# codex alimentarius commission E





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Agenda Item 4

CX/MMP 10/9/4 August 2009

#### JOINT FAO/WHO FOOD STANDARDS PROGRAMME CODEX COMMITTEE ON MILK AND MILK PRODUCTS

#### Ninth Session

Auckland, New Zealand, 1-5 February 2010

### REPORT OF THE PHYSICAL WORKING GROUP ON THE PROPOSED DRAFT STANDARD FOR PROCESSED CHEESE

- 1. At its 8<sup>th</sup> session, the CCMMP agreed to establish a physical Working Group under the co-leadership of France and New Zealand to revise the proposed draft standard for processed cheese.
- 2. The Committee agreed that in revising the standard the Working Group would give full attention to its simplification; that it would take into account the 8<sup>th</sup> session discussion and written comments and that the revised proposed draft standard should at least include provisions for addressing the following issues:
  - Cheese content of processed cheese;
  - The acceptability of use of gelatine, starches and stabilizers in the manufacture of processed cheese, for instance by reference to national legislations;
  - The clear distinction between processed cheese and processed cheese preparations, for instance by labelling provisions.
- 3. To facilitate the work, Australia offered to collate information on production, trade, national legislation and practices related to the discussed issues.
- 4. In December five documents were sent to the registered delegates: the list of participants; the presentation by Australia of the answers to the questionnaire; the IDF technical contribution on the use of stabilisers and certain stabilising ingredients in processed cheeses products; a version of the draft standard revised according to the discussion of the 8<sup>th</sup> session of the CCMMP, and a working paper on the proposed draft standard for processed cheese (doc. 5).
- 5. The Working Group was held in Brussels on 20, 21 and 22 January in a European Commission Conference Centre, which kindly offered the meeting facilities, including interpretation in English, French and Spanish.
- 6. The Working Group agreed to use "doc. 5" as a working paper, addressing in turn each of the five contentious issues indicated in greyed-out text. Delegations were given the opportunity to outline their views on the options in the paper, prior to discussion of possible solutions.
- 7. The Working Group discussed the issue of permitted ingredients and was able to make some progress towards agreement regarding conditions for the use of starches, subject to a satisfactory outcome being reached on the issue of the use of stabilisers. There appeared to be a preponderance of opinion in favour of the exclusion of gelatine.
- 8. Following an initial, inconclusive discussion on the issue of composition, the Working Group held an initial exchange of views on the use of Food Additives. Discussion on the use of stabilisers drew upon the work of the IDF and responses to the Codex questionnaire. While a large majority of delegations considered

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it possible to reach tentative conclusions on the use of stabilisers, some delegations expressed strong opposition to this until compositional issues had been resolved. It was clear to the co-chairs following this discussion that agreement on the use of stabilisers would not be reached in the absence of a stable consensus on the issue of composition, including cheese content. It was thus agreed to return to the question of composition.

- 9. The Working Group spent considerable time on the issue of composition and cheese content. Several proposals were received from delegations in an effort to find an inclusive solution consistent with the Working Group's mandate to simplify and improve the provisions in the draft standard. The Working Group made some progress toward achieving a text, permitting the elaboration and presentation of a draft compositional table by the co-chairs. This attracted the support of a large number of delegations. Some delegations, however, continued to insist on textual solutions reflecting closely their own national situation, which did not attract consensus.
- 10. This issue was discussed at length, but the Working Group was unfortunately not able to develop a text that met the needs of all delegations and was consistent with its mandate to simplify and improve the text. After considerable discussion, the co-chairs concluded with regret that it would not be possible to reach an agreement on this point. This in turn led to the inescapable conclusion that it would also not be possible to reach agreement before the end of the meeting on other related issues, including labelling, stabilisers and starches.
- 11. The co-chairs accordingly advised that, in their view, it would not be possible to present a revised draft standard to the next meeting of the CCMMP, and advised the Working Group of this. The delegations participating in the Working Group did not demur. The meeting finished on the basis that co-chairs would reflect the outcome of the Working Group's discussions in a note to be circulated to delegations for information, and transmitted to the CCMMP for consideration.
- 12. In the opinion of the co-chairs, the fundamental difficulty with attempting to develop this standard arises from the requirement for the standard to address the very large variety of products marketed as processed cheese, while retaining scope for innovation. Given this difficulty, the unwavering choice of some delegations to insist on a standard reflecting very closely their own national product specifications, as distinct from a more global approach, suggests that it may not be possible to resolve this problem.
- 13. The co-chairs would like to express their appreciation and thanks to those many delegations that sought to work towards a successful conclusion to the Working Group Session.

Attachments (only in original language):

Annex 1: List of participants

Annex 2: Working Paper on the Proposed Draft Standard for Processed Cheese (doc. 5)

Annex 3: IDF Technical Paper "The use of stabilisers and certain stabilising ingredients in Processed

Cheese Products"

Annex 4: Australia presentation of the outcomes of the survey on processed cheese "CCMMP

Questionnaire on Processed Cheese"

#### Annex 1

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Brussels, 20 - 22 January 2009

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#### Working Paper on the Proposed Draft Standard for Processed Cheese (doc. 5)

#### 1. Scope

This Standard applies to products that are named "Process(ed) Cheese" (including named variety(ies) processed cheeses) intended for direct consumption or further processing, in conformity with the description in Section 2 of this Standard<sup>1</sup>.

#### 2. Description

**Processed cheeses** are the semi-solid and spreadable<sup>2</sup> to solid and sliceable milk products obtained

- (i) from cheese (CODEX STAN A-6-1978), with or without the addition of other raw materials and permitted ingredients,
- (ii) by melting and emulsifying the mixture,
- (iii) with the aid of heat and emulsifying (or melting) salts in a well-mixed medium <sup>3</sup>,

to produce a homogeneous, smooth and stable oil-in-water emulsion.

**Named variety(ies) processed cheeses** are processed cheeses, as defined above, characterized by the use in their manufacture of one or more recognized varieties of cheese, and a reference to these in their designation<sup>4</sup>.

