

codex alimentarius commission



FOOD AND AGRICULTURE
ORGANIZATION
OF THE UNITED NATIONS

WORLD
HEALTH
ORGANIZATION



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Agenda Item 5

CX/FAC 05/37/5

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JOINT FAO/WHO FOOD STANDARDS PROGRAMME CODEX COMMITTEE ON FOOD ADDITIVES AND CONTAMINANTS

Thirty-seventh Session
The Hague, The Netherlands, 25 – 29 April 2005

ENDORSEMENT AND/OR REVISION OF MAXIMUM LEVELS FOR FOOD ADDITIVES AND PROCESSING AIDS IN CODEX STANDARDS

BACKGROUND

1. In accordance with the section concerning Relations between Commodity Committees and General Committees of the Codex Alimentarius Commission Procedural Manual (Fourteenth Edition, page 94), “*All provisions in respect of food additives (including processing aids)...contained in Codex commodity standards should be referred...(and) will require to be endorsed by the Codex Committee on Food Additives and Contaminants*”.

2. In consideration of the above and other provisions of the Codex Alimentarius Commission Procedural Manual, the attached food additive (Part I) and processing aids (Part II) provisions are being submitted to the Codex Committee on Food Additives and Contaminants for endorsement. It is suggested that those food additives and corresponding use levels endorsed by the Committee be incorporated into the Codex General Standard for Food Additives. It is also suggested that those processing aids and corresponding maximum levels endorsed by the Committee be incorporated into the Inventory of Processing Aids.

3. The following food additive and processing aids provisions of Codex standards have been submitted for endorsement since the 36th Session of the Codex Committee on Food Additives and Contaminants and are listed by:

- (i) Technological function, INS number and food additive name;
- (ii) Proposed level;
- (iii) ADI (mg additive/kg body weight per day), and;
- (iv) Notes.

4. The following abbreviations have been used in the preparation of this paper:

INS International Numbering System for food additives. The INS has been prepared by the Codex Committee on Food Additives and Contaminants for the purpose of providing an agreed international numerical system for identifying food additives in ingredient lists as an alternative to the declaration of the specific name¹.

ADI Acceptable Daily Intake. An estimate of the amount of a substance in food or drinking-water, expressed on a body-weight basis, that can be ingested daily over a lifetime without appreciable risk (standard human = 60 kg)².

¹ Class Names and the International Numbering System for Food Additives (CAC/GL 36-2001).

² Summary of Evaluations Performed by the Joint FAO/WHO Expert Committee on Food Additives (JECFA 1956-2002), Section 5 - Explanation of Terms used in this Summary: <http://jecfa.ilsa.org/>.

- NS **ADI “Not Specified”**. A term applicable to a food substance of very low toxicity which, on the basis of the available data (chemical, biochemical, toxicological, and other), the total dietary intake of the substance arising from its use at the levels necessary to achieve the desired effect and from its acceptable background in food does not, in the opinion of JECFA, represent a hazard to health. For that reason, and for reasons stated in individual evaluations, the establishment of an acceptable daily intake expressed in numerical form is not deemed necessary. An additive meeting this criterion must be used within the bounds of good manufacturing practice, i.e., it should be technologically efficacious and should be used at the lowest level necessary to achieve this effect, it should not conceal inferior food quality or adulteration, and it should not create a nutritional imbalance².
- NL **ADI “Not Limited”**. A term no longer used by JECFA that has the same meaning as ADI "not specified"².
- TE **Temporary ADI**. Used by JECFA when data are sufficient to conclude that use of the substance is safe over the relatively short period of time required to generate and evaluate further safety data, but are insufficient to conclude that use of the substance is safe over a lifetime. A higher-than-normal safety factor is used when establishing a temporary ADI and an expiration date is established by which time appropriate data to resolve the safety issue should be submitted to JECFA. The temporary ADI is listed in units of mg per kg of body weight².
- CO **Conditional ADI**. A term no longer used by JECFA to signify a range above the "unconditional ADI" which may signify an acceptable intake when special problems, different patterns of dietary intake, and special groups of the population that may require consideration are taken into account².
- NO **No ADI allocated**. There are various reasons for not allocating an ADI, ranging from a lack of information to data on adverse effects that call for advice that a food additive or veterinary drug should not be used at all. The report should be consulted to learn the reasons that an ADI was not allocated².
- AC **Acceptable**².

