INTERNATIONAL STANDARD

ISO 22935-2

IDF 99-2

Second edition
2023-04

Milk and milk products — Sensory analysis —

Part 2: Methods for sensory evaluation

Lait et produits laitiers — Analyse sensorielle —

Partie 2: Méthodes pour l'évaluation sensorielle

Reference numbers
ISO 22935-2:2023(E)
IDF 99-2:2023(E)

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11

Email: copyright@iso.org
Website: www.iso.org

International Dairy Federation
Silver Building • Bd Auguste Reyers 70/B
B-1030 Brussels
Phone: +32 2 325 67 40
Fax: +32 2 325 67 41
Email: info@fil-idf.org
Website: www.fil-idf.org

Published in Switzerland

Contents

Page

Forewords

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 34, *Food products*, Subcommittee SC 5, *Milk and milk products*, and the International Dairy Federation (IDF). It is being published jointly by ISO and IDF.

This second edition cancels and replaces the first edition (ISO 22935-2 | IDF 99-2:2009), which has been technically revised.

The main changes are as follows:

— changes have been made in the “International tables of common attributes” (see Annex A);

— the scope has been widened from milk powder to milk-based powders, and from liquid milk to milk-based liquids.

A list of all parts in the ISO 22935 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

IDF (the International Dairy Federation) is a non-profit private sector organization representing the interests of various stakeholders in dairying at the global level. IDF members are organized in National Committees, which are national associations composed of representatives of dairy-related national interest groups including dairy farmers, dairy processing industry, dairy suppliers, academics and governments/food control authorities.

ISO and IDF collaborate closely on all matters of standardization relating to methods of analysis and sampling for milk and milk products. Since 2001, ISO and IDF jointly publish their International Standards using the logos and reference numbers of both organizations.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. IDF shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

This document was prepared by the IDF *Standing Committee on Statistics and Automation* and ISO Technical Committee ISO/TC 34, *Food products*, Subcommittee SC 5, *Milk and milk products.* It is being published jointly by ISO and IDF.

The work was carried out by the IDF/ISO Action Team S17 of the *Standing Committee on Statistics and Automation* under the aegis of its project leader Dr H. Kraggerud (NO).

Introduction

The purpose of the ISO 22935 | IDF 99 series is to give guidance on methodology for sensory analysis and the use of a common nomenclature of terms for milk and milk products.

To achieve that, the ISO 22935 | IDF 99 series is divided into three parts.

ISO 6658 should be consulted for an overview of sensory methods other than the one provided in ISO 22935-3 | IDF 99-3.

The principles described are largely derived from various International Standards on the topic.

Milk and milk products — Sensory analysis —

Part 2:
Methods for sensory evaluation

1 Scope

This document specifies recommended methods for the sensory evaluation of specific milk and milk products. It specifies criteria for the sampling and preparation of samples and the assessment of the samples.

This document is suitable for application in conjunction with the sensory methodologies outlined in ISO 22935-1 | IDF 99-1 and other ISO or IDF sensory methodologies for specific situations and products.

Annex A provides international tables of common attributes, including terms in the official ISO languages English and French as well as equivalent terms in German and Spanish.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

4 Principle

General practices are specified for the sensory evaluation of dairy products by trained assessors. These practices can be used with the scoring methodology outlined in ISO 22935-3 | IDF 99-3, profiling and discrimination tests.

5 Supervision

5.1 Panel leader responsibilities

A panel leader, who is familiar with sensory evaluation of the products, should be responsible for the entire evaluation, and in particular should ensure that:

a) testing conditions are appropriate;

b) correct evaluation forms are supplied;

c) correct sensory protocols are used;

d) panel results are monitored;

e) good records are maintained of panel attendance, panel performance, session objectives, samples and sample preparation methods, response forms used, session results, comments on results, attribute definitions and references;

f) communication is maintained with the site manager or appropriate personnel.