#### 3. Essential Composition and Quality Factors

#### 3.1 Raw Materials

- a. Cheese\*;
- b. Milk products rich in fat (e.g. butter\*, butteroil\*, ghee\*, cream\*, cream powder\*);
- c. Milk and milk products other than the above (e.g. milk concentrates, buttermilk, milk powders\*, milk proteins, whey powders\*, lactose\*).
- \*) For further details, see relevant Codex standards.

The use of these raw materials shall be in conformance with Section 3.3.1.

#### 3.2 Permitted Ingredients

- Sodium chloride, and/or salt substitutes (eg: potassium chloride);
- Water
- Safe and suitable processing aids;
- [Gelatine and starches: these substances can be used in the same function as stabilizers,provided they are added only in amounts functionally necessary as governed by Good Manufacturing Practice taking into account any use of the stabilizers listed in section 4];

<u>Issues</u>: "Some delegations were in favour of the use of gelatine and starches in processed cheese because in their view they were required to manufacture processed cheese. Some delegations were in favour of the use of gelatine and starches provided that they were used within defined limits. Other delegations proposed their exclusion from the list of permitted ingredients because in their view they were not necessary in these products". (cf. Alinorm 08/31/11 par.61)

"The Committee discussed the use of gelatine and starches in processed cheese. Several delegations opposed

<sup>&</sup>lt;sup>1</sup> This standard does not cover other plain products that are named with descriptive designations that include the words "processed" and/or "cheese", such as" Process(ed) Cheese Preparation", "Process(ed) Cheese Product", "Process(ed) Cheese Spread", "Process(ed) Cheese Food", "Process(ed) Cheese Speciality" and "Process(ed) Cheese Dessert". (*This footnote is to be removed prior to adoption of the standard at step 8.*)

<sup>&</sup>lt;sup>2</sup> In this context, reference to "spreadable" means that the product has a texture that is suitable for spreading by the consumer, e.g. it readily spreads on bread when taken directly from chilled storage conditions.

<sup>&</sup>lt;sup>3</sup> Foot note explaining that emulsifying salts do not function directly as emulsifiers.

<sup>&</sup>lt;sup>4</sup> For instance, "Process(ed) Cheddar Cheese", "Cheddar Process(ed) Cheese", "Process(ed) Cheddar".

their inclusion in the standard because in their view binding agents were not necessary in the manufacture of processed cheese *per se*. Other delegations were in favour of their retention in the standard. In this regard it was variously mentioned that: gelatine and starches were used for the same function as stabilizers that needed to be applied to the manufacture of stringy and sliceable processed cheese; and that in their view, they were necessary in the manufacture especially of low fat processed cheese" (*Alinorm* 08/31/11 par.66)

"The revised proposed draft standard should at least include provisions for addressing the following issues: ...

- The acceptability of use of gelatine, starches and stabilizers in the manufacture of processed cheese, for instance by reference to national legislation; ..." (*Alinorm 08/31/11 par.72*)

<u>Objectives</u>: Address the use of gelatine and starch in the manufacture of processed cheese, taking into account the use of stabilizers (section 4); in relation to a distinction between processed cheese, which is covered by this standard, and processed cheese preparation, which is not covered by this standard.

#### **Proposed solutions**:

Option 1: no gelatine and starches authorized in PC covered by this standard

#### Comments:

There would be no restriction on the use of gelatine and starch in processed cheese preparations and products not covered by this standard, such as those listed in footnote 1.

There would be a clear difference between PC and processed cheese preparations.

Option 2: gelatine and starches could be used in all types of PC covered by this standard, with a defined maximum level

#### Comments:

There would be no restriction on the use of gelatine and starch in processed cheese preparations and products not covered by this standard, such as those listed in footnote 1.

The maximum level can be specified in a way that excludes unacceptable use of gelatine and starch.

<u>Option 3 (the current proposal)</u>: "gelatine and starches can be used in the same function as stabilizers, provided they are added only in amounts functionally necessary as governed by Good Manufacturing Practice taking into account any use of the stabilizers listed in section 4"

#### Comments:

Gelatine and starch would be allowed to be used in PC covered by this standard but the limit allowed would be governed by GMP rather than defined.

Good manufacturing practice in the use of food additives means<sup>5</sup>:

- a) the quantity of the additive added to food shall be limited to the lowest possible level necessary to accomplish its desired effect;
- b) the quantity of the additive that becomes a component of food as a result of its use in the manufacturing, processing or packaging of a food and which is not intended to accomplish any physical, or other technical effect in the food itself, is reduced to the extent reasonably possible; and,
- c) the additive is of appropriate food grade quality and is prepared and handled in the same way as a food ingredient.

Similar provisions are included in the standards for unripened cheese, cottage cheese, cream cheese, fermented milks, cream and dairy fat spreads.

- Vinegar;
- [cultures of harmless bacteria and enzymes]
- Where allowed in accordance with the Codex General Principles for the Addition of Essential Nutrients for Food, maximum and minimum levels for vitamins A, D and other nutrients, where appropriate, should be laid down by national legislation in accordance with the needs of individual

<sup>&</sup>lt;sup>5</sup> Codex General Standard for Food Additives. Codex Stan 192-1995, Rev.9-2008. Preamble, section 3.3.

countries including, where appropriate, the prohibition of the use of particular nutrients.

#### [3.3 Composition

The specifications for relative amounts of the three categories of raw materials specified below are to be calculated on product weight basis (*Alinorm 08/31/11 par.55*, *General support of the CCMMP*)

#### 3.3.1 Processed cheeses

Issue: "The Committee agreed that the presentation of the entire section needed to be improved and simplified. Some delegations noted that the two categories "products with relatively low moisture on a fat free basis" and "products with relatively high moisture on a fat free basis" were open to interpretation and might lead to disparity with respect to cheese content for products with the same moisture levels. These delegations suggested to either define the terms "relatively low moisture" and "relatively high moisture" or find other terms for these categories or ways to express the different compositions of these products. Other delegations suggested not to categorize these products on moisture on fat-free basis (MFFB) and to simplify the section by only categorizing the products by specifying the required dry matter (DM) contents for different ranges of fat in dry matter (FDM) content.