Flavouring agents: Used to describe flavouring agents that are of no safety concern at current levels of intake and subsequent reports of meetings on food additives). If an ADI has been allocated to the agent, it is maintained unless otherwise indicated.

Enzyme preparations: Used to describe enzymes that are obtained from edible tissues of animals or plants commonly used as foods or are derived from microorganisms that are traditionally accepted as constituents of foods or are normally used in the preparation of foods. Such enzyme preparations are considered to be acceptable provided that satisfactory chemical and microbiological specifications can be established.

Food additives: Used on some occasions when present uses are not of toxicological concern or when intake is self-limiting for technological or organoleptic reasons.

Acceptable Level of Treatment. ADIs are expressed in terms of mg per kg of body weight per day. In certain cases, however, food additives are more appropriately limited by their levels of treatment. This situation occurs most frequently with flour treatment agents. It should be noted that the acceptable level of treatment is expressed as mg/kg of the commodity. This should not be confused with an ADI².

(L)GMP (**Limited by Good Manufacturing Practice**). This statement refers to the limitation of a food additive in specified foods. It means that the additive in question is self-limiting in food for technological, organoleptic, or other reasons^{2,3}.

5. This document does not include previously endorsed food additives provisions at the same levels of use as specified in draft Codex standards recently considered by the Committee.
6. This document should be read in conjunction with the relevant sections of document CX/FAC 05/37/2-Part II – *Matters referred to the Committee by the Codex Alimentarius Commission and Other Codex Committees and Task Forces*.

³ See also Codex Alimentarius Commission Procedural Manual, 14th Edition, page 95.

PART I**ENDORSEMENT AND/OR REVISION OF MAXIMUM LEVELS FOR FOOD ADDITIVES
IN CODEX COMMODITY STANDARDS**

The 6th Session of the **Codex Committee on Milk and Milk Products** forwarded the Sections on Additives of the proposed draft Standards for: i) a Blend of Evaporated Skimmed Milk and Vegetable Fat; ii) a Blend of Skimmed Milk and Vegetable Fat in Powdered Form; iii) a Blend of Sweetened Condensed Skimmed Milk and Vegetable Fat; iv) Cheddar; v) Danbo; and, vi) Whey Cheeses to the relevant Committees for their endorsement (ALINORM 04/27/11, paras. 46, 78 and 99 and Appendices III-VII and XXII)

**PROPOSED DRAFT STANDARD FOR A BLEND OF EVAPORATED SKIMMED MILK AND
VEGETABLE FAT
(at Step 5)**

INS No.	Food additive	Maximum level ⁴	ADI (mg/kg body weight)	Notes
FIRMING AGENTS				
508	Potassium chloride	Limited by GMP	Not limited	
509	Calcium chloride	Limited by GMP	Not limited	
STABILIZERS				
331(i)	Sodium dihydrogen citrate	Limited by GMP	Not limited	
331(iii)	Trisodium citrate	Limited by GMP	Not limited	
332	Potassium citrate	Limited by GMP		
333	Calcium citrate	Limited by GMP	Not limited	
ACIDITY REGULATORS				
170(i)	Calcium carbonate	Limited by GMP	Not limited	
339	Sodium phosphate	Combined total 10g/kg (total amount expressed as P ₂ O ₅ not to exceed 10g/kg)		
340	Potassium phosphate			
341	Calcium phosphate			
450	Diphosphate			
451	Triphosphate			
452	Polyphosphate			
500	Sodium carbonates	Limited by GMP	Not limited	
501	Potassium carbonate	Limited by GMP	Not limited	
THICKENERS				
407	Carrageenan	Limited by GMP	Not specified	
EMULSIFIERS				
322	Lecithin	Limited by GMP	Not limited	

⁴ Calculated as served to the customer.

