



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

**44th Session**

**Virtual**

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**HARMONIZATION OF NAMES AND FORMAT FOR  
PRINCIPLES AND PROVISIONS IDENTIFIED IN CXS 234**

(Prepared by the EWG led by Brazil and Chile)

## Background

1. In its 42nd session, CCMAS agreed that Brazil would prepare a discussion paper to consider harmonization of names and format for principles identified in the *Recommended methods of analysis and sampling* (CXs 234-1999) (an update of CX/MAS 17/38/6 Annex 3) as well as how to harmonize provision names.
2. At the 43rd session of CCMAS, Brazil introduced the discussion paper to consider harmonization of the name and format for the principles and provision names identified in CXs 234-1999 (CX/MAS 24/43/8), as agreed by CCMAS42. Noting that further work was needed to build on the recommendations in the discussion paper, CCMAS43 agreed to establish an Electronic Working Group (EWG), chaired by Brazil and co-chaired by Chile, to further develop:
  - i. definitions for descriptions of analytical methods;
  - ii. harmonized names and format for principles and provision names in CXs 234-1999; and
  - iii. prepare a revised CXs 234-1999 presenting the proposed harmonized principles and provision names.

## EWG Registration and Consultation

3. The EWG was established in August 2024 and had 43 members (38 Codex Members (CM), 1 Codex Member Organization (CMO), 4 Codex Observers (CO)). A list of participants can be found in Appendix II.
4. A consultation was held between October and November 2024 to discuss the paper on definitions for analytical method descriptions and the harmonization of names and formats for principles and provision names in CXs 234-1999. The proposed harmonization of provisions for CXs 234-1999 (Annex D of the discussion paper) was developed based on prior efforts to review and update CXs 234-1999. The list of provisions presented in Annex 2 of CX/MAS 17/38/6 was revised to include those added thereafter.
5. Comments were received from 3 CMs and 1 CO on the discussion paper draft. In general, the amendments were implemented accordingly.
6. One CM, supported by another CM, suggested an amendment to the first paragraph of Section 1 – General Guideline in the discussion paper (Appendix I) to clarify that techniques used for sample preparation, extraction, and separation should be specified when they are critical to the determination process. It was emphasized that certain details like sample preparation, extraction, and separation may be critical for determining provisions and should not be removed without careful consideration. However, the Chairs of the EWG suggest that the principle's name should reflect only techniques directly relevant to determining the test result. Therefore, sample preparation, extraction, and separation techniques would not be included, as they are already specified within the method and are not considered part of the principle's name.
7. One CM, supported by another CM, noted that CCMAS has already undertaken provision harmonization in past reviews and will continue to do so in the future. Therefore, it was suggested that provision harmonization (Annex D of Appendix I) be removed from the discussion document, along with related sections. The CM emphasized that while harmonizing CXs 234-1999 parameters could facilitate method comparison and database development, it is crucial to avoid oversimplification to preserve essential details. It was noted that CCMAS does not operate in isolation when addressing "provisions" in CXs 234-1999; the impact on historical documents, commodity standards, stakeholders (e.g. Standards Development Organisations (SDO)),

competent authorities, analysts), and current users of CXS 234-1999 must be carefully considered. However, the Chairs of the EWG retained the list of provisions in the discussion paper, as CCMAS43 had requested the EWG to work on a list of harmonized provisions name in CXS 234-1999 (see paragraphs 54 and 55 of REP24/MAS).

8. One CO, while supporting the harmonization of principles, emphasized that provisions—at least for milk and milk products—are already consistent across commodity standards, with justified variations. In CXS 234-1999, provisions may have been adjusted to reflect method applicability, potentially necessitating alternative methods in certain cases. It was also emphasized that CXS 234-1999 provisions should remain aligned with commodity standards to prevent confusion. Additionally, proposed changes could impact other sections of CXS 234-1999, which have recently undergone review for several commodities.
9. On the other hand, to improve information accessibility and support the future digitalization of CXS 234-1999, proper harmonization of data descriptions (commodity, provision, method, principle, type, etc.) is necessary. This harmonization is particularly crucial for "provisions," as their terms are defined by product committee standards. In this context, the different terms used for the same "provision" in many cases could hinder the information search system.
10. Suggested amendments were made to some definitions, principles, methods, acronyms, and abbreviations, as well as to the list of provisions. Comments from these submissions resulted in updates to sections 2, 3 and 4 as well as Annexes A, B, C and D of the discussion paper (Appendix I).
11. The discussion paper prepared by the EWG is presented in Appendix I and outlines definitions for analytical techniques, criteria used to harmonize names and format for technique principles, principles methods, acronyms, and abbreviations of principle methods, acronyms reference standards methods, and provisions.

### **Recommendation**

12. CCMAS is invited to:
  - i. approve the criteria to name the principles described in the discussion paper (Appendix I);
  - ii. endorse the proposed draft version of the harmonized names and format for principles as well as provision names presented in the discussion paper (Annexes A and D of Appendix I);
  - iii. agree on the abbreviation for each principle identified, when necessary for space reasons and, acronyms and abbreviations of principle methods presented in the discussion paper (Annex B of Appendix I);
  - iv. recommend publishing on the Codex website for this committee (CCMAS) a list of acronyms for reference standards methods used by the committee to facilitate the understanding and access of information to interested parties (Annex C of Appendix I); and
  - v. review the harmonized list of provisions suggested in Annex D, which would enable the initiation of work in ensuring proper harmonization in this regard to address the issue identified in para 9.