"The Committee discussed the FDM figures in section 3.3.2 "End product composition". Some delegations were of the opinion that 75% maximum content (m/m) was too high and needed to be lowered to 65%. In this regard it was noted that the A-8 standards for the group with the highest fat content indicated 65% as minimum value and that there was a need to distinguish among different types of products (high fat and low fat content).

"In concluding the discussion on this section, the Committee agreed that the structure and presentation of the section needed to be considerably simplified and its content reconsidered and further discussed so as to reconcile the different views. Therefore, the Committee agreed to put the entire Section in square brackets." (*Alinorm 08/31/11 par.63 - 65*)

<u>Objectives</u>: To follow CCMMP's recommendations, simplifying this section, by proposing different options ranked from the simplest to the most complex, and using answers to the Codex questionnaire on processed cheese and IDF technological input

#### **Proposed solutions**:

#### Option 1: an inclusive standard (Ex: standard A6 « Cheese »,...)

with only an end product composition criteria, and without differentiating types of processed cheese, and no raw materials criteria.

#### Comments:

Standard A6 is a General Standard that has a comprehensive and general description of cheese. It does not include compositional specifications, but instead the labelling section provides descriptive designations (e.g. Ripened, Mould ripened, Unripened, Hard, Soft, etc), and declaration of fat content (High fat, Full fat, etc).

A similar approach could be used for PC covered by this standard. Labelling provisions could be used to inform consumers of the nature of the processed cheese, for instance by using descriptive terms associated with specific FDM, DM, and cheese content.

### Option 2: an inclusive standard (Ex: standard A6 « Cheese »,...), but with 2 types of products differentiated on the FDM and DM criteria

such as in the current proposal, simplified by using the same ranges of Fat in Dry Matter for both types of processed cheese to be consistent

#### Comments:

Similar to Option 1 but FDM and DM provisions would be covered as part of the Composition section and more specifically stated.

A possible format for the table of composition could be:

	Minimum DM content		
FDM content	Type I	Type II	
Equal to or above 50% MG/ES	50%	40%	

Equal to 40% but less than 50%	42%	35%
Equal to 30% but less than 40%	34%	30%
Less than 30%	29%	25%

Labelling provisions can be used to inform consumers of the nature of the processed cheese.

Option 3: an inclusive standard (Ex: standard A6 « Cheese »,...), with 2 categories of products differentiated on both the FDM and DM (on the basis of option 2) and the cheese content criteria,

simplified by merging points 3.3.1 and 3.3.2 of the current draft standard

Comment:

Similar to Option 1 but FDM, DM and cheese content provisions would be covered as part of the Composition section and more specifically stated.

#### Milk fat in dry matter (FDM):

Minimum content (m/m): None

Maximum content (m/m): 75%

Compositional modifications beyond the minima and maxima specified above for FDM and DM are not considered to be in compliance with section 4.3.3 of the Codex General Standard for the Use of Dairy Terms (CODEX STAN 206-1999).

#### **3.3.2** Named variety processed cheeses

Notwithstanding 3.3.1, the cheese variety(ies) referenced in the designation of named variety(ies) processed cheeses in accordance with section 7.1.3 shall constitute at least [60 / 75% on a product weight basis and 55% on a product weight basis for mould ripened cheese]

Of the three categories of raw materials specified in Section 3.1, category (c) materials shall not exceed [x % on product weight basis]

<u>Issue: "The Committee had a general discussion [...]</u> on the figure [15%] on a product weight basis for raw materials specified in section 3.1, category c. [...] With regard to raw materials specified in section 3.1, category c, several delegations noted that it was not possible to comment on this figure until the issue of the basis for determination of cheese content was decided (*Alinorm 08/31/11 par.56*). As a conclusion, the Committee agreed to use as a basis for its discussion the following figures: [...]For raw materials specified in Section 3.1 category c: [x% on a product weight basis]. (*Alinorm 08/31/11 par.57*)]

#### 4. Food Additives

Only those additives classes indicated in the table below may be used for the product categories specified<sup>6</sup>.

	Processed cheese			
Additive functional class:	Type I [> x% DM]	Type I [< x% DM]	Type II	
CIMSSV		Cf. point 3.3.1 "Processed cheese"", option 2 or 3.		
Colours	X	X	X	
Emulsifying (or Melting) Salts	X	X	X	

<sup>&</sup>lt;sup>6</sup> It should be understood that individual additives are listed indicating their principal functional class in products covered by this standard, but it is recognized that some of these additives have more than one function and such additives may be used for those functions provided that class is permitted in this standard and the additive concerned is recognized as having that function in the GSFA and only within the limits specified hereafter.

Acidity Regulators	X	X	X	
Preservatives	X	X	X	
Emulsifiers	X	X	X	
Stabilizers	-	[X]	[X]	
Thickeners	-	-	-	
Anticaking Agents*	X	X	X	

- \*) For the surface treatment of sliced, cut, shredded and grated products only.
- X = The use of additives belonging to the class is technologically justified.
- = The use of additives belonging to the class is not technologically justified.

Issues: See section 3.2.

Objectives: Address the acceptability of use of [...] stabilizers in the manufacture of processed cheese, for instance by reference to national legislation (*Alinorm 08/31/11 par.72*); taking into account the use of gelatine and starch (section 3.2); in relation with the distinction between processed cheese and processed cheese preparations;

<u>Proposal</u>: IDF has been asked to provide a description of the technical functions of stabilizers. See also countries' answers to the Codex questionnaire.

#### Comment:

Technological justification relevant to stabilizers means<sup>7</sup>:

"The use of food additives is justified only when such use has an advantage, does not present an appreciable health risk to consumers, does not mislead the consumer, and serves one or more of the technological functions set out by Codex and the needs set out from (a) through (d) below, and only where these objectives cannot be achieved by other means that are economically and technologically practicable: (...)

c) to enhance the keeping quality or stability of a food or to improve its organoleptic properties, provided that this does not change the nature, substance or quality of the food so as to deceive the consumer; (...)"