**PROPOSED DRAFT STANDARD FOR A BLEND OF SKIMMED MILK AND VEGETABLE FAT
IN POWDERED FORM
(at Step 5)**

INS No.	Food additive	Maximum level ⁵	ADI (mg/kg body weight)	Notes
STABILIZERS				
331(i)	Sodium dihydrogen citrate	Limited by GMP	Not limited	
311(iii)	Trisodium citrate	Limited by GMP	Not limited	
332	Potassium citrate	Limited by GMP		
FIRMING AGENTS				
508	Potassium chloride	Limited by GMP	Not limited	
509	Calcium chloride	Limited by GMP	Not limited	
ACIDITY REGULATORS				
339	Sodium phosphate	Combined total 10g/kg (total amount expressed as P ₂ O ₅ not to exceed 10g/kg)	MTDI 70 mg/kg bw (as P)	INS 339iii (trisodium phosphate)
340	Potassium phosphate		MTDI 70 mg/kg bw (as P)	INS 340iii (tripotassium phosphate)
450	Diphosphate		MTDI 70 mg/kg bw (as P)	INS 450i (disodium pyrophosphate)
451	Triphosphate		MTDI 70 mg/kg bw (as P)	
452	Polyphosphate			
341(iii)	Tricalcium orthophosphate			
500	Sodium carbonates	Limited by GMP	Not limited	
501	Potassium carbonate	Limited by GMP	Not limited	
EMULSIFIERS				
322	Lecithin (or phospholipids from natural sources)	Limited by GMP	Not limited	
471	Mono-and diglycerides of fatty acids	Limited by GMP	Not limited	
ANTI-CAKING AGENTS				
170(i)	Calcium carbonate	Limited by GMP	Not limited	
504(i)	Magnesium carbonate	Limited by GMP	Not limited	
530	Magnesium oxide	Limited by GMP	Not specified	
551	Silicon dioxide, amorphous	Limited by GMP	Not specified	
552	Calcium silicates	Limited by GMP	Not specified	
553 (i)	Magnesium silicate	Limited by GMP	Not limited	
553 (iii)	Talc	Limited by GMP	Not limited	
554	Sodium aluminosilicate	Limited by GMP	Not specified	
556	Calcium aluminium silicate	Limited by GMP	Not specified	
559	Aluminium silicate	Limited by GMP	Not specified	
343(iii)	Trimagnesium carbonate	Combined total < 10g/kg		

⁵ Calculated as served to the customer.

INS No.	Food additive	Maximum level ⁵	ADI (mg/kg body weight)	Notes
ANTIOXIDANTS				
300	L-Ascorbic acid	0.5 g/kg expressed as ascorbic acid	Not specified	
301	Sodium ascorbate	0.5 g/kg expressed as ascorbic acid	Not specified	
304	Ascorbyl palmitate	0.01 % m/m	0-1.25 mg/kg bw	INS should be 304(i)
320	Butylated hydroxyanisole (BHA)	0.01% on a fat or oil basis	0-0.5 mg/kg bw	
321	Butylated hydroxytoluene (BHT)	0.01% on a fat or oil basis	0-0.3 mg/kg bw	
319	Tertiary butyl hydroquinine (TBHQ)	0.01% on a fat or oil basis	0-0.7 mg/kg bw	

PROPOSED DRAFT STANDARD FOR A BLEND OF SWEETENED CONDENSED SKIMMED MILK AND VEGETABLE FAT
(at Step 5)

INS No.	Food additive	Maximum level ⁶	ADI (mg/kg body weight)	Notes
FIRMING AGENTS				
508	Potassium chloride	Limited by GMP	Not limited	
509	Calcium chloride	Limited by GMP	Not limited	
STABILIZERS				
331(i)	Sodium dihydrogen citrate	Limited by GMP	Not limited	
331 (ii)	Trisodium citrate	Limited by GMP	Not limited	
332	Potassium citrate	Limited by GMP		
333	Calcium citrate	Limited by GMP	Not limited	
ACIDITY REGULATORS				
170(i)	Calcium carbonate	Limited by GMP	Not limited	
339	Sodium phosphate	Combined total < 10g/kg (total amount expressed as P ₂ O ₅ not to exceed 10g/kg)		
340	Potassium phosphate			
341	Calcium phosphate			
450	Diphosphate			
451	Triphosphate			
452	Polyphosphate			
500	Sodium carbonates	Limited by GMP		
501	Potassium carbonate	Limited by GMP		
THICKENERS				
407	Carrageenan	Limited by GMP	Not limited	
EMULSIFIERS				
332	Lecithin	Limited by GMP	Not limited	

⁶ Calculated as served to the customer.