**APPENDIX I****Discussion paper on harmonization of names and format for principles and provisions in CXS 234-1999****1. General Guideline**

The name principle mentions only the description of the technique related to determining the test result (Annex A). The techniques used for sample preparation, extraction and separation were not included.

The proposed harmonization of provisions for the *Recommended methods of analysis and sampling* (CXS 234-1999) (Annex D) was developed based on previous efforts to review and update CXS 234-1999. The list of provisions presented in Annex 2 of CX/MAS 17/38/6 was revised to include those added subsequently.

**2. Definitions**

For the purposes of alignment and harmonization regarding what is considered the principle of an analytical method, the following definition is proposed:

- **Principle** is the technique used for determining the provision, which may include critical information such as, for example, gravimetry - ashing at 550 °C.

To harmonize the descriptions of analytical techniques, the following definitions for main analytical techniques were considered:

- **Biological assay:** It is an analytical method to determine the response, potency or effect of a substance by its effect in vivo or in vitro.
- **Calculation:** when the determination is the result of a calculation based on test result(s). In this case, specify the provisions used.
- **Chromatography:** It is a physical separation method in which the components to be separated are distributed between two phases, one that is stationary (stationary phase) while the other (the mobile phase) moves in a certain direction.
- **Colorimetry:** It is a technique that involves only a colour reaction. The intensity of light (or filtered light) passing through the coloured sample is visually observed or measured and converted to a concentration based on a calibration curve.

Note: This should not be confused with the tristimulus colorimeter used to measure food colours.

- **Gravimetry:** It is a quantitative analytical method, that is, it determines the amount of a substance by measuring its weight (due to the action of gravity).
- **Sensorial assay:** It is a technique that uses the senses for evaluation of the organoleptic attributes (appearance, odour, texture, taste and others) of a product through the senses (to determine the provision).
- **Spectrophotometry:** It is a technique whose equipment uses light absorption, for example: UV-Vis (*Ultraviolet-Visible*) spectrophotometry, infrared, atomic absorption, ICP (*Inductively Coupled Plasma*).
- **Titrimetry:** It is the determination of a given component from a solution by adding a liquid reagent of known concentration until a given result is achieved.
- **Visual examination:** It is a technique to detect the presence of defects, foreign or foreign matter in a food through sight, with or without the support of optical equipment (example: magnifying glass, microscope or others).
- **Volumetry:** It is a technique that determines volume without the use of another determining technique, such as titration. In the case of tests where titration is used, it is not called volumetry.

**3. Criteria Used****3.1 Assays Whose Results Are Method Dependent (Type I Methods)**

- A. Description in the principle of the factor that makes it dependent, if necessary, for example: temperature, conversion factor;
- B. Description only of the analytical technique used to obtain the "provision" result, since the other information is described in the methods designated as type 1. Therefore, the following may not be included, unless critical to the "provision" determination, for example: equipment, solvents or reagents used; and

- C. For tests that involve the development of microorganisms at a certain temperature, this temperature was included in the “provision” description.

*Examples:*

- *Humidity at 105 °C – Gravimetry*
- *Protein (Nx6.25) – Titrimetry and calculation*
- *Carbohydrates – Calculation based on the results of moisture, protein (factor 4), fat (factor 9), ash and dietary fibre*
- *Artificial dye (qualitative) – Colorimetric*
- *Drained net weight – Gravimetry*
- *Strange Matters – Visual*
- *Lipids – Gravimetry*

### **3.2 Assays Whose Results Are Independent of the Method (Type II Methods)**

For instrumental tests, the technique used must refer to the main equipment used, for example: for separation, and the detector used for determination.

*Examples:*

- *Nitrate – UV-Vis (Ultraviolet-Visible) spectrophotometry*
- *Manganese – inductively coupled plasma optical emission spectrophotometry*
- *Potassium – potentiometry with selective electrode*
- *Mercury – atomic absorption spectrophotometry with cold vapor generator*
- *Aflatoxin M1 – high performance liquid chromatography with fluorescence detector*
- *Fatty acids - gas chromatography with flame ionization detector*

### **4. Additional Information**

Considering the acceptance of the criteria described above, it is considered necessary to remove information such as: “ashing”, “ceramic filter filtration”, “complexometry”, “centrifugation”, “weighing”, “distillation”, “enzymatic”, “flotation”, “single sulfation”, “sieving” unless critical to the “provision” determination.