*Note – points (a), (b) and (d) omitted as not relevant to the use of stabilizers.* 

INS No. Name of Additive		Maximum level	
Colours	•		
101i,ii	Riboflavins	300 mg/kg	
140	Chlorophyll	[15] mg/kg	Singly or in
141i, ii	Chlorophylls, Copper Complexes		combination
160a (i)	Beta-Carotene (Synthetic)	25 mg/kg	
160a (ii)	Carotenes (Vegetable); Natural Extracts	600 mg/kg	
160b (i)	Annatto Extracts – Bixin Based	60 mg/kg	Calculated as bixin
160b (ii)	Annatto Extracts – Norbixin Based	25 mg/kg	Calculated as bixin
160e	beta-Apo-8'-Carotenal	35 mg/kg	
160f	beta-Apo-8'-Carotenoic Acid, methyl and ethyl esters	35 mg/kg	
<b>Emulsifying (or Me</b>	lting) Salts		
325	Sodium Lactate	GMP	
326	Potassium Lactate	GMP	
327	Calcium Lactate	GMP	
331i-iii	Sodium Dihydrogen Citrate; [Disodium Citrate <sup>8</sup> ];	GMP	
	Trisodium Citrate		
332i,ii	Potassium citrates	GMP	
333	Calcium Citrates	GMP	
334	Tartaric Acid (L(+)-)		
335i,ii	Monosodium Tartrate; Disodium Tartrate	34 000 mg/kg	Singly or in
336i,ii	Monopotassium Tartrate; Dipotassium Tartrate	34,900 mg/kg combination	
337	Potassium Sodium Tartrate		

<sup>&</sup>lt;sup>7</sup> Codex General Standard for Food Additives. Codex Stan 192-1995, Rev.9-2008. Preamble, section 3.2.

<sup>&</sup>lt;sup>8</sup> Subject to JECFA approval for processed cheese.

INS No.	Name of Additive	Maximum level	
339i-iii	Sodium Dihydrogen Phosphate; Disodium		
	Hydrogen Phosphate; Trisodium Phosphate	_	
340i-iii	Potassium Dihydrogen Phosphate; Dipotassium		
	Hydrogen Phosphate; Tripotassium Phosphate		
341i-iii	Calcium Dihydrogen Phosphate; Calcium Hydrogen		
	Phosphate; Tricalcium Phosphate		
343i,ii	Monomagnesium Phosphate; Dimagnesium		Singly or in
	Orthophosphate		combination
450i-vii	Disodium Diphosphate; Trisodium Diphosphate;	20,000 mg/kg	expressed as P2O5 <sup>9</sup>
	Tetrasodium Diphosphate; [Dipotassium		enpressed as 1200
	Diphosphate <sup>10</sup> ;] Tetrapotassium Diphosphate;		
	Dicalcium Diphosphate; Calcium Dihydrogen		
	Diphosphate		
451i,ii	Pentasodium Triphosphate; Pentapotassium		
450:	Triphosphate		
452i,ii,iv,v	Sodium Polyphosphates, Glassy; Potassium		
	Polyphosphate; Calcium Polyphosphate;		
Agidity Dagglatan	Ammonium Polyphosphate	L	
Acidity Regulators	Coloinus Corkonata	CMD	
170i	Calcium Carbonate Acetic Acid, Glacial	GMP	
260 261	Potassium Acetate	GMP GMP	
262i	Sodium Acetate	GMP	
263 270	Calcium Acetate	GMP	
	Lactic Acid	GMP GMP	
296	Malic Acid (DL-) [Fumaric Acid]		
[297]	Citric Acid GMP	[GMP]	
330 338		GMP	avenuesed as D2O5
575	Orthophosphoric Acid Glucono delta-Lactone	5,000 mg/kg GMP	expressed as P2O5
Preservatives	Glucollo della-Lactolle	GWIF	
200	Sorbic Acid		Singly or in
201	Solium Sorbate		combination
202	Potassium Sorbate	2,000 mg/kg	expressed as sorbic
203	Calcium Sorbate		acid
280	Propionic Acid	GMP	uciu
281	Sodium Propionate	GMP	
282	Calcium Propionate	GMP	
283	Potassium Propionate	GMP	
234	Nisin	12.5 mg/kg	
301	Sodium Ascorbate	GMP	
302	Calcium Ascorbate	GMP	
1105	Lysozyme Hydrochloride	GMP	
Emulsifiers		J	1
322	Lecithins	GMP	
471	Mono- and Diglycerides of fatty acids	GMP	
472a	Acetic and Fatty Acid Esters of Glycerol	GMP	
472b	Lactic and Fatty Acid Esters of Glycerol	GMP	
472c	Citric and Fatty Acid Esters of Glycerol	GMP	
472e	Diacetyltartaric and Fatty Acid Esters of Glycerol	10,000 mg/kg	
472f	Tartaric, Acetic and Fatty Acid Esters of Glycerol	10,000 mg/kg	
., 21	(Mixed)		
473	Sucrose Esters of Fatty Acids	10,000 mg/kg	
476	Polyglycerol Esters of Interesterified Ricinoleic Acid	5,000 mg/kg	
	1 - 3-J B-J 44101 20010 01 Interested filed Record Field	-,000 mg/mg	1

 $<sup>^9</sup>$  The GSFA expresses phosphates as P and max. 14,050 mg/kg  $^{10}$  Subject to JECFA approval for processed cheese.