5.2 Panel leader requirements

The panel leader should:

a) understand sensory evaluation principles;

b) understand and have experience with the specific products being evaluated;

c) be committed to a sensory quality assurance programme.

6 Preparing for a panel

General steps for the preparation of a panel include:

a) the invitation of panellists to the panel, informing them of the date, time and location of the session;

b) the choice of samples for assessment in the panel session, and their preparation using specified standard procedures;

c) labelling of samples with three-digit random numbers to disguise the sample origin (including the assignment of random codes, using a random number table or computer program, to each sample and then labelling report forms and sample containers);

d) the performance of panel evaluations (assessments) in booths or another suitable environment and ensuring that pens, palate cleansers and spittoons are available in readiness for evaluations;

e) checking that data are complete once assessors have completed their evaluations.

7 Documents

Necessary documents for the sensory evaluation of the various products should be available, e.g. the following:

a) recommended methods;

b) product attributes and attribute definitions;

c) product specifications;

d) food safety documentation.

8 Test room

More detailed information for a sensory evaluation area can be found in ISO 8589. Some general suggestions include provision in the test room of:

a) walls and ceilings preferably of light (off-white or light neutral grey) and matt colours, avoiding unnecessary decorations;

b) dividers between the places for each assessor for seated assessments;

c) tabletops and dividers of a matt, light neutral grey colour;

d) lighting free from strong shadows, with a colour temperature of 6 500 K, of constant and uniform intensity with illuminance between 800 lx and 1 500 lx;

e) constant temperature;

f) an environment free from foreign odours;

g) a noise level maintained at a minimum during assessments;

h) sheltering of any sample preparation area from the assessors, when it is necessary for sample preparation to take place in the assessment room;

i) maximum convenience to assessors, especially with respect to temperature and humidity;

j) regular monitoring of equipment and environmental conditions.

9 Recommended method for sensory evaluation of butter

9.1 Applicability

This method is intended to provide a general basis for the sensory evaluation of butter.

The provisions in the method specified in this clause are applicable to butter. However, they can be adapted to include anhydrous milk fat, milk fat, anhydrous butter oil, butter oil, blended spread and margarines.

9.2 Sampling and preparation of the sample

Accepted standard preparation methods should be followed, except where a customer requires an alternative preparation methodology to test a product for their specific use.

For bulk butter, a test sample should be taken with a butter trier (see ISO 707 | IDF 50) for sensory evaluation. For butter in retail packaging, an adequate number of packages should be made available.

Before an evaluation, test samples should be kept at the temperature mentioned on the packages or laid down by the customer or in product specifications.

During the evaluation, the butter should have a temperature of 14 °C ± 2 °C. Temperatures outside this range prevent a reliable evaluation of butter.

9.3 Apparatus and materials

The apparatus as specified in the evaluation method chosen and, in particular, the following should be used.

9.3.1 Butter trier.

9.3.2 Incubator or chiller.

9.3.3 Thermometer.

9.3.4 Container/crease.

9.3.5 Greaseproof paper.

9.3.6 Knives or cutting wire of stainless steel.

9.3.7 Spatulas.

9.3.8 Indicator paper for determination of water.

9.3.9 Palate cleansers.

EXAMPLE Water at 30 °C to 40 °C.

9.3.10 Glasses.

9.3.11 Sampling cups.

9.4 Assessment

9.4.1 Appearance

Examine the following main features: colour, visible purity and water dispersion.

9.4.2 Odour and flavour

Carry out a sensory evaluation of odour and flavour by smelling and tasting the product.

9.4.3 Consistency

Carry out a sensory evaluation of the following main features: firmness and spreadability.

It is not always easy to distinguish clearly between "appearance" (see 9.4.1) and "consistency". In this respect, consider a "loose" grainy structure resulting from under-working or a salve-like structure resulting from overworking: these features relate to both "appearance" and "consistency".

9.5 Attributes

Attributes that can be utilized for the sensory analysis of butter are listed in the column named "Butter" of Tables A.1 to A.3. These attributes can be used for scoring (see ISO 22935-3 | IDF 99-3) or profiling methodologies.