**PRINCIPLES OF METHODS OF ANALYSIS**

1. Anodic Stripping Voltammetry (AVS)
2. Atomic Absorption Spectrophotometry (AAS)
  - Cold Vapour (CV AAS)
  - Flame atomic absorption (FAAS)
  - Graphite furnace (GF AAS)
  - Hydride generation (HG AAS)
3. Biological assay
  - Bioassay (in animals, tissue, plants)
  - Microbioassay
4. Immunoassay
5. Carbon Isotope Ratio Mass Spectrometry (Carbon IRMS)
6. Centrifugation
7. Colorimetry
8. Conductimetry/Resistivity
9. Confocal Laser Scanning Microscopy (CLSM)
10. Densitometry
11. Detect nuclear DNA Assay
  - DNA Comet Assay
  - Polymerase chain reaction (PCR):
    - Enzyme Linked ImmunoSorbent Assay (ELISA)
    - PCR conventional (cPCR)
    - Real time qualitative (qPCR)
    - Reverse Transcriptase PCR (RT-PCR)
12. Electrophotometry
13. Electrometric
14. Enzymatic
15. Fluorimetry
16. Gas Chromatography (GC)
  - Electron Capture Detector (ECD)
  - Flame Ionization Detector (FID)
  - Flame Photometric Detector (FPD)
  - Flame Thermionic Detector (FTD)
  - Mass Spectrometry (MS)
  - Nitrogen Phosphorus Detector (NPD)
  - Tandem Mass Spectrometry (MS/MS)
  - Thermal Conductivity Detector (TCD)
17. Gravimetry
  - Ashing at 550 °C
  - Ashing at 900 °C
  - Drying at 87 °C
  - Drying at 88 °C
  - Drying at 103 °C
  - Drying at 110 °C
  - Drying at 120 °C
  - Drying at 130 °C
  - Rose-Gottlieb
  - Weibull-Berntrop

- Schmid-Bondzynski- Ratslaff
  - Vacuum Drying at 70 °C
18. Inductively Coupled Plasma (ICP)
- Isotope Dilution Mass Spectrometry (ID MS)
  - Mass Spectrometry (MS)
  - Optical Emission Spectrometry (OES)
  - Quadrupole Inductively couple plasma mass spectrometry (Q-ICPMS)
19. Ion Exchange Chromatography (IC)
- Diode Array Detector (DAD)
  - Electrochemical (EC)
  - Mass Spectrometry (MS)
  - Pulsed Amperometric Detector (PAD)
  - Refractive index (RI)
  - Thermal Conductivity Detector (TCD)
  - Ultraviolet-Visible (UV/Vis)
  - Variable Wavelength Detector (VWD)
20. Liquid Chromatography (LC)
- Diode Array Detector (DAD)
  - Fluorescence Detector (FLD)
  - High-performance liquid chromatography (HPLC)
  - High-Resolution Mass Spectrometry (HRMS)
  - Infrared (IR)
  - Isotope Dilution Mass Spectrometry (ID MS)
  - Mass Spectrometry (MS)
  - Matrix-Assisted Laser Desorption Ionization Time of Flight (MALDI-TOF)
  - Pulsed amperometry detection (PAD)
  - Refractive index (RI)
  - Tandem Mass Spectrometry (MS/MS)
  - Ultraviolet (UV)
21. Microscopy
- Electronic microscopy
  - Optical microscopy
22. Nephelometry
23. Nuclear Magnetic Resonance Spectroscopy (NMR)
24. Photometry
25. Photostimulated Luminescence (PSL)
26. Polarimetry
27. Potentiometry
- Ion selective electrode (EIS)
  - Potential of hydrogen pH electrode (pH)
28. Pycnometry
29. Refractometry
30. Spectrometry
- Electron Spin Resonance (ERS)
  - Fluorescence (FLD)
  - Fourier transform infrared Spectroscopy (FTIR)
  - Infrared Spectroscopy (IRS)
  - Near Infrared Reflectance Spectroscopy (NIRS)
  - Raman (RS)
  - Stable isotope mass (IMS)
  - Ultraviolet (UV)

- Ultraviolet-Visible (UV-Vis)
31. Thermoluminescence
  32. Thermometry
  33. Thin Layer Chromatography (TLC)
    - Densitometric detector
    - Fluorescence (FLD)
    - Ultraviolet-Visible (UV-Vis)
  34. Titrimetry
    - Acidity
    - Iodimetry & Iodometry
    - Karl Fischer
    - Kjeldahl Digestion
    - Lane & Enyon
    - Wijs
  35. Visual examination
  36. Volumetry

**ANNEX B****ACRONYMS AND ABBREVIATIONS OF PRINCIPLES OF METHODS OF ANALYSIS**

AAS	Atomic Absorption Spectrophotometry
AES	Atomic Emission Spectrometry
ASV	Anodic Stripping Voltammetry
Carbon IRMS	Carbon Isotope Ratio Mass Spectrometry
CE	Capillary Electrophoresis
CLSM	Confocal Laser Scanning Microscopy
cPCR	PCR conventional
CVAAS	Cold Vapour Atomic Absorption Spectrophotometry
DAD	Diode Array Detector
EC	Electrochemical Detector
ECD	Electron Capture Detector
EIS	Ion selective electrode
ELISA	Enzyme Linked ImmunoSorbent Assay
ESR	Electron Spin Resonance
FAAS	Flame Atomic Absorption Spectrophotometry
FIA- AAS	Flow injection Analysis Atomic Absorption Spectrophotometry
FID	Flame Ionization Detector
FLD	Fluorescence Detector
FPD	Flame Photometric Detector
FTD	Flame Thermionic Detector
FTIR	Fourier transform infrared spectroscopy
GC	Gas Chromatography
GFAAS	Graphite furnace Atomic Absorption Spectrophotometry
HGAAS	Hydride generation Atomic Absorption Spectrophotometry
HPLC	High Performance Liquid Chromatograph
HPTLC	High Performance Thin Layer Chromatography
HRMS	High-Resolution Mass Spectrometry
IC	Ion Chromatography
ICP	Inductively Coupled Plasma
ID	Isotope Dilution
IMS	Stable isotope mass
IR	Infrared
IRS	Infrared Spectroscopy
LC	Liquid Chromatograph
MALDI	Matrix-Assisted Laser Desorption Ionization
MS	Mass Spectrometry
MS/MS	Tandem Mass Spectrometry
NIRS	Near Infrared Reflectance Spectroscopy