INS No.	Name of Additive	Maximum level	
[Stabilizers]			
[401]	[Sodium Alginate]	[GMP]	
[402]	[Potassium Alginate]	[GMP]	
[403]	[Ammonium Alginate]	[GMP]	
[404]	[Calcium Alginate]	[GMP]	
[406]	[Agar]	[GMP]	
[407]	[Carrageenan]	[GMP]	
[410]	[Carob Bean Gum]	[GMP]	
[412]	[Guar Gum]	[GMP]	
[413]	[Tragacanth Gum]	[GMP]	
[414]	[Gum Arabic]	[GMP]	
[415]	[Xanthan Gum]	[GMP]	
[418]	[Gellan Gum]	[GMP]	
[440]	[Pectins (Amidated and Non-amidated)]	[GMP]	
[461]	[Methyl Cellulose]	[GMP]	
[466]	[Sodium Carboxymethyl Cellulose]	[GMP]	
[1400]	[Dextrins White and yellow, Roasted Starch]	[GMP]	
[1401]	[Acid Treated Starch]	[GMP]	
[1402]	[Alkaline Treated Starch]	[GMP]	
[1403]	[Bleached Starch]	[GMP]	
[1404]	[Oxidised Starch]	[GMP]	
[1405]	[Enzyme Treated Starch]	[GMP]	
[1410]	[Monostarch Phosphate]	[GMP]	
[1412]	[Distarch Phosphate]	[GMP]	
[1413]	[Phosphated Distarch Phosphate]	[GMP]	
[1414]	[Acetylated Distarch Phosphate]	[GMP]	
[1420]	[Starch Acetate esterified with Acetic Anhydride]	[GMP]	
[1421]	[Starch Acetate esterified with Vinyl Acetate]	[GMP]	
[1422]	[Acetylated Distarch Adipate]	[GMP]	
[1440]	[Hydroxypropyl Starch]	[GMP]	
[1442]	[Hydroxypropyl Distarch Phosphate]	[GMP]	
[1450]	[Starch Sodium Octenyl Succinate]	[GMP]	
Anticaking Agen	its		
460i	Microcrystalline Cellulose	GMP	
460ii	Powdered Cellulose	GMP	
551	Silicon Dioxide(Amorphous)		
552	Calcium Silicate		Cinalry or i-
553i	Magnesium Silicate (Synthetic)	10 0/1-2	Singly or in
553iii	Talc	10 g/kg combination	
554	Sodium Aluminosilicate		expressed as SiO2
556	Calcium Aluminium Silicate		
559	Aluminium Silicate		

#### 5. Contaminants

The milk used in the manufacture of the raw materials and of the products covered by this Standard shall comply with the maximum limits for contaminants and the maximum residue limits for pesticides and veterinary drugs established by the Codex Alimentarius Commission.

#### 6. Hygiene

It is recommended that the products covered by the provisions of this standard be prepared and handled in accordance with the appropriate Sections of the Recommended International Code of Practice – General Principles of Food Hygiene (CAC/RCP 1-1969), the Code of Hygienic Practice for Milk and Milk Products (CAC/RCP 57-2004) and other relevant Codex texts such as Codes of Hygienic Practice and Codes of Practice. The products should comply with any microbiological criteria established in accordance with the Principles for the Establishment and Application of Microbiological Criteria for Foods (CAC/GL 21-1997).

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#### 7. Labelling

In addition to the provisions of the Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985) and the General Standard for the Use of Dairy Terms (CODEX STAN 206-1999), the following specific provisions apply:

#### 7.1. Name of the food

- **7.1.1** The name of the food shall be "Process(ed) Cheese".
- **7.1.2** The designation of Processed Cheese with a relatively high moisture on fat free basis (MFFB) shall be accompanied by a qualifying term describing the true nature of the product, in a way that is accurate and not misleading to the consumer in the country of retail sale.

<u>Issue</u>: The Committee noted that the section needed to be revised to reflect further decisions on the categorization of processed cheese (composition section). (Alinorm 08/31/11 par.67)

<u>Objectives</u>: to follow the CCMMP recommendation, and to actualize this paragraph in relation with previous proposals established in the standard

Proposed solutions:

#### Option 1: Delete the current paragraph 7.1.2 and replace it by the following proposals:

#### Comments:

In order to take the different situations in the world into account, it is proposed to consider alternatives referring to national legislations and previously used in existing Codex standards such as "fermented milks" or "cream"...:

1/ Example Codex standard for "Fermented milk, par.7.1.2": "Products in the scope of this standard shall be named "Processed cheese". If the consumer would be misled by this name, the products shall be named as permitted by national legislation in the country of retail sale. In countries where no such legislation exists, or no other names are in common usage, the product shall be named "Processed cheese".

2/ Example: Codex standard for "Creams": "The name of the food shall be "Processed cheese". The products covered by this Standard may alternatively be designated with other names specified in the national legislation of the country in which the product is manufactured and/or sold or with a name existing by common usage, provided that such designations do not create an erroneous impression in the country of retail sale regarding the character and identity of the food."

#### Option 2: Revise the current paragraph 7.1.2 as follows

Comment:

The wording could be simplified by referring to Type II, for example:

"The designation of Type II Processed Cheese shall be accompanied by an appropriate qualifying term if the consumer in the country of retail sale would be misled by its omission".

In addition, appropriate qualifiers describing the fat content may be used.

Use of nutritional claims such as reduced fat can be part of the designation and shall be in line with the Guidelines for the Use of Nutritional Claims (CAC/GL 23-1997). For the purpose of comparative nutritional claims, the minimum fat content of 40% fat in dry matter constitutes the reference.

<b>7.1.3</b> Named variety(ies) processed cheeses shall be named "	Process(ed) Cheese" or "Process(ed)
Cheese", the blank being filled with the name(s) of a c	heese variety(ies), as appropriate, in
accordance with sections 2 and 3.1. of this Standard. Where accep	table in the country of retail sale, the word
"cheese" can be omitted.	

**7.1.4** The designation of a product, in which recognized cheese variety(ies) constitute(s) less than the minimum amount required for named variety(ies) processed cheese (Section 3.3.2), may place special emphasis on the presence by designating the product "Process(ed) Cheese with \_\_\_\_\_\_" or "Process(ed) Cheese flavoured with \_\_\_\_\_\_", as appropriate, the blank being filled with the name(s) of the variety(ies), provided that the variety(ies) constitute(s) at least 2% of the ingoing raw materials on product weight basis and that the ingoing percentage(s) of the variety(ies) (m/m) at the time of manufacture is declared in the list of ingredients (on product weight basis).

<u>Issue:</u> Several delegations did not support the provision allowing for the use in the labelling of the name of a cheese variety of which the presence constituted at least 2% of ingoing raw materials since it could mislead consumers. These delegations suggested either to delete the provisions or to retain the provision to declare the percentage on the label. "(*Alinorm* 08/31/11 par.68)

#### 7.2 Declaration of milk fat content

The milk fat content shall be declared in a manner found acceptable in the country of sale to the final consumer, either (i) as a percentage by mass, (ii) as a percentage of fat in dry matter, or (iii) in grams per serving as quantified in the label provided that the number of servings is stated.