PROPOSED DRAFT REVISED STANDARD FOR CHEDDAR (C-1)
(at Step 5)

INS No.	Food additive	Maximum level ⁷	ADI (mg/kg body weight)	Notes
COLOURS				
160a(i)	β- Carotene (synthetic)	25 mg/kg	0-5 mg/kg bw	
160a(ii)	Carotenes (vegetable)	600 mg/kg	Acceptable	
160b	Annatto extracts	25 mg/kg of cheese on bixin/norbixin basis	0-0.4 mg/kg bw	
160c	Paprika oleoresins	Limited by GMP	Acceptable	
160e	β-apo-8'-carotenal	35 mg/kg	0-0.5 mg/kg bw	
160f	β-apo-8'-carotenic acid, methyl and ethyl ester	35 mg/kg	0-0.5 mg/kg bw	
ACIDITY REGULATORS				
170(i)	Calcium carbonate	Limited by GMP	Not limited	
504	Magnesium carbonate			
575	Glucono-delta-lactone (GDL)		Not specified	
PRESERVATIVES				
234	Nisin	12.5 mg/kg	0-33000 units/kg bw	
251	Sodium nitrate	50 mg/kg of cheese, expressed as Na NO ₃	0-3.7 mg/kg bw	
252	Potassium nitrate		0-3.7 mg/kg bw	
1105	Lysozyme	Limited by GMP	Acceptable	
SALT SUBSTITUTES				
508	Potassium chloride	Limited by GMP	Not limited	
FOR SURFACE AND RIND TREATMENT ONLY⁸				
200	Sorbic acid	1000 mg/kg of cheese, singly or in combination, calculated as sorbic acid	0-25 mg/kg bw	
201	Sodium sorbate		0-25 mg/kg bw	
202	Potassium sorbate		0-25 mg/kg bw	
203	Calcium sorbate		0-25 mg/kg bw	
235	Pimaricin (natamycin)	2 mg/dm ² surface of whole cheese. Not present at a depth of 5 mm. For rind treatment or added to coatings only.	0-0.3 mg/kg bw (1976)	
280	Propionic acid	3000 mg/kg, calculated as propionic acid	Not limited (1973)	
281	Sodium propionate		Not limited	
282	Calcium propionate		Not limited	

⁷ Calculated as served to the customer.

⁸ For the definition of cheese surface and rind see Appendix to the Codex General Standard for Cheese (Codex Stan A-6-1978, Rev. 1-1999, Amended 2003)

INS No.	Food additive	Maximum level ⁷	ADI (mg/kg body weight)	Notes
ANTI-CAKING AGENTS				
460	Cellulose	Limited by GMP	Not specified	
551	Silicon dioxide, amorphous	10 g/kg singly or in combination Silicates calculated as silicon dioxide	Not specified	
552	Calcium silicate		Not specified	
553(i)	Magnesium silicate		Not specified	
553(iii)	Talc		Not specified	
554	Sodium aluminosilicate		Not specified	
556	Calcium aluminium silicate		Not specified	
559	Aluminium silicate		Not specified	

PROPOSED DRAFT REVISED STANDARD FOR DANBO (C-3)
(at Step5)

INS No.	Food additive	Maximum level ⁹	ADI (mg/kg body weight)	Notes
COLOURS				
160a(i)	Carotenes (synthetic)	25 mg/kg	0-5 mg/kg bw	
160a(ii)	Carotenes (vegetable)	600 mg/kg	Acceptable	
160b	Annatto extracts	10 mg/kg of cheese on bixin/norbixin basis		
160c	Paprika oleoresins	Limited by GMP	Acceptable	
160e	β -apo-8'-carotenal	35 mg/kg	0-5mg/kg bw	
160f	β -apo-8'-carotenic acid, methyl and ethyl ester	35 mg/kg	0-5 mg/kg bw	
ACIDITY REGULATORS				
170(i)	Calcium carbonate	Limited by GMP	Not limited	
504	Magnesium carbonate			
575	Glucono-delta-lactone (GDL)		Not specified	
PRESERVATIVES				
234	Nisin	12.5 mg/kg	0-33000 units/kg bw	
251	Sodium nitrate	50 mg/kg of cheese, expressed as Na NO ₃	0-3.7 mg/kg bw	
252	Potassium nitrate		0-3.7 mg/kg bw	
1105	Lysozyme	Limited by GMP	Acceptable	

⁹ Calculated as served to the customer.