NMR	Nuclear Magnetic Resonance Spectroscopy
NPD	Nitrogen Phosphorus Detector
OES	Optical Emission Spectrometry
PAD	Pulsed Amperometry Detection
PCR	Polymerase chain reaction
pH	pH electrode
PSL	Photostimulated Luminescence
qPCR	Real Time Qualitative
Q-ICPMS	Quadrupole Inductively couple plasma mass spectrometry
QTOF	Quadrupole Time-of-Flight
RI	Refractive Index
RS	Raman Spectroscopy
RT-PCR	Reverse Transcriptase PCR
TCD	Thermal Conductivity Detector
TLC	Thin-layer chromatography
TOF	Time of Flight
UHPLC	Ultra-High Performance Liquid Chromatograph
UV	Ultraviolet
UV-Vis	Ultraviolet-Visible
VWD	Variable Wavelength Detector

**ANNEX C****LIST OF ACRONYMS FOR STANDARD METHOD REFERENCES**

AACC	Cereals & Grains Association	( <a href="http://www.cerealsgrains.org/">www.cerealsgrains.org/</a> )
AIIBP	International Association of the Bouillon and Soup Industry	( <a href="http://www.culinaria-europe.eu/">www.culinaria-europe.eu/</a> )
Anal. Chim. Acta.	Analytica Chimica Acta	( <a href="https://www.sciencedirect.com/journal/analytica-chimica-acta">https://www.sciencedirect.com/journal/analytica-chimica-acta</a> )
AOAC	AOAC International	( <a href="http://www.aoac.org/">www.aoac.org/</a> )
AOCS	American Oil Chemists' Society	( <a href="http://www.aocs.org/">www.aocs.org/</a> )
BS	British Standard	( <a href="http://www.bsigroup.com">www.bsigroup.com</a> )
COI	Collection of methods by the International live	( <a href="http://www.internationaloliveoil.org/">www.internationaloliveoil.org/</a> )
EN	European Standards	( <a href="http://www.en-standard.eu/">www.en-standard.eu/</a> )
EPA	Environmental Protection Agency	( <a href="http://www.epa.gov/">www.epa.gov/</a> )
EUsalt	European Salt Producers Association	( <a href="https://eusalt.com/">https://eusalt.com/</a> )
FDA	Food and Drugs Administration [Laboratory methods]	( <a href="http://www.fda.gov/">www.fda.gov/</a> )
ICC	International Association for Cereal Science and Technology	( <a href="https://icc.or.at/">https://icc.or.at/</a> )
ICUMSA	International Commission for Uniform Methods of Sugar Analysis	( <a href="http://www.icumsa.org/">www.icumsa.org/</a> )
IDF	International Dairy Federation	( <a href="https://fil-idf.org/">https://fil-idf.org/</a> )
IFU	International Fruit and Vegetable Juice Association [IFU Methods Analysis IFUMA]	( <a href="https://ifu-fruitjuice.com/">https://ifu-fruitjuice.com/</a> )
IHC	International Honey Commission	( <a href="http://www.ihc-platform.net/">www.ihc-platform.net/</a> )
IOCCC	International Office of Cocoa, Chocolate, and Sugar Confectionery	( <a href="http://www.icco.org/">www.icco.org/</a> )
IS	Indian Standard	( <a href="http://www.bis.gov.in/">www.bis.gov.in/</a> )
ISI	International Starch Institute	( <a href="http://www.starch.dk/">www.starch.dk/</a> )
ISO	International Organization for Standardization	( <a href="http://www.iso.org/">www.iso.org/</a> )
IUPAC	International Union of Pure and Applied Chemistry	( <a href="http://www.iupac.org/">www.iupac.org/</a> ); ( <a href="http://www.old.iupac.org/">www.old.iupac.org/</a> )
NMKL	Nordic-Baltic Committee on Food Analysis	( <a href="http://www.nmkl.org/">www.nmkl.org/</a> )
OIV	International Organisation of Vine and Wine	( <a href="http://www.oiv.int/">www.oiv.int/</a> )
Ph. Eur	European Pharmacopoeia	( <a href="https://www.edqm.eu/en/the-european-pharmacopoeia">https://www.edqm.eu/en/the-european-pharmacopoeia</a> )
USP	US Pharmacopoeia	( <a href="http://www.usp.org/">www.usp.org/</a> )
WEFTA	West European Fish Technologists Association	( <a href="http://www.wefta.org">www.wefta.org</a> )

