (Deuterium NMR)	Nuclear Magnetic Resonance
digestion	Sample Preparation
Digestion/titration	Sample Preparation and Titrimetry
Direct Epifluorescent Filter Technique/Aerobic Plate Count (DEFT/APC)	Direct Epifluorescent Filter Technique and Aerobic Plate Count (DEFT/APC)
Distillation (Scott) , titration	Distillation and Titrimetry
Distillation and direct reading of the volume determination	Distillation and Volumetry
DNA comet assay	Electrophoresis

Drying and weighing	Gravimetry
Electrical conductance	Conductimetry
Electrochemical titrimetry	Titrimetry
electrometry	Potentiometry
Enzymatic gravimetry High Pressure Liquid Chromatography	Gravimetry and High Performance Liquid Chromatography
Enzymatic & colorimetric	Spectrophotometry
Enzymatic & HPAEC-PAD	High Performance Liquid Chromatography
Enzymatic Colorimetric Method with limitations on applicability due to choline and ascorbate concentration.	Spectrophotometry
Enzymatic determination	Spectrophotometry
Enzymatic determination and HPLC	High Performance Liquid Chromatography
Enzymatic digestion/gravimetry	Gravimetry
Enzymatic GC/ colorimetry gravimetry	Gas chromatography and Spectrophotometry and Gravimetry
Enzymatic method	Spectrophotometry
Enzymatic method: Part 1 - Glucose moiety or Part 2 - Galactose moiety	Spectrophotometry
Enzymatic/Gravimetry	Gravimetry
Enzymatic-Gravimetry High Pressure Liquid Chromatography	High Performance Liquid Chromatography
ESR spectroscopy	Electron Spin Resonance spectroscopy
Extraction and separation on alumina	Sample Preparation
Extraction/gravimetry	Gravimetry
Flame atomic absorption	Flame atomic absorption spectrometry
Flame atomic absorption spectrophotometry	Flame atomic absorption spectrometry
Flame atomic absorption spectrometry	Flame atomic absorption spectrometry
Flame atomic absorption spectroscopy	Flame atomic absorption spectrometry
Flameless atomic absorption spectrophotometry	Cold Vapour Atomic absorption spectrometry
Flotation and sedimentation	Sample Preparation
Fluorescence spectrometry	Fluorometry
Fluorometry	Fluorometry
Gas chromatographic analysis of hydrocarbons	Gas chromatography
Gas chromatographic method	Gas chromatography
Gas chromatographic/spectrophotometric analysis of 2/alkylcyclobutanones	Gas chromatography
Gas chromatography	Gas chromatography
Gas chromatography ("head-space")	Gas chromatography
Gas chromatography of methyl esters	Gas chromatography
Gas chromatography with suitable extraction and preparation procedures	Gas chromatography
Gas chromatography	Gas chromatography
Gas-Liquid Chromatography	Gas chromatography
GC	Gas chromatography