#### 7.3 Declaration of cheese content

1. The ingoing percentage of cheese in the formulation (m/m) shall be declared if so required in the country of retail sale.

#### Proposed solution:

According to the different options proposed in section 3.3 "Composition", different labelling solutions can be considered:

Option 1 of paragraph 3.3: labelling of cheese should be mandatory

**Option 2 of paragraph 3.3**: labelling of cheese content should be made if so required in the national legislation of the country of retail sale

Option 3 of paragraph 3.3: as a minimum cheese content is set, labelling should not be mandatory

Comment:

Results of the Codex questionnaire on processed cheese should be taken into account

#### 7.4 Declaration of milk protein content<sup>11</sup>

If the consumer would be misled by the omission, the milk protein content shall be declared in a manner acceptable in the country of sale to the final consumer, either as (i) a percentage by mass, or (ii) grams per serving as quantified in the label provided the number of servings is stated.

#### 7.5 Labelling of Non-retail Containers

Information required in Section 7 of this Standard and Sections 4.1 to 4.8 of the General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1), and, if necessary, storage instructions, shall be given either on the container or in accompanying documents, except that the name of the product, lot identification, and the name and the address of the manufacturer or packer shall appear on the container, and in the absence of such a container on the processed cheeses themselves. However, lot identification, and the name and address of the manufacturer or packer may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

<sup>&</sup>lt;sup>11</sup> The nitrogen to protein conversion factor of 6,38 should be used

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### 8. Methods of sampling and analysis $^{12}$

Provision	Method	Principle	Comments	Type
Milk fat in dry	IDF 5:2004	Gravimetry	This method measures fat. When DM	I
matter	ISO 1735:2004	(Schmid-	is measured by IDF	
		Bondzynski-	4:2004/ISO5534:2004 FDM may be	
		Ratzlaff)	obtained by calculation	
Milk fat in dry	IDF 124-1/3:2005	Gravimetry	This method measures fat. When DM	
matter [in processed	ISO 8262-1/3:2005	(Weibull- Berntrop)	is measured by IDF	
cheese types to be		_	4:2004/ISO5534:2004 FDM may be	
specified]			obtained by calculation	
Dry matter	IDF 4:2004	Gravimetry	Applicability of this method has not	
	ISO 5534:2004	Drying at 102°C	been checked for this type of product.	
Protein	IDF/RM 25: 2005	Kjeldahl Method	This method measures total protein	I
	ISO/TS17837:2005		and does not specifically measure	
			milk protein	

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 $<sup>^{\</sup>rm 12}$  This section is based on CX/MMP 06/7/13

Annex 3

### THE USE OF STABILISERS AND CERTAIN STABILISING INGREDIENTS IN PROCESSED CHEESE PRODUCTS

Submitted by the International Dairy Federation (IDF) as technical input to the on-going deliberations of the CCMMP Working Group on Processed Cheese

#### INTRODUCTION

IDF has developed this document in response to a request for technical input from the joint Chairs (FR, NZ) of the Codex Working Group (WG) on Processed Cheese.

IDF would like to point out that some countries do allow the use stabilisers and ingredients with stabilising properties (gelatine and starch) in the manufacture of processed cheese whereas others do not. In some countries where the use is permitted the resulting products are designated as processed cheese whereas in other countries such products are designated as processed cheese preparations. In light of these facts and for the purpose of this document, IDF uses the term "Processed Cheese Products" as a term intended to encompass Processed Cheese (PCs) and Processed Cheese Preparations (PCPs), yet remain neutral as regards the issue of whether such additives and/or ingredients should be used in PCs and/or PCPs. The question on whether or not to use ingredients with stabilising properties (gelatine and starch) in Processed Cheese Products is related to the composition of the product, the raw materials used and certain processing conditions.

This response has been prepared based on information received from the members of the IDF Standing Committee on Standards of Identity as well a number of sources within the public domain (publications, personal discussions etc). However IDF recognises that some information, being commercially sensitive, has not necessarily been supplied and therefore the document may not reflect all the uses of stabilizers and ingredients with stabilising properties.

#### Response:

Traditionally the primary stabilisation in processed cheese products is by casein and/or paracasein, which is brought into its active stabilising state by the use of emulsifying salts, which, in effect, remove the calcium from the casein and increase the pH to about 5.8 - 6.0. 60% to 80% of the total casein is then soluble; it binds water and emulsifies the free fat released in the processing of the raw material cheese in the processed cheese "cooker".

In the case of rennet coagulated cheese, the casein is in the form of insoluble calcium phosphate paracasein. The added emulsifying salts sequester the calcium and in the presence of high pH (5.8 - 6.0), the calcium depleted paracasein is soluble to the extent of 60% - 80% of the total casein present.

In the case of acid coagulated cheese, the casein is insoluble due to the low pH and the absence of a negative charge. In the presence of emulsifying salts, the pH is buffered to 5.8 - 6.0 and the casein now becomes sodium caseinate and is soluble to a similar extent to that described for rennet coagulated cheese above (i.e. 60% - 80%)<sup>13</sup>.

In the case of more mature cheeses (with high levels of primary proteolysis and hence lower levels of intact casein – for example at about 65%, compared to 85% - 90% in relatively young cheese with little proteolysis), one gets similar high levels of soluble casein, but this will not give the necessary emulsification of the free fat, because it is the soluble intact casein that emulsifies the free fat efficiently and contributes to the viscosity, texture and consistency of the finished processed cheese product.

In products containing an equivalent level of soluble protein, but which has been hydrolysed to a greater degree (and hence contains less intact casein), the contribution of the soluble protein phase to viscosity, texture and consistency of the finished product, particularly in high moisture processed cheese spreads (spreadable processed cheese) will be less. In such cases the addition of stabilisers (and ingredients with stabilising effects, such as starch and gelatine) can provide an important role in imparting viscosity and consistency which facilitates filling into packaging, particularly where high throughput filling equipment is used, and also contribute to a smooth creamy texture in the final product, without altering the organoleptic properties. However, their addition is but one approach, and other means can also be considered, including selection of cheese, the type/level of milk protein/casein ingredients, "creaming" in processing by the use of rework/remelt cheese, processing conditions, etc.