**ANNEX D****LIST OF PROVISIONS**

<b>Provision in CXS 234-1999</b>	<b>Provision suggested</b>
(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-insoluble ash (dry weight basis)	Ash, acid insoluble
Acid Soluble Ash	Ash, acid soluble
Acid Value	Acidity
Acidity	Acidity
Acidity: acid value	Acidity
Acidity: acid value for the extracted oil	Acidity
Acidity, free (acid value)	Acidity
Acidity, titratable	Acidity
Acrylonitrile	Acrylonitrile
Aflatoxins, total	Aflatoxins, total (sum of B1, B2, G1 and G2)
Alcohol (ethanol) (Sections 3.2 Quality criteria and 3.3 Authenticity)	Ethanol
Alpha-tocopherol	Tocopherol, alpha
Amino acid nitrogen	Nitrogen, ammoniacal
Amino nitrogen	Nitrogen, amino
Ammonium < 3 % (m/m)	Ammonium
Anthocyanins (Sections 3.2 Quality criteria and 3.3 Authenticity)	Anthocyanins
Antimony	Antimony
Apparent density	Density
Arsenic	Arsenic
Ascorbic acid-L (additives)	Ascorbic acid
Ash	Ash
Ash (including P <sub>2</sub> O <sub>5</sub> )	Ash (including P <sub>2</sub> O <sub>5</sub> )
Ash (inorganic extraneous matter)	Ash
Ash in fruit products (Sections 3.2 Quality criteria and 3.3 Authenticity)	Ash
Ash insoluble in HCl	Ash, insoluble
AZA group	Azaspiracids (AZA) group, (diarrhetic shellfish poisoning DSP)
Barium	Barium

<b>Provision in CXS 234-1999</b>	<b>Provision suggested</b>
Baudouin test (modified Villavecchia or sesame seed oil test)	Oil authenticity
Beet sugar in fruit juices (Sections 3.2 Quality criteria and 3.3 Authenticity)	Beet sugar in fruit juices (Authenticity)
Benzoic acid	Benzoic acid
Benzoic acid and its salts	Benzoic acid Salts benzoate
Benzoic acid and its salts; sorbic acid and its salts	Benzoic acid Salts benzoate
	Sorbic acid
Benzoic acid as a marker in orange juice (Sections 3.2 Quality criteria and 3.3 Authenticity)	Benzoic acid
Biotin	Biotin
Black berries	Black berries
Borate	Borate
Brix value (soluble solids)	Brix value
Broken berries	Broken berries
Bulk density	Bulk density
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
Calcium	Calcium
Calcium and magnesium	Magnesium
	Calcium
Calories by calculation	Calories
Calories (by calculation)	Calories
Capsaicin	Capsaicin
Carbohydrates	Carbohydrates
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 isotope ratio, carbon
Carbon stable isotope ratio of orange juice (Sections 3.2 Quality criteria and 3.3 Authenticity)	Stable isotope ratio, carbon
Carnitine	Carnitine
Carotenoid, total/individual groups (Sections 3.2 Quality criteria and 3.3 Authenticity)	Carotenoids, total Carotenoids, individual fractions
Carotenoids, total	Carotenoids, total
Cellobiose	Cellobiose
Centrifugable pulp (Sections 3.2 Quality criteria and 3.3 Authenticity)	Pulp (centrifugable)
Chloride	Chloride

Provision in CXS 234-1999	Provision suggested
Chloride (expressed as sodium chloride) (Sections 3.2 Quality criteria and 3.3 Authenticity)	Chloride (expressed as NaCl)
Chloride as sodium chloride ( $\geq 0.25\%$ )	Chloride (expressed as NaCl)
Chloride as sodium chloride ( $\geq 1.0\%$ )	Chloride (expressed as NaCl)
Chloride in vegetable juice (Sections 3.2 Quality criteria and 3.3 Authenticity)	Chloride
Choline	Choline
Chromium	Chromium
Chromium (Section B of CXS 72 only)	Chromium
Citric acid (additives)	Citric acid
Cocoa Butter	Fat, cocoa butter
Cocoa shell	Shell, cocoa
Colour	Colour
Conductivity ash	Ash, conductivity
Cooking Procedure	Cooking procedure
Colony-forming units of yeasts and/or moulds	Yeast count
	Mould count
Copper	Copper
Copper and iron	Copper
	Iron
Copper, manganese, zinc, magnesium, iron	Copper
	Manganese
	Zinc
	Magnesium
	Iron
Creatinine	Creatinine
Crismer value	Crismer value
Crude fat	Fat
Crude fibre	Fibre, crude
Crude protein	Protein
Crude protein excluding added vitamins, minerals, amino acids and optional ingredients	Protein (excluding added vitamins, minerals, amino acids and optional ingredients)
Cyanide	Cyanide
Cyclamate	Cyclamate
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