10 Recommended method for sensory evaluation of milk-based powder

10.1 Applicability

This method is intended to provide a general basis for the sensory evaluation of milk-based powder.

The provisions in the method specified in this clause are applicable to milk-based powder including, for example, cream powder, whey powder, lactose, buttermilk powder and powdery infant formula.

10.2 Sampling and preparation of the test sample

Accepted standard preparation methods should be followed, except where a customer requires an alternative preparation methodology to test a product for their specific use.

For bulk powder, a test sample of at least 250 g (see ISO 707 | IDF 50) should be made available for sensory evaluation. For powder in retail packages, an adequate number should be supplied.

The available test samples should be adequate for the preparation of reconstituted milk for evaluation, possible re-evaluation by the panel, and an appropriate quantity of undissolved powder to follow the reconstituted product for evaluation.

A test portion, drawn from the test sample, should be reconstituted by dissolving it in 90 g of water which is microbiologically pure and filtered, with neutral sensory properties at 22 °C ± 2 °C. For whole milk powder (not claimed to be soluble in cold water), the water temperature should be adjusted to 40 °C ± 2 °C. A proper solution should be ensured by use of an electric mixer. During reconstitution, all test portions should be mixed at the same speed for the same length of time.

The mass, m, of the test portion is given by Formula (1):

$$m = \frac{1\,000}{100 - w_f} \tag{1}$$

where w_f is the mass fraction, as a percentage, of fat in the milk powder.

The glasses containing the reconstituted milk should be covered, as well as the remaining powder test sample, until the evaluation takes place. Reconstituted milk should be kept under conditions which minimize the influence of light. It should be cooled (if necessary) under frequent gentle stirring, and it should be evaluated within 1 h of preparation. During the evaluation, the reconstituted milk should be maintained at a temperature of 22 °C ± 2 °C.

10.3 Apparatus and materials

The apparatus as specified in the evaluation method chosen and, in particular, the following should be used.

10.3.1 Balance.

10.3.2 Weighing dishes.

10.3.3 Electric mixer.

10.3.4 Thermometer.

10.3.5 Beakers.

10.3.6 Spoons.

10.3.7 Timer.

10.3.8 Measuring cylinder.

10.3.9 Palate cleansers.

EXAMPLE Water at 30 °C to 40 °C.

10.3.10 Glasses.

10.3.11 Sampling cups.

10.3.12 Petri dishes.

10.3.13 Foil.

10.4 Assessment

10.4.1 Appearance

Examine the reconstituted milk as well as its powder in relation to the following main features: colour, visible purity, and presence of lumps, flakes or hard granules.

10.4.2 Odour and flavour

Carry out a sensory evaluation of reconstituted milk as well as its powder in relation to odour and flavour by smelling and tasting the product.

10.4.3 Consistency

Carry out a sensory evaluation of reconstituted milk as well as its powder in relation to the perception of particles in the mouth or the thickness/thinness of the product.

10.5 Attributes

Attributes that can be utilized for the sensory analysis of reconstituted milk as well as its powder are listed in the column named “Milk based powder” of Tables A.1 to A.3. These attributes can be used for scoring (see ISO 22935-3 | IDF 99-3) or profiling methodologies.

11 Recommended method for sensory evaluation of cheese

11.1 Applicability

This method is intended to provide a general basis for the sensory evaluation of cheese.

The provisions in the method specified in this clause are applicable to cheese.

11.2 Sampling and preparation of the sample

For large cheeses, an adequate sample should be taken with a cheese trier or by cutting a sector (see ISO 707 | IDF 50) for sensory evaluation. For cheese in retail packaging, an adequate number of packages should be made available.

Before an evaluation, the test samples should be kept at the temperature mentioned on the packages or laid down in product specifications.

During the evaluation, the test samples should have a temperature of 14 °C ± 2 °C. For special cheeses other temperatures may be chosen, with a tolerance of ± 2 °C.