INS No.	Food additive	Maximum level ⁹	ADI (mg/kg body weight)	Notes
FOR SURFACE AND RIND TREATMENT ONLY¹⁰				
200	Sorbic acid	1000 mg/kg of cheese, singly or in combination, calculated as sorbic acid	0-25 mg/kg bw	
201	Sodium sorbate		0-25 mg/kg bw	
202	Potassium sorbate			
203	Calcium sorbate		0-25 mg/kg bw	
235	Pimaricin (natamycin)	2 mg/dm ² surface of whole cheese. Not present at a depth of 5 mm. For rind treatment or added to coatings only.	0-0.3 mg/kg bw	
280	Propionic acid	3000 mg/kg, calculated as propionic acid	Not limited	
281	Sodium propionate		Not limited	
282	Calcium propionate		Not limited	
SALT SUBSTITUTES				
508	Potassium chloride	Limited by GMP	Not limited	
ANTI-CAKING AGENTS				
460	Cellulose	Limited by GMP	Not specified	
551	Silicon dioxide, amorphous	10 g/kg singly or in combination Silicates calculated as silicon dioxide	Not specified	
552	Calcium silicate		Not specified	
553(i)	Magnesium silicate		Not specified	
553(iii)	Talc		Not limited	
554	Sodium aluminosilicate		Not specified	
556	Calcium aluminium silicate		Not specified	
559	Aluminium silicate		Not specified	

PROPOSED DRAFT REVISED STANDARD FOR WHEY CHEESES
(at Step 5)

Only those food additives listed below may be used for products obtained through the concentration of whey and only within the limits specified.

INS No.	Food additive	Maximum level ¹¹	ADI (mg/kg body weight)	Notes
PRESERVATIVES				
200	Sorbic acid	1 g/kg calculated as sorbic acid	0-25 mg/kg bw	
201	Sodium sorbate		0-25 mg/kg bw	
202	Potassium sorbate			
203	Calcium sorbate		0-25 mg/kg bw	

¹⁰ For the definition of cheese surface and rind see Appendix to the Codex General Standard for Cheese (Codex Stan A-6-1978, Rev. 1-1999, Amended 2003).

¹¹ Calculated as served to the customer.

Only those food additives listed below may be used for products obtained through the coagulation of whey and only within the limits specified.

INS No.	Food additive	Maximum level ¹²	ADI (mg/kg body weight)	Notes
ACIDITY REGULATORS				
260	Acetic Acid, glacial	Limited by GMP	Not limited	
270	Lactic Acid			
296	Malic Acid		Not specified	
330	Citric Acid		Not specified	
575	Glucono delta-lactone		Not specified	
PRESERVATIVES				
200	Sorbic acid	3g/kg calculated as sorbic acid	0-25 mg/kg bw	
201	Sodium sorbate		0-25 mg/kg bw	
202	Potassium sorbate			
203	Calcium sorbate		0-25 mg/kg bw	
234	Nisin	12.5 mg/kg	0-33000 units/kg bw	
235	Pimaricin	2mg/sq.dm of surface. Not present at a depth of 5mm	0-0.3 mg/kg bw	
280	Propionic acid	3g/kg calculated as propionic acid	Not limited	
281	Sodium propionate		Not limited	
282	Calcium propionate		Not limited	

¹² Calculated as served to the customer.