Provision in CXS 234-1999	Provision suggested
Dietary fibre, total/ Method applicable for determining the content of insoluble and soluble 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 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 that do 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
Domoic acid	Domoic acid
Drained fruits/ Drained berries	Drained weight
Drained weight	Drained weight
Dry extract – soluble solids	Dry matter
Dry matter	Dry matter
Dry matter (total solids)	Dry matter
Dry matter, Sodium chloride-free	Dry matter
Erythrodiol and uvaol	Erythrodiol & 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
Ethanol	Ethanol
Extraction of oil from instant noodles	Acidity
	Moisture
Extraneous matter	Extraneous matter
Extraneous vegetable matter	Extraneous matter (vegetable)
Fat	Fat
Fat acidity	Acidity
Fat Crude	Fat
Fat in foods not containing starch, meat or vegetable products	Fat

<b>Provision in CXS 234-1999</b>	<b>Provision suggested</b>
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 (milk solids)
Fatty acid composition	Fatty acid
Fatty acids (including trans fatty acid)	Fatty acid
Fatty acids, free (expressed as oleic acid)	Free Fatty acid (%m/m as oleic acid)
Fermentability	Fermentability
Fibre, crude	Fibre, crude
Fill of containers	Fill of containers
Fill of glass container	Fill of containers
Fill of metal container	Fill of containers
Fish content (declaration)	Fill of containers
Fluoride	Fluoride
Folic acid	Folic acid
Foreign matter	Foreign matter
Formol number (Sections 3.2 Quality criteria and 3.3 Authenticity)	Formol number
Free acidity	Acidity
Free amino acids (Sections 3.2 Quality criteria and 3.3 Authenticity)	Free amino acid
Free fatty acids	Free fatty acid
Free fatty acid content acid value and acidity	Free fatty acid
	Acid value
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 fructi's)	Fructans (oligofructoses, inulin, hydrolyzed inulin, polyfructoses, fructooligosaccharides)
Fructo-oligosaccharides (monomeric units<5)	Fructo-oligosaccharides (monomeric units<5)
Fumaric acid	Fumaric acid
Gelatin, added	Gelatine
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)	Fructose (D-Fructose)
	Glucose (D-Glucose)

<b>Provision in CXS 234-1999</b>	<b>Provision suggested</b>
Glucose and fructose (permitted ingredients)	Glucose
	Fructose
Gluten	Gluten
Glycerol	Glycerol
Granularity	Particle size
Halogenated solvents, traces	Halogenated solvents
Halphen test +/-	Cotton seed oil, Authenticity
Hesperidin and naringin	Hesperidin
	Naringin
HFCS and HIS in apple juice (permitted ingredients) High Fructose Corn Syrup and Hydrolyzed Inulin Syrup	High-Fructose Corn Syrup (HFCS)
	Hydrolyzed Inulin Syrup (HIS)
Histamine	Histamine
Hydroxymethylfurfural	Hydroxymethylfurfural
Identification of defects	Defects
Identification of deacetylasperulosidic acid	Deacetylasperulosidic acid
Identification of ginsenosides Rb1 and Rf	Ginsenosides Rb1 and Rf
Identification of scopoletin	Scopoletin
Insect damage	Foreign matter, insect damage
Insects/Insect fragments	Foreign matter, insects and insect fragments
Insoluble dietary fibres in food and food products	Fibre, dietary
Insoluble glucans and mannans of yeast cell wall (for yeast cell wall only)	Fibre, dietary
Insoluble impurities	Insoluble impurities
Insoluble impurities content	Insoluble impurities
Insoluble matter	Insoluble matter
Insoluble impurities in light petroleum	Insoluble impurities
Insoluble impurities	Insoluble impurities
Invert sugar	Inverted sugar
iodine	Iodine
Iodine (milk-based formula)	Iodine (milk-based formula)
Iodine value	Iodine value (Iodine Index)
Iodine value (IV)	Iodine value (Iodine Index)
Iodine (for milk-based formula)	Iodine (for milk-based formula)
Iron	Iron
Iron, Dissolved	Iron
Iron (in roller dried caseinates)	Iron (in roller dried caseinates)



Provision in CXS 234-1999	Provision suggested
Iron and copper	Iron
	Copper
Isocitric acid-D	Isocitric acid, D-Isocitric acid
Lactic Acid	Lactic acid
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
Lactose, anhydrous	Lactose, anhydrous
Lead	Lead
Linoleate (in the form of glycerides)	Linoleate
Lipid Content	Lipid
L-malic/total malic acid ratio in apple juice	Malic acid, L-malic/total malic acid ratio
Loss on drying	Moisture
Loss on drying (milk based)	Moisture (milk based)
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)
Mammalian excreta	Foreign matter, mammalian excreta
Mammalian excreta other excreta	Foreign matter, excreta other than mammalian
Manganese	Manganese
Melamine	Melamine
Melting point	Melting point
Mercury	Mercury
Methyl mercury	Methyl Mercury
Milk fat	Milk Fat
Milk fat in dry matter	Milk fat in dry matter
Milk fat in dry matter (total fat in dry matter)	Milk fat in dry matter
Milk fat in dry matter with high moisture	Milk fat in dry matter with high moisture
Milk fat in dry matter with low moisture	Milk fat in dry matter with low moisture
Milk fat purity	Milk fat, Authenticity
Milk fat total fat	Milk fat
Milk protein	Protein
Milk protein (total N x 6.38 in dry matter)	Protein in dry matter
Milk protein (total N x 6.38)	Protein