11.3 Apparatus

Apparatus as specified in the evaluation method chosen, and in particular the following.

11.3.1 Incubator or chiller.

11.3.2 Thermometer.

11.3.3 Cheese trier.

11.3.4 Chopping board.

11.3.5 Knives or cutting wire of stainless steel.

11.3.6 Palate cleansers.

EXAMPLE Water at 30 °C to 40 °C.

11.3.7 Glasses.

11.3.8 Sampling cups.

11.4 Assessment

11.4.1 Appearance

11.4.1.1 Exterior

Visually examine, for example, shape and rind/surface of the whole cheese prior to sampling.

11.4.1.2 Interior

Visually examine, for example, colour of openings, shape and rind/surface of the cut surface or a core sample of the cheese.

11.4.2 Consistency

Carry out a sensory evaluation of body and texture, by using defined pieces of cheese obtained by cutting or from a core sample, by bending followed by pressing and rubbing between the forefinger and thumb (fingerfeel), as well as by chewing (mouthfeel).

11.4.3 Odour and flavour

Carry out a sensory evaluation of odour by smelling the cheese sample using two procedures:

a) by smelling the cut cheese or core sample;

b) by smelling the cheese sample broken in front of the assessor's nose.

Chew and salivate defined pieces of cheese to evaluate the flavour.

11.5 Attributes

Attributes that can be utilized for the sensory analysis of cheese are listed in the column named "Cheese" of Tables A.1 to A.3. These attributes can be used for scoring (see ISO 22935-3 | IDF 99-3) or profiling methodologies.

12 Recommended method for sensory evaluation of milk based liquids

12.1 Applicability

This method is intended to provide a general basis for the sensory evaluation of milk-based liquids.

The provisions in the method specified in this clause are applicable to milk-based liquids. Liquid milk includes, for example, raw milk and heat-treated milk such as pasteurized milk, ultra high temperature (UHT) milk, sterilized milk, extended shelf life (ESL) milk and condensed milk.

12.2 Sampling and preparation of the sample

Accepted standard preparation methods should be followed, except where a customer requires an alternative preparation methodology to test a product for their specific use.

For large containers, a test sample should be taken of at least 500 g (see ISO 707 | IDF 50). For retail packages and individual portions, an adequate number of packages should be made available.

Before an evaluation, test samples should be kept at the temperature mentioned on the packages. If there is no temperature indication, 4 °C ± 2 °C for fresh liquid milk or 22 °C ± 2 °C for UHT or sterilized milk is recommended. Inhomogeneous liquid milk (e.g. raw or fresh milk) should be mixed with a stirring stick or spoon just prior to sensory evaluation.

For the evaluation of appearance, the test samples should, if possible, be presented in the original opened packages. For the evaluation of flavour, individual portions of at least 50 g up to 100 g should be available for each assessor. During the evaluation, the samples should have a temperature of 16 °C ± 2 °C.

12.3 Apparatus and materials

The apparatus as specified in the evaluation method chosen and, in particular, the following should be used.

12.3.1 Incubator or chiller.

12.3.2 Thermometer.

12.3.3 Test tubes.

12.3.4 Stirrers.

12.3.5 Beakers.

12.3.6 Spoons.

12.3.7 Palate cleansers.

EXAMPLE Water at 30 °C to 40 °C.

12.3.8 Glasses.

12.3.9 Sampling cups.

12.4 Assessment

12.4.1 Appearance

Examine any filling of the milk, colour, visible purity, presence of foreign matter and phase separation. Examine the opened package, if necessary pouring out the product from the package.

12.4.2 Odour and flavour

Carry out a sensory evaluation of odour and flavour by smelling and tasting the product.

12.4.3 Consistency

Carry out a sensory evaluation of the perception of particles in the mouth or the thickness/thinness of the product.

12.5 Attributes

Attributes that can be utilized for the sensory analysis of liquid milk are listed in the column named "Milk-based liquids" of Tables A.1 to A.3. These attributes can be used for scoring (see ISO 22935-3 | IDF 99-3) or profiling methodologies.