#### **Evolving processes and products**

In addition to the above example, stabilisers and ingredients with stabilising properties are used in processed cheese products where certain evolving technologies are used to produce products with specific functional properties or compositional characterics.

<sup>&</sup>lt;sup>13</sup> This description of Processed Cheese Products is a general one. It is not intended to be an all inclusive description of the many ways in which they are manufactured. The authors fully appreciate that some such products, currently on the market, may differ in composition, pH and ingredients to that described here.

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Hydrocolloids, including the vegetable gums, pectins, alginates, carrageenan, agar, methyl celluloses, starch and the related chemically modified or semi-synthetic products (such as the modified starches) are the stabilisers most commonly used. Gelatine is a protein product, while most of the others are hydrophilic carbohydrates and/or cellulose derivatives or polymers of sugars (starch is such a polymer of glucose). They have a common ability to bind water to improve consistency, provide a smooth mouthfeel and form thick products with variable consistency (Berger et al, 1989).

The hydrocolloid stabilisers are used at maximum levels of between 1.5% and 2%, with the higher levels used in lower fat products. The levels of the additives that are modified starches<sup>14</sup> tend to be used at levels up to 4%. Combinations of stabilisers tend to be used rather than individual stabilisers. One example given in the literature is of the use and levels of stabiliser(s) that could be used is a mix of Xanthan Gum and Guar Gum in a  $60:40 \Leftrightarrow 40:60$ . Other references gives a combination of carboxymethyl cellulose (CMC) and Xanthan Gum, combined with a special emulsifying salt as the best stabiliser for processed cheeses based on fresh cheeses (Berger et al, 1989).

Gelatine is used to maximum levels of about 2.5% to 3%, while starches, classified in the GSLPF as ingredients, are used at levels up to 4%.

### The following are some particular examples of where stabilisers and ingredients with stabilising properties are used in the manufacture of processed cheese products.

These are given by way of example and do not purport to be an exhaustive list.

#### 1. High Temperature Processing

This process is used to produce different types of processed cheese products for consumption in different regions of the world but also modify the structure with stabilisers used to provide the necessary texture and stability (by preventing syneresis and oil release).

#### 2. Lower pH Products

Some processed cheese products have lower pH levels to those outlined earlier (e.g. 5.2 to 5.8). Such products have increased bacteriostatic and good organoleptic properties. Products, particularly those with a pH at the lower level of this range use stabilisers (e.g. hydrocolloids and modified starches) to achieve the desired texture and stability in addition to casein and emulsifying salts.

### 3. Products with certain functionalities (e.g. stringiness and melting) Stringy products:

Processed cheese products with a relatively low level of emulsifying salts (less than 1% versus 2.5% to 3%) and a relatively low pH (5.3 -5.5) giving an end product (normally in slice format, but can also be in blocks) with increased stringiness when heated on toast. Stabilisers, generally the gums, are added at a level of less than 1% to provide the required emulsification and compensate for the lower level of emulsifying salts used. Even with the normal levels of emulsifying salts, the addition of stabilisers improves the melting functionality and also the sliceability of processed cheese products in blocks when used on high throughput slicing equipment.

#### Good spreadability and good melting properties:

Hydrocolloid stabilisers are also used in the production of spreadable products that are smooth with a spreadable texture when used at ambient temperature and also have good melting properties when heated.

#### 4. Lower fat products (e.g. < 40% FDM):

There is an increasing demand for lower fat properties. Stabilisers are used in the manufacture of some such products to achieve smooth texture and good mouthfeel, to assist sliceability of processed cheese in blocks, and also to contribute to food safety and keeping quality. The level of stabilizers needed in such products is higher than in those used in products with higher dry matter and fat in dry matter.

#### The use of food additives

The use of food additives is governed by the principle of justification as outlined in Section 3.2 of the Preamble to the Codex General Standard for Food Additives (see Appendix I).

#### Conformance with the GSUDT

In addition to the general principle contained in the GSFA, the use of gelatine, starch or stabilisers in processed cheese products is also governed by the principles of the Codex General Standard for the Use of Dairy Terms and in particular Section 4.6.4. thereof:-

 $<sup>^{14}</sup>$  This refers to chemically modified starches (INS Numbers from 1400 - 1451) which are additives. Starch may also be modified by physical or enzymatic methods but such starches, together with native (unmodified) starch may be designated as "starch" under the Codex GSLPF Section 4.2.3.1.

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"... the term "milk", or the name of a milk product may be used in the description of the true nature of the product, provided that the constituents not derived from milk are not intended to take the place, in part or in whole, of any milk constituent. For these products dairy terms may be used only if the consumer would not be misled.

#### Reference:

Berger, W., Klostermeyer, H., Merkenich, K., and Uhlmann, G. (1989). Development of the Processed Cheese Market. Pages 11-25 in *Processed Cheese Manufacture: A JOHA Guide*. BK Ladenburg GmbH, Ladenburg.

#### Annex I

#### Section 3.2 of Preamble to GSFA

#### The Justification for the Use of Additives

The use of food additives is justified only when such use has an advantage, does not present an appreciable health risk to consumers, does not mislead the consumer, and serves one or more of the technological functions set out by Codex and the needs set out from (a) through (d) below, and only where these objectives cannot be achieved by other means that are economically and technologically practicable:

- (a) to preserve the nutritional quality of the food; an intentional reduction in the nutritional quality of a food would be justified in the circumstances dealt with in sub-paragraph and also in other circumstances where the food does not constitute a significant item in a normal diet;
- (b) to provide necessary ingredients or constituents for foods manufactured for groups of consumers having special dietary needs;
- (c) to enhance the keeping quality or stability of a food or to improve its organoleptic properties, provided that this does not change the nature, substance or quality of the food so as to deceive the consumer;
- (d) to provide aids in the manufacture, processing, preparation, treatment, packing, transport or storage of food, provided that the additive is not used to disguise the effects of the use of faulty raw materials or of undesirable (including unhygienic) practices or techniques during the course of any of these activities.