<b>Provision in CXS 234-1999</b>	<b>Provision suggested</b>
Milk protein in MSNF	Protein in MNSF
Milk solid	Milk solids
Milk solids-not-fat (MSNF)	Milk solids-not-fat (MSNF)
Milkfat	Fat
Mineral impurities	Ash, insoluble
Mineral Impurities (Sand)	Ash, insoluble
Mineral oil	Oil, mineral
Mineral oil (hydrocarbon index)	Oil, mineral (hydrocarbon index)
Moisture	Moisture
Moisture and volatile matter	Moisture
Moisture Content	Moisture
Moisture on fat free basis	Dry matter, fat-free moisture
Moisture/Total Solids	Moisture
	Dry matter
Molybdenum (Section B of CXS 72 -1981 only)	Molybdenum
Mould count	Mould count
Mould damage	Mould damage
Mould visible	Mould visible
Mouldy berries	Mould visible
Myo-inositol	Myo-inositol
Naringin and neohesperidin in orange juice (Sections 3.2 Quality criteria and 3.3 Authenticity)	Naringin
	Neohesperidin
Natamycin	Natamycin
Natural tomato soluble solids	Soluble solids
Net contents of frozen fish blocks covered by glaze	Weight, Net weight
Net contents of products covered by glaze	Weight, Net weight
Net weight	Weight, Net weight
Net weight of products covered by glaze	Weight, Net weight
Niacin	Niacin
Nickel	Nickel
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

<b>Provision in CXS 234-1999</b>	<b>Provision suggested</b>
Nitrogen, total	Nitrogen, total
Nitrogen/Protein	Protein
Non-cocoa butter vegetable fat	Non-cocoa butter
Non-fat solids	Dry matter, Fat-free
Non-starch polysaccharides (NSP)	Non-starch polysaccharides (NSP)
Non-volatile ether extract	Non-volatile ether extract
OA group	Okadaic Acid (OA) group (ASP) (Amnesic shellfish poisoning ASP)
Oil content	Oil
Organoleptic characteristics	Organoleptic characteristics
P-Anisidine value	Anisidine, Anisidine P
Pantothenic acid	Pantothenic acid
Pantothenic acid/enriched foods	Pantothenic acid
Pantothenic acid/non-enriched foods	Pantothenic acid
Paralytic shellfish toxicity	Saxitoxin (STX) group, (Paralytic shellfish poisoning PSP)
Particle Size (granularity)	Particle size
PCB	Polychlorinated biphenyls (PCB)
Pesticide (organochlorine)	Organochlorine pesticides (OCPs)
PAH	Polycyclic aromatic hydrocarbons (PAH)
Pectin (additives)	Pectin
Peroxide value	Peroxide Value
Peroxide value (expressed as meq. of oxygen/kg fat)	Peroxide Value expressed as meq. of oxygen/kg fat
Peroxide value (PV)	Peroxide Value
pH	pH
pH of brine	pH
Phenols	Phenols
Phospholipids	Phospholipids
Phosphorous	Phosphorous
Phosphorous/phosphate	Phosphorous
	Phosphate
pH-value	pH
Pinheads or broken berries	Pinheads or broken berries
Piperine content	Piperine
Polarization	Polarization
Polydextrose	Polydextrose
Polyunsaturated fatty acid	Fatty acid, polyunsaturated
Potassium	Potassium
Preservatives in fruit juices (sorbic acid and its salts)	Sorbic acid

Provision in CXS 234-1999	Provision suggested
Proline by photometry – non-specific determination	Proline
Propionic acid	Propionic acid
Proportion of fish fillet and minced fish	Proportion of whole and fragmented product
Protein	Protein
Protein content (nitrogen-to-protein conversion factor=5.71)	Protein
Protein content (Nitrogen factor 5.71)	Protein
Protein (conversion factor 6.25)	Protein
Protein (nitrogen-to-protein conversion factor=6.25)	Protein
Protein content (Nx6.25) in dry weight basis	Protein
Protein content	Protein
Protein/crude	Protein
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	Reducing sugar
Refractive index	Refractive index
Reichert value and Polenske value	Reichert value
	Polenske value
Relative 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 content	Chloride expressed as NaCl
Salt in brine	Chloride expressed as NaCl
Saponification value	Saponification value
Saponification value (SV)	Saponification value
Saturated fat	Fatty acids, saturated
Saturated fatty acids	Fatty acids, saturated
Saxitoxin Group	Saxitoxin (STX) group, (Paralytic shellfish poisoning (PSP))
Scorched particles	Particles, Scorched
Sediment (scorched particles)	Particles, Scorched
Selenium	Selenium
Sesame seed oil	Oil
Silica (colloidal, calcium silicate)	Silica
Slip point	Slip point