The **Codex Committee on Nutrition and Foods for Special Dietary Uses** forwarded for endorsement the section on Food Additives of the Draft Revised Standard for Cereal-Based Foods for Infants and Children including provisions on carry over. (ALINORM 05/28/26, App. IV)

DRAFT REVISED STANDARD FOR PROCESSED CEREAL-BASED FOODS FOR INFANTS AND YOUNG CHILDREN
(At Step 6)

INS no.	FOOD ADDITIVE	Maximum level ¹³ (per 100 g of the product)	ADI (mg/kg body weight)	NOTES
EMULSIFIERS				
322 ¹⁴	Lecithin	1.5 g	Not limited	Natural stabiliser, retains homogeneity
471	Mono- and diglycerides	1.5 g	Not limited	Retains homogeneity
472a	Acetic and fatty acid esters of glycerol	0.5 g singly or in combination	Not limited	Retains homogeneity
472b	Lactic and fatty acid esters of glycerol		Not limited	Retains homogeneity
472c	Citric and fatty acid esters of glycerol		Not limited	Higher emulsifying power than lecithin and more hydrophilic capacities than mono- and diglycerides of fatty acids
PH-ADJUSTING AGENTS				
500 ii	Sodium hydrogen carbonate	GMP, within the limits for sodium	Not limited	Improves in-processing handling, stabilising effect during industrial preparation such as pasteurisation, sterilisation, drying; Buffering capacity
501 ii	Potassium hydrogen carbonate	GMP	Not limited	
170 i	Calcium carbonate		Not limited	pH-adjusting agent
270 ¹⁵	L(+) Lactic acid	GMP Request for L(+)-lactic acid producing cultures at GMP ¹⁶		Natural acid found in fermented milk Natural way to reduce pH Decreases risk of contamination from undesirable bacteria; adds taste; long use as an acidifier
330	Citric acid	GMP	Not limited	Improves in-processing handling, stabilising effect during industrial preparation such as pasteurisation, sterilisation, drying; Buffering and chelating capacity Citric acid and citrates are natural compounds

¹³ Calculated as served to the consumer.

¹⁴ INS no. 322 refers to both Lecithin and Partially hydrolyzed lecithin.

¹⁵ JECFA evaluated lactic acid for use as a food additive at its 9th and 17th Meetings. Lactic acid was assigned an ADI of “not specified” but it was determined that only the L+ form was safe for infants. An electronic search of the JECFA electronic data base for INS no 270 results in “No matches were found”; however, searching for Lactic Acid results in “Lactic acid No. 930: Not Limited (No safety concern at current levels of intake when used as a flavouring substance); Functional class: Acid; Acidifier; Flavouring agent”.

¹⁶ Cultures are not considered as food additives; CODEX STAN 72-1981 (Infant Formula) permits “4.3.11 L(+) Lactic acid producing cultures Limited by GMP in all types of infant formulae”

INS no.	FOOD ADDITIVE	Maximum level ¹³ (per 100 g of the product)	ADI (mg/kg body weight)	NOTES
260	Acetic acid (Acetic, glacial)	Only for pH adjustment GMP	Not limited (1973)	Improve in-processing handling, stabilising effect during industrial preparation such as pasteurisation, sterilisation, drying Acetic acid and acetates are natural compounds Selected depending on the pH and composition of the formula pH-adjustment to compensate for variable natural acidity of fruit Improve in-processing handling, stabilising effect during industrial preparation such as pasteurisation, sterilisation, drying Selected depending pH and composition of formula Lactic acid and lactates are natural compounds Improves in-processing handling, stabilising effect during industrial preparation such as pasteurisation, sterilisation, drying; Buffering and chelating capacity Citrates are natural compounds Acidifier, pH-adjustment Improves in-processing handling, stabilising effect during industrial preparation such as pasteurisation, sterilisation, drying In conjunction with 500 ii leavening/raising agent in biscuits and rusks Improves in-processing handling, stabilising effect during industrial preparation such as pasteurisation, sterilisation, drying; Buffering and chelating capacity
261	Potassium acetates		Not limited	
262 i, ii	Sodium acetates		261i not limited 261ii 0-15 mg/kg bw	
263	Calcium acetate		Not limited	
296	Malic acid (DL) – L(+)-form only		Not specified	
325	Sodium lactate (solution) – L(+)-form only		Not limited	
326	Potassium lactate (solution) – L(+)-form only		Not limited	
327	Calcium lactate – L(+)-form only		Not limited	
331 i, iii	Sodium citrate		Not limited	
332 i, ii	Potassium citrate		Not limited	
333	Calcium citrate		Not limited	
507	Hydrochloric acid		Not limited	
524	Sodium hydroxide		Not limited	
525	Potassium hydroxide		Not limited	
526	Calcium hydroxide		Not limited	
575	Glucono delta-lactone		0.5 g singly or in combination Tartrates as residue in biscuits and rusks	
334	L(+)-Tartaric acid - L(+)-form only	0-30 mg/kg bw		In conjunction with 500 ii leavening/raising agent in biscuits and rusks
335 i, ii	Sodium L(+)-Tartrates - L(+)-forms only	0-30 mg/kg bw		
336	Potassium L(+)-Tartrate - L(+)-form only	0-30 mg/kg bw		
337	Potassium Sodium L(+)-Tartrate - L(+)-form only	0-30 mg/kg bw		
338	Orthophosphoric acid	Only for pH adjustment 0.1 g as P ₂ O ₅	MTDI 70 mg/kg bw (as P)	Improves in-processing handling, stabilising effect during industrial preparation such as pasteurisation, sterilisation, drying; Buffering and chelating capacity
339 i, ii, iii	Sodium orthophosphates		MTDI 70 mg/kg bw (as P)	
340 i, ii, iii	Potassium orthophosphates		MTDI 70 mg/kg bw (as P)	
341 i, ii, iii	Calcium orthophosphates		MTDI 70 mg/kg bw (as P)	
ANTIOXIDANTS				
306	Mixed tocopherols concentrate	300 mg/kg fat, singly or in combination	0-2 mg/kg bw	Protect from oxidation Synergistic effect with ascorbyl esters
307	Alpha-tocopherol			
304	L-Ascorbyl palmitate	200 mg/kg fat	0-1.25 mg/kg/bw	INS should be 304(i) Protects from oxidation Synergistic affect with tocopherols