13 Recommended method for sensory evaluation of cream

13.1 Applicability

This method is intended to provide a general basis for the sensory evaluation of cream.

The provisions in the method specified in this clause are applicable to cream. The method covers liquid cream as well as sweet cream products with high viscosity.

13.2 Sampling and preparation of the sample

Accepted standard preparation methods should be followed, except where a customer requires an alternative preparation methodology to test a product for their specific use.

For large containers, a test sample should be taken of at least 500 g (see ISO 707 | IDF 50). For retail packages and individual portions, an adequate number of packages should be made available.

Before an evaluation, test samples should be kept at the temperature mentioned on the packages. If there is no indication, a temperature of 4 °C ± 2 °C is recommended.

For the evaluation of appearance, the test samples should, if possible, be presented in the original packages. For the evaluation of flavour, individual test portions of at least 50 g to 100 g should be available for each assessor. During the evaluation, the test samples should have a temperature of 14 °C ± 2 °C.

13.3 Apparatus and materials

The apparatus as specified in the evaluation method chosen and, in particular, the following should be used.

13.3.1 Thermometer.

13.3.2 Beakers.

13.3.3 Spoons.

13.3.4 Stirrer.

13.3.5 Palate cleansers.

EXAMPLE Water at 30 °C to 40 °C.

13.3.6 Glasses.

13.3.7 Sampling cups.

13.4 Assessment

13.4.1 Appearance

Examine the filling of the package, colour, visible purity, presence of foreign matter, and spots of mould and phase separation. Examine the opened package, if necessary pouring out the product from the package.

13.4.2 Odour and flavour

Evaluate odour and flavour by smelling and tasting the product.

13.4.3 Consistency

Evaluate thickness, stickiness and coarseness. Make the evaluation by blending the product with a spoon before malaxating (or pushing the cream against the palate of the mouth with the tongue) the sample in the mouth.

13.5 Attributes

Attributes that can be utilized for the sensory analysis of cream are listed in the column named "Cream" of Tables A.1 to A.3. These attributes can be used for scoring (see ISO 22935-3 | IDF 99-3) or profiling methodologies.

The attributes mentioned in this method are applicable to fluid cream as well as cream products with high viscosity.

14 Recommended method for sensory evaluation of fermented milk products

14.1 Applicability

This method is intended to provide a general basis for the sensory evaluation of fermented milk products.

The provisions in the method specified in this clause are applicable to fermented milk products such as different types of sour milks and yoghurts.

14.2 Sampling and preparation of the sample

Accepted standard preparation methods should be followed, except where a customer requires an alternative preparation methodology to test a product for their specific use.

For large containers, a sample should be taken of at least 500 g (see ISO 707 | IDF 50). For retail packages and individual portions, an adequate number of packages should be made available.

Before an evaluation, test samples should be kept at the temperature mentioned on the packages. If there is no indication, a temperature of 4 °C ± 2 °C is recommended.

For the evaluation of appearance, the test samples should, if possible, be presented in the original packages. For the evaluation of consistency and flavour, individual portions of at least 50 g to 100 g should be available for each assessor. During the evaluation, the samples should have a temperature of 12 °C ± 2 °C.

14.3 Apparatus

The apparatus as specified in the evaluation method chosen and, in particular, the following should be used.

14.3.1 Incubator or chiller.

14.3.2 Thermometer.

14.3.3 Stirrers.

14.3.4 Spoons.

14.3.5 Beakers.

14.3.6 Palate cleansers.

EXAMPLE Water at 30 °C to 40 °C.

14.3.7 Glasses.

14.3.8 Sampling cups.

14.4 Assessment

14.4.1 Appearance

Examine the filling and the surface of the product, colour, visible purity, presence of foreign matter, seepage of whey and phase separation. Examine the opened package, if necessary pouring out the product from the package.

14.4.2 Odour and flavour

Carry out a sensory evaluation of odour and flavour by smelling and tasting the product.