Provision in CXS 234-1999	Provision suggested
Soap content	Soap content
Sodium	Sodium
Sodium and Potassium	Sodium
	Potassium
Sodium Chloride	Chloride expressed as NaCl
Sodium chloride (chloride expressed as sodium chloride)	Chloride expressed as NaCl
Sodium chloride (dry weight basis)	Chloride expressed as NaCl
Sodium, potassium, calcium, magnesium	Sodium
	Potassium
	Calcium
	Magnesium
Solids	Dry matter
Solids, alcohol insoluble	Solids, alcohol insoluble
Solids, total	Solids, total
Solids, water-insoluble	Solids, water insoluble
Solubility Index	Solubility Index
Soluble dietary fibres in food and food products	Fibre, dietary
Soluble solids	Solids, soluble
Soluble solids (packing medium)	Solids, soluble
Soluble solids, total	Solids, soluble
Sorbates	Sorbates
Sorbitol	Sorbitol
Sorbitol-D	Sorbitol
Stable carbon isotope ratio in the pulp of fruit juices (Sections 3.2 Quality criteria and 3.3 Authenticity)	Carbon stable isotope ratio in fruit juice, Authenticity
Stable carbon isotope ratio of sugars from fruit juices (Sections 3.2 Quality criteria and 3.3 Authenticity)	Carbon stable isotope ratio in fruit juice, Authenticity
Stable hydrogen isotope ratio of water from fruit juices (Sections 3.2 Quality criteria and 3.3 Authenticity)	Hydrogen stable isotope ratio in fruit juice, Authenticity
Stable oxygen isotope ratio in fruit juice water (Sections 3.2 Quality criteria and 3.3 Authenticity)	Oxygen stable isotope ratio in fruit juice, Authenticity
Starch	Starch
Sterol composition and total sterols	Sterols, total and composition
Stigmastadienes	Stigmastadienes
STX group	Saxitoxin (STX) group, (Paralytic shellfish poisoning (PSP))
Sucrose	Sucrose
Sucrose (permitted ingredients)	Sucrose
Sucrose plus invert	Sucrose plus invert
Sugar beet derived syrups in frozen concentrated orange juice $\delta^{18}\text{O}$ Measurements in Water	Oxygen stable isotope ratio in fruit juice (Authenticity)

<b>Provision in CXS 234-1999</b>	<b>Provision suggested</b>
Sugars	Sugars
Sugars added: detection of corn and cane sugar products.	Sugar profile
Sugars added: for sugar profile	Sugar profile
Sulphate	Sulphates
Sulphated ash	Ash, sulphated
Sulphates	Sulphates
Sulphide	Sulphites
Sulphites	Sulphites
Sulphur dioxide	Sulphur dioxide
Sulphur dioxide (additives)	Sulphur dioxide
Sum of microorganisms constituting the starter culture (bacteria in fermented milk deriving (or originating) from starter culture)	Sum of microorganisms constituting the starter culture
Synthetic phenolic antioxidants	Synthetic phenolic antioxidants
Surface active agents	Surface active agents
Tannins	Tannins
Tartaric acid in grape juice (additives)	Tartaric acid
Thiamine	Thiamine
Tin	Tin
Tin (Products in other containers)	Tin
Titration acids, total	Acidity
Titre	Titre
Tocopherol content	Tocopherol
Tomato soluble solids	Solids, soluble
Tough strings	Tough strings
Total acidity	Acidity
Total acidity expressed as percentage of lactic acid	Acidity
Total acidity of the extracted oil	Acidity
Total Acidity	Acidity
Total amino acids (excluding taurine and tryptophan)	Amino acids
Total Ash	Ash
Total ash (dry weight basis)	Ash
Total carbohydrates	Carbohydrates
Total dry matter (vacuum-oven drying at 70 °C)	Dry matter
Total fat	Fat
Total fat for milk-based infant formula (products not completed soluble in ammonia)	Total fat for milk-based infant formula (products not completed soluble in ammonia)
Total Fats	Fat
Total fatty acids	Fatty acids

<b>Provision in CXS 234-1999</b>	<b>Provision suggested</b>
Total nitrogen	Nitrogen, Total
Total nucleotides	Nucleotides
Total phospholipids	Phospholipids
Total solids	Dry matter
Total solids (Microwave oven drying) *	Dry matter
Tough Strings	Tough Strings
Triglycerides	Triglycerides
Tryptophan For use according to Section 3.1.3 (a) notes 2 and 3 of CXS 72-1981	Tryptophan
Trans fatty acids content	Fatty acids, trans
Trans-galacto-oligo saccharides	Galacto-oligo saccharides, trans
Types of peas, distinguishing	Standard not identified
Unsaponifiable matter	Unsaponifiable matter
Vinyl chloride monomer	Monomer, Vinyl chloride
Vitamin A	Vitamin A
Vitamin A palmitate (retinyl palmitate), vitamin A acetate (retinyl acetate)	Vitamin A
Vitamin A (retinol isomers)	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
Volatile oils	Volatile oils
Volatile oils (dry weight basis)	Volatile oils
Water	Water
Water activity	Water activity
Water content	Moisture
Water phase salt	Salt, salt in water phase
Water-insoluble solids	Solids, insoluble
Water (moisture)	Moisture
Water-saturated n-butanol extracts	Water-saturated n-butanol extracts
Wax content	Wax

<b>Provision in CXS 234-1999</b>	<b>Provision suggested</b>
Whole dead insect	Whole dead insect
Zinc	Zinc



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