GC	Gas chromatography
GFAAS	Graphite furnace atomic absorption spectrometry
GLC	Gas chromatography
Graphite furnace AAS after pressure digestion	Graphite furnace atomic absorption spectrometry
Graphite furnace atomic absorption after dry ashing	Graphite furnace atomic absorption spectrometry
Gravimetric	Gravimetry
Gravimetric determination	Gravimetry
Gravimetry (loss on drying)	Gravimetry
Gravimetry Direct determination of fat using solvent extraction	Gravimetry
Gravimetry (ashing at 825 °C)	Gravimetry
Gravimetry (drying at 102 °C)	Gravimetry
Gravimetry (drying at 120°C for 16 h)	Gravimetry
Gravimetry (drying at 87°C)	Gravimetry
Gravimetry (drying at 88 °C ±2°C)	Gravimetry
Gravimetry (enzymatic digestion)	Gravimetry
Gravimetry (ether extraction)	Gravimetry
Gravimetry (extraction)	Gravimetry
Gravimetry (extraction)	Gravimetry
Gravimetry (ignition at 600°C)	Gravimetry
Gravimetry (open drying)	Gravimetry
Gravimetry (Röse-Gottlieb)	Gravimetry
Gravimetry (Schmid-Bondzynski-Ratzlaff)	Gravimetry
Gravimetry (Schmid-Bondzynski-Ratzlaff) (for samples containing lactose up to 5%) Gravimetry (Weibull-Berntrop) (for samples containing lactose over 5%)	Gravimetry(Schmid-Bondzynski-Ratzlaff) (for samples containing lactose up to 5%) Gravimetry (Weibull-Berntrop) (for samples containing lactose over 5%)
Gravimetry (sieving) note: Use a No. 14 screen instead of '7/16' or No. 8	Gravimetry
Gravimetry (Soxhlet extraction)	Gravimetry
Gravimetry (vacuum oven)	Gravimetry
Gravimetry (vacuum)	Gravimetry
Gravimetry (Weibull-Berntrop)	Gravimetry
Gravimetry after solvent extraction	Gravimetry
Gravimetry drying at 102 °C (forced air oven)	Gravimetry
Gravimetry(ether extraction)	Gravimetry
Gravimetry, after ashing at 550°C	Gravimetry
Gravimetry, Calculation	Gravimetry
Gravimetry, Direct	Gravimetry
Gravimetry, Direct determination of fat using solvent extraction	Gravimetry
Gravimetry, drying at 102 °C	Gravimetry
Gravimetry, drying at 87 °C	Gravimetry
Gravimetry, drying at atmospheric pressure	Gravimetry
High performance liquid chromatography	High Performance Liquid Chromatography

Holaday-Velasco minicolumn	High Performance Liquid Chromatography
Howard mould count	Microscopy
HPAEC-PAD	High Performance Liquid Anion Exchange Chromatography
HPLC	High Performance Liquid Chromatography
HPLC with post column derivatization and immunoaffinity column clean up	High Performance Liquid Chromatography
HPLC with pre-or post column derivatization to thiochrom	High Performance Liquid Chromatography
HPLC with C30 column to separate the cis- and the trans- K vitamins	High Performance Liquid Chromatography
HPLC, incorporating immunoaffinity clean-up and conversion to 5-methyltetrahydrofolate	High Performance Liquid Chromatography
Hydride generation atomic absorption spectrometry (HGAAS)	Hydride generation atomic absorption spectrometry
ICP emission spectroscopy	Inductively Coupled Plasma Optical Emission Spectrometry
ICP-MS	Inductively Coupled Plasma Mass Spectrometry
ICP-MS ; GF-AAS ICP-MS	Inductively Coupled Plasma Mass Spectrometry
	Graphite furnace atomic absorption spectrometry
	Inductively Coupled Plasma Mass Spectrometry
ICP-OES	Inductively Coupled Plasma Optical Emission spectrometry
Immunoaffinity Column (Aflatest) Method Equipment Chromatography/Column Chromatography, Spectroscopy/Fluorometer	High Performance Liquid Chromatography
Immunoassay	Immunoassay
Indirect by refractometry	Refractometry
Indophenol method	Spectrophotometry
Inductively Coupled Plasma optic emission spectrophotometry	Inductively Coupled Plasma Optical Emission spectrometry
Ion chromatography	High Performance Liquid Chromatography
Ion-exchange chromatographic method	High Performance Liquid Chromatography
Ion-selective potentiometry	Potentiometry
Karl Fisher	Titrimetry
Kjeldahl	Titrimetry
Kjeldahl digestion	Sample preparation
Kjeldahl, titrimetry	Titrimetry
LC	Liquid Chromatography
LC-FL	Liquid Chromatography
LC-MS/MS	Liquid Chromatography - Mass Spectrometry
Liquid chromatography	Liquid Chromatography
Liquid chromatography, refractive index detection	Liquid Chromatography
Magnesium oxide	Titrimetry
Microbioassay	Microbioassay
Microbioassay and turbidimetry	Microbioassay
Microbiological method	Biochemical method