14.4.3 Consistency

Carry out a sensory evaluation of thickness, stickiness and coarseness. Evaluate by blending the product with a spoon before malaxating the sample in the mouth.

The defects mentioned in this method are applicable to fluid products as well as fermented milk products with high viscosity.

14.5 Attributes

Attributes that can be utilized for the sensory analysis of fermented milk products are listed in the column named “Fermented milk” of Tables A.1 to A.3. These attributes can be used for scoring (see ISO 22935-3 | IDF 99-3) or profiling methodologies.

15 Recommended method for sensory evaluation of ice cream

15.1 Applicability

This method is intended to provide a general basis for the sensory evaluation of ice cream.

The provisions in the method specified in this clause are applicable to edible ices.

15.2 Sampling and preparation of the sample

For large containers, a sample should be taken of at least 500 g (see ISO 707 | IDF 50). For retail packages and individual portions, an adequate number of packages should be made available.

Before an evaluation, test samples should be kept at the temperature mentioned on the packages. If there is no indication, a temperature of at least −18 °C or lower is recommended. During the evaluation, the ice cream should have a temperature of −13 °C ± 2 °C.

15.3 Apparatus

The apparatus as specified in the evaluation method chosen and, in particular, the following should be used.

15.3.1 Incubator or freezer.

15.3.2 Thermometer.

15.3.3 Black plates.

15.3.4 Knives.

15.3.5 Spoons.

15.3.6 Stopwatch (for melting properties).

15.3.7 Palate cleansers.

EXAMPLE Water at 30 °C to 40 °C.

15.3.8 Glasses.

15.3.9 Sampling plates.

15.4 Assessment

15.4.1 Appearance

Examine the filling and the surface of the ice cream, colour, visible purity, and the amount and uniformity of ingredients/flavouring. Examine the external surface and the cut surface of the sample.

15.4.2 Odour and flavour

Carry out a sensory evaluation of odour and flavour by allowing a test portion to melt in the mouth, and observing the taste and smell.

15.4.3 Consistency

Carry out a sensory evaluation of smoothness, uniformity, coarseness, stickiness, mouthfeel, the presence or absence of sandiness, and the relative size of the ice crystals. Cut the test sample with a spoon and chew the test portion, allowing it to melt in the mouth.

15.4.4 Melting properties

Evaluate the following:

— how the sample has retained its form and approximate size;

— whether free liquid has leaked out;

— whether the liquid appears homogeneous and creamy, curdled, foamy or watery.

Visually examine test portions kept at a temperature of 22 °C ± 2 °C. Use the same time interval and test portion size for the same type of ice cream (e.g. 30 min).

15.5 Attributes

Attributes that can be utilized for the sensory analysis of ice cream are listed in the column named "Ice cream" of Tables A.1 to A.3. These attributes can be used for scoring (see ISO 22935-3 | IDF 99-3) or profiling methodologies.

Annex A
(informative)

International tables of common attributes

Table A.1 — International table of appearance attributes for specific dairy products

English	French	German	Spanish	Butter	Milk-based powder	Cheese	Milk-based liquids	Cream	Fermented milk	Ice cream
Appearance	**Aspect**	**Aussehen**	**Apariencia**							
air bubbles	présence de bulles d'air	Luftblasen	presencia de búrbujas de aire			X			X	X
bicoloured	bicolore	zweifarbig	bicolor	X		X				
bleached surface	halo périphérique	ausgebleichte Oberfläche	superficie decolorada	X						
brown	caramel à brun	braun	marrón		X					
clotted	granuleux	klumpig	granulosa				X			
coarse	granuleux	grobkörnig	granulosa/grano grueso		X					
coating	enrobage	Überzug	cobertura							X
coating thickness	épaisseur d'enrobage	Überzugsdicke	cobertura espesa							X
colour	couleur	Farbe	color	X	X	X			X	X
compact	compact	kompakt	compacta	X		X				
cream layer	remontée de crème	Sahne-/ Rahmschicht	con capas de crema				X	X	X	
cream lumps	grumeaux de crème	Sahne-/ Rahmklumpen	con grumos de crema				X		X	
cream plug	bouchon/ accumulation de crème	Sahne/ Rahmpfropfen	tapón de crema					X		
curdy	floconneux	flockig	cuajada				X	X		
distribution of ingredients (e.g. fruit pieces)	distribution des ingrédients (fruits, ...)	Verteilung der Zutaten (z.B. Fruchtstücke)	distribución de ingredientes			X			X	X
dripping (water, milk)	coulant/suintant (d'eau, de lait)	wasserlässig, milchlässig	exhudado (agua, leche)	X		X				
dry	sec	trocken	seca	X		X				X
fill	forme et/ou remplissage	Fülle, Füllgrad, Füllmarke	completa	X		X				X
fill (package)	remplissage	Füllgrad/ Füllmarke	completo	X	X	X	X	X	X	X