# CCMMP QUESTIONNAIRE ON PROCESSED CHEESE

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# Introduction

- A physical Working Group, under the co-leadership of France and New Zealand, was established in February '08 to revise the proposed draft standard for processed cheese for circulation at Step 3 and further consideration at Step 4 at the 9th Session of the Committee.
- In order to facilitate the work of the Working Group, Codex members and observers would be invited to electronically submit information.
- France, New Zealand and Australia developed a questionnaire that facilitated the gathering of information.

# Introduction continued

### Information requested in the questionnaire included;

- Name of product (other than brand name) / product designation;
- Quantity produced
  - total quantity
  - per international trade
  - per cheese content
  - per true nature (spreadable, sliceable, stringy);
- Labelling cheese content;
- Gelatine and starches;
- Stabilisers;
- Fat and dry matter content; and
- National legislation in relation to the above 4 points.

# Results

### 21 delegations have responded to the questionnaire

- Australia
- Czech Republic
- Ireland
- Lithuania
- Spain
- Portugal
- Austria
- France
- Italy
- Netherlands

- Sweden
- Belgium
- Germany
- Japan
- New Zealand
- United Kingdom
- Canada
- Iran
- Libya
- Slovakia
- United States

# Name of product /product designation (not brand name)

Product names or designations within individual country legislation is most commonly categorised on one hand as 'processed cheese' (general) and on the other hand 'processed cheese preparations' (ie Codex terminology) or other names such as processed cheese spread, processed cheese food (in Canada, Libya and USA).

Designations such as 'sliceable processed cheese', "spreadable processed cheese" or "stringy processed cheese" are generally not used (they are included within other designations or considered as not relevant).

## Quantity manufactured (annually, in tonnes)

- Countries responded to this question in various ways, however, provided data are interesting if analysed country by country:
  - 19 countries provided information regarding quantity produced annually;
  - some countries provided a response as a % value of total production, others provided total tonnage. Where this was clear, tonnage were added.
- Answers to this question give an interesting information on processed cheese and processed cheese preparation production in each country.
  - Additional information is also provided regarding the different categories of processed cheese manufactured in each country.
- The diversity of provided data makes difficult the realisation of a clear synthesis of answers.

### TOTAL PRODUCED

- Per cheese content <25% cheese (on weight basis).</li>
- Per cheese content <25 50% cheese content (on weight basis)
- Per cheese content <50 75% cheese (on weight basis)</li>
- Per cheese content > 75% cheese (on weight basis)

Limited number of countries responded to this question, therefore it is not possible to propose a conclusion - summary.

### 2.2.1 Quantity Produced in International Trade

- 20 countries provided information regarding quantity produced per international trade.
- Answers to this question give an interesting information on the importance of the trade of processed cheese in each country, and of processed cheese preparations when data could be provided.
- These data could be related to answers provided by each country on quantities produced annually (question 2).

# Results - Question 2.2 - continued

### 2.2.1 Quantity Produced per cheese content

- <25% cheese (on weight basis)
- >25-50% cheese (on weight basis)
- >50-75% cheese (on weight basis)
- > 75% cheese (on weight basis)

Limited number of countries responded to these questions, a meaningful summary is not possible.

### Cheese content

Does your national legislation stipulate a cheese content value? Please indicate the value and the format.

Responses indicate that in general, national legislations do not stipulate cheese content; where it is prescribed, this is limited to 'Processed cheese' (general) and, to a smaller extent, to 'Processed cheese preparation'.

Within these designations, less than half of countries (7 out of documented answers) indicated that cheese content is stipulated.

### Labelling cheese content

#### Please indicate

- 1. whether labelling of cheese content is required in your national legislation and
- 2. in what format it is applied, e.g. as % of the dry matter content or as a % of the final product weight.

Responses indicate that, for the majority of countries, legislation does not specify labelling of cheese content.

#### However:

- Italy, Sweden and Czech Republic indicated they require labelling in the case of named variety processed cheese and
- labelling is required in Belgium, Libya and New Zealand.
- when labelling is required, the format applied varies from one country to another.

### Gelatine and starches

Please indicate whether the use of gelatine or starches in each product (in all or only some types) is permitted under your national legislation.

Responses indicate that legislative permission to use gelatine and starches varies between countries and product designations.

### **Stabilisers**

Please indicate whether the use of stabilisers in each product (in all or only some types) is permitted under your national legislation.

- Responses indicate that, in general, stabilisers are allowed or not prohibited, within legislation.
- Some countries specify a maximum allowable limit, e.g. Iran 3%.
- Libya indicated it specifies that in some situations gums are not allowed and that stabilisers of animal origin are not permitted.

### Fat and dry matter content

Please indicate whether your national legislation mandates the fat and dry matter content of each product and labelling thereof (Please note CCMMP 8 did not nominate 'fat in dry matter' as a question).

Responses indicate that fat and dry matter content is mandated in the legislation of some countries.

Fat content is expressed as:

either % fat in dry matter, or

% fat in moisture wet basis (Canada) / wet weight basis (Libya).

The labelling of fat content is required by many countries but responses make little reference to dry matter content. The specific levels change depending on the designation.

### National Legislation on labelling cheese content

- Response is the same as question 4, ie responses indicate that, for the majority of countries, legislation does not specify labelling of cheese content.
- However Italy, Sweden and Czech Republic require labelling in the case of named variety processed cheese and labelling is required in Belgium, Libya and New Zealand.
- When labelling is required, the format applied varies from one country to another.

# Results - Question 8 continued

### National legislation on gelatine and starches

Response is the same as question 5, ie responses indicate that legislative permission to use gelatine and starches varies between countries and product designations.

# Results - Question 8 continued

## National legislation on stabilisers

Response is the same as question 6, ie responses indicate that, in general, stabilisers are allowed or not prohibited, within legislation.

Some countries specify a maximum allowable limit, e.g. Iran 3%.

Libya specifies that in some situations gums are not allowed and that stabilisers of animal origin are not permitted

# Results - Question 8 continued

## National legislation on fat and dry matter content

Response is the same as question 7, i.e. responses indicate that fat and dry matter content is mandated in the legislation of some countries.

Fat content is expressed as either % fat in dry matter, or % fat in moisture wet basis (Canada) / wet weight basis (Libya).

The labelling of fat content is required by many countries but responses make little reference to dry matter content. The specific levels change depending on the designation