Microbiological turbidimetry	Microbioassay
Microfluorometry	Fluorimetry
Molecular absorption spectrophotometry	Spectrophotometry
Mouse bioassay	Bioassay
Open ended capillary tube	Melting point
Optical Biosensor Immunoassay	Potentiometry
Oven evaporation and factor	Gravimetry
Oxygen isotope ratio analysis	Mass spectrometry
Panel test	Sensory analysis
Part 1: Optimized Monier-Williams method	Titrimetry Gravimetry
Part 2: Enzymatic method	Spectrophotometry
Photometric determination	Spectrophotometry
Photometry	Spectrophotometry
Photometry (bathophenanthroline)	Spectrophotometry
Photometry (diethyldithiocarbamate)	Spectrophotometry
Photometry (phenol and H ₂ SO ₄)	Spectrophotometry
Photometry, diethyldithiocarbamate	Spectrophotometry
Photostimulated luminescence	Photostimulated luminescence
Physical separation	Gravimetry
Polarimetry	Polarimetry
Potentiometric titration	Potentiometric titration
Potentiometry	Potentiometry
Potentiometry (determination of chloride expressed as sodium chloride)	Potentiometry
Potentiometry, titration to pH 8.30	Potentiometry
Pouring and measuring	Volumetry
Precipitation/photometry	Spectrophotometry
Preparation of fatty acids methyl esters	Sample Preparation
Pycnometry	Pycnometry
Rat bioassay	Bioassay
Receptor binding assay	Radioassay
Refractometry	Refractometry
Romer minicolumn Ultraviolet Light Source	Minicolumn screening / Fluorescence
Sieving	Granulometry
Sieving Gravimetry	Gravimetry
Single sulphonation	Gravimetry
Sohxlet extraction – Gravimetric	Gravimetry
Spectrometry	Spectrophotometry

Spectrometric determination of nitrate and nitrite content of meat products after enzymatic reduction of nitrate to nitrite	Spectrophotometry
Spectrometry	Spectrophotometry
Spectrophotometer	Spectrophotometry
Spectrophotometry	Spectrophotometry
Spectrophotometry (1,5 diphenylthiocarbazone)	Spectrophotometry
Spectrophotometry (molybdovanadate)	Spectrophotometry
Spectrophotometry, silver diethyldithiocarbamate	Spectrophotometry
Spiral vessel count, Stone cell count	Microscopy
Stable isotope mass spectrometry	Isotope ratio mass spectrometry
Stretching	Rheology
Test for strain identification	Biochemical test
Thawing	Thawing
Thermoluminescence	Thermoluminescence
Thermometry	Thermometry
Thin layer chromatography	Thin-Layer Chromatography
Thin-Layer Chromatography-Fluorodensit	Thin-Layer Chromatography
Titration	Titrimetry
Titrimetry	Titrimetry
Titrimetry (aqueous extract)	Titrimetry
Titrimetry (back-titration after precipitation)	Titrimetry
Titrimetry (Karl Fischer)	Titrimetry
Titrimetry (Kjeldahl)	Titrimetry
Titrimetry (Lane & Eynon)	Titrimetry
Titrimetry (Mercuric nitrate)	Titrimetry
Titrimetry (Mohr: determination of chloride, expressed as sodium chloride)	Titrimetry
Titrimetry , Kjeldahl digestion	Titrimetry
Titrimetry after distillation	Titrimetry
Titrimetry after extraction with diethyl ether I	Titrimetry
Titrimetry after extraction with diethyl ether	Titrimetry
Titrimetry after extraction with diethyl ether	Titrimetry
Titrimetry using iso-octane	Titrimetry
Titrimetry using sodium thiosulphate	Titrimetry
Titrimetry Chloride expressed as sodium chloride	Titrimetry
Titrimetry, Kjeldahl	Titrimetry
Titrimetry, Kjeldahl digestion	Titrimetry
Titrimetry, Kjeldahl digestion; after extraction of milk protein	Titrimetry
Titrimetry, titration to pH 8.4	Titrimetry
Titrimetry/Distillation	Titrimetry
TLC followed by spectrophotometry or GLC	Thin layer chromatography Spectrophotometry Gas chromatography

Titrimetry	Titrimetry
Turbidimetric Method	Turbidimetry
Turbidity	Turbidimetry
Visual comparison with standard disks, after filtration	Visual inspection
Visual inspection	Visual inspection
Volumetry	Volumetry
Volumetry (modified Van Slyke)	Volumetry
Weighting	Gravimetry
Wijs-Titrimetry	Titrimetry