Table A.1 *(continued)*

English	French	German	Spanish	Butter	Milk-based powder	Cheese	Milk-based liquids	Cream	Fermented milk	Ice cream
flakes	grains flocons, floconneux	Flocken	escamas, copos, flóculos		X		X		X	X
foaming	mousseux	schaumig	espumosa			X		X	X	X
foreign matter	corps étrangers, matières étrangères	Fremdpartikel, Fremdstoffe	cuerpos extraños	X	X	X	X	X	X	X
free fat	grains de matière grasse	freies Fett	grasa libre		X	X	X			X
free protein	grains de protéine	freies Eiweiß	proteína libre		X		X			
hard granules	agrégats solides	harte Teilchen	gránulos duros		X	X				
holes	présence d'ouvertures, d'yeux	Blasen, Löcher	agujeros, ojos	X		X				X
ice crystals	présence de cristaux de glace	Eiskristalle	presencia de cristales de hielo							X
insufficient coating of the stick	enrobage insuffisant du bâton	Stiel ungenügend überzogen	cobertura insuficiente del palito							X
layered	feuilleté	Schichtig	estratificada, en capas	X						
loose (free) moisture, droplets	humidité, gouttelettes	freies Wasser, Tropfen	agua libre/gotitas	X		X				
lumps	agrégats	Klumpen	terrones		X			X	X	
marbled	marbré	marmoriert	marmolada	X		X		X	X	
melted	fondu	geschmolzen	fundido							X
moisture	humidité	Feuchte	húmeda	X		X				
mottled	tacheté	gesprinkelt	moteada	X		X				X
mould	moisissures	Schimmel	mohosa, presencia de hongos	X		X	X	X	X	
oil separation	séparation d'huile	ölige Abtrennung	separación de aceite	X						
poor distribution of ingredients	mauvaise distribution des ingrédients	schlechte Verteilung der Zutaten	distribución pobre de ingredientes			X			X	X
protein/fat flocks	agrégats graisseux ou protéiques	Protein-/Fettflocken	flóculos de proteína/grasa				X			
ropy/stringy	filant/élastique	zähflüssig/zäh	elástica/ filamentosa				X	X	X	
scorched particles	particules brûlées	verbrannte Teilchen	partículas quemadas		X	X				X
sedimentation	sédimentation	Bodensatz	sedimentación				X	X	X	
separation of phases	séparation de phases	Phasentrennung	separación de fases				X	X	X	

Table A.1 *(continued)*

English	French	German	Spanish	Butter	Milk-based powder	Cheese	Milk-based liquids	Cream	Fermented milk	Ice cream
separation of whey	exsudation de sérum	Serumabscheidung, Molke abgesetzt	separación del suero/exudado			X		X	X	
shape	forme	Form	forma	X		X				X
shrunken	flétri/contracté	geschrumpft	contraída			X		X	X	X
smeary	poisseux	schmierig	grasosa	X		X				
stick placement	emplacement du bâton	Stielplatzierung	ubicación del palito							X
streaky	rayé	streifig	rayada/veteada	X		X				X
surface colour changes	couleur hétérogène	heterogene Oberflächenfarbe	color heterogéneo	X		X				X
weak (open texture)	poreux	porig	porosa	X		X				X
yeast	présence de levures	Hefen	presencia de levadura			X			X	
undissolved salt				X						
Exterior	**Extérieur**	**Äußeres**	**Exterior**							
filling (of package)	forme et/ou remplissage	Füllung/Form	completa	X	X	X	X	X	X	X
height	hauteur	Höhe	alta			X				
oblique	casquette	schief, durchgelegen	oblicua	X		X				X
rims	talons afaissés	verlaufen	bordes	X		X				X
vaulted (blown)	bombé	triebig	bombé			X				
Rind/surface	**Croûtage**	**Oberfläche**	**Corteza/superficie**							
cracked	fendu, crevassé, déchiré	rissig	hendiduras, grietas, rajaduras			X				
discoloured	décoloré	verfärbt	descolorado	X	X	X	X	X	X	X
fatty	graisseux	ausgeölt	grasosa			X				
holes	présence d'ouvertures, d'yeux	Löcher	presencia de aberturas, ojos			X				
mould	moisi	Schimmel	enmohecida			X				
rough	rugueux	rauh	rugosa			X				
smeary	poisseux, morgé	Schmiere	grasosa			X				
speckled	tacheté	fleckig	manchada			X				
thickness	épaisseur	Stärke, Dicke	espesor, grosor			X				
wet	humide	feuchte	húmeda			X				
wrinkled	ondulé	runzelig	ondulada			X				

Table A.1 *(continued)*

English	French	German	Spanish	Butter	Milk-based powder	Cheese	Milk-based liquids	Cream	Fermented milk	Ice cream
Interior	**Intérieur**	**Inneres**	**Interior**							
bicoloured	bicolore	zweifarbig	bicolor	X		X				X
blown	gonflé, éclaté	gebläht, triebig, getrieben	hinchada, estallada			X				
collapsed	aplati	eingefallen	achatada, aplastada			X				
concentrated areas of grains	agglomérat de grains de caillé	Ansammlung von Bruchkorn	aglomerados de granos de cuajada			X				
cracked	fissuré	Risse	grietas			X				
crystals	cristaux	Kristalle	cristales			X				X
delicate (roughness)	fin (rugosité)	fein (Rauheit)	rugosidad fina			X				
droplets	gouttelettes	Tröpfchen	gotitas			X				
eyes	yeux	Lochung	ojos			X				
foreign matter	corps étrangers	Fremdstoffe	cuerpos extraños			X				
glossy openings	ouvertures lustrées	Glanzlöcher	ojos brillosos							
granular	granuleux	Körner	gránulos			X				
holes	trous	Löcher	agujeros			X				
irregular mould	moisissure irrégulière	unregelmäßiger Schimmel	unregelmäßiger Schimmel			X				
marbled	marbré	marmoriert	marmolada			X				
mottled	moucheté	Fleckig	moteada			X				
nesty openings	présence de poches	Molkennester	aberturas en forma de nido, irregularmente repartidas, bolsas de lactosuero			X				
openness	présence d'ouvertures	Öffnung	aberturas			X				
pale, dull	pâle, terne	Blass	pálida/opaca			X				
pin-holed	mille trous	Nissen, viele kleine Löcher	mil ojos			X				
speckled	tacheté	gesprenkelt, getüpfelt	manchada			X				
splitting	rainuré	Schlitzlöcher	hendiduras			X				
streaky	rayé	streifig	rayado/veteado			X				
thin (microstructure)	fin (microstructure)	dünn, wässrig	fina (microestrutaura)			X				
tightly packed, compact	serré, compact	dicht gedrängt, kompakt	muy compacta, cerrada			X				
uneven colour	couleur irrégulière	ungleichmässige Farbe	color irregular			X				
wrinkling	plissé, ridé	unsaubere Lochung	arrugada			X				