INS no.	FOOD ADDITIVE	Maximum level ¹³ (per 100 g of the product)	ADI (mg/kg body weight)	NOTES
300, 301, 303 ¹⁷	L-Ascorbic acid and its sodium and potassium salts	50 mg, expressed as ascorbic acid and within the limits for sodium	Not specified	Antioxidant in cereal bars Reduce discoloration in fruit preparations
302	Calcium ascorbate	20 mg, expressed as ascorbic acid	Not specified	
ENZYMES				
	Malt carbohydrases	GMP		Should be listed separately in a separate list of processing aids and therefore should not be listed as food additives.
LEAVENING AGENTS				
503 i	Ammonium carbonate	Limited by GMP	Not specified	Raising agent in rusks and biscuits Improves in-processing handling, stabilising effect during industrial preparation such as pasteurisation, sterilisation, drying
503 ii	Ammonium hydrogen carbonate		Not specified	
500 i, ii	Sodium carbonates	Limited by GMP	Not limited	Raising agent in rusks and biscuits Sometimes used in combination with 503 i or 503 ii Improves in-processing handling, stabilising effect during industrial preparation such as pasteurisation, sterilisation, drying
501 i, ii	Potassium carbonates	Limited by GMP	Not limited	Improves in-processing handling, stabilising effect during industrial preparation such as pasteurisation, sterilisation, drying
THICKENING AGENTS				
410	Carob bean gum	Singly or in combination: 1 g in weaning food 2 g in gluten-free cereal-based foods	Not specified	Thickening agent and emulsion stabiliser For fruit coating to prevent fruit from sticking together Also used as an ingredient of nutrient forms
412	Guar gum			
414	Gum arabic			
415	Xanthan gum	Singly or in combination: 1 g in weaning food 2 g in gluten-free cereal-based foods	Not specified	Thickener for semi-solid preparation Optimum viscosity achieved in combination with other thickeners
440	Pectins (Amidated and Non-Amidated)			Gelling agent in place of gelatine Particularly efficient in presence of fruits and acidic preparations Optimum viscosity achieved in combination with other thickeners Used as binder in extruded cereals increasing cohesiveness of the cereal pieces after rehydration

¹⁷

INS no. 303 Potassium ascorbate: Specifications not indicated by JECFA.

INS no.	FOOD ADDITIVE	Maximum level ¹³ (per 100 g of the product)	ADI (mg/kg body weight)	NOTES
1404	Oxidized starch	5 g singly or in combination	Not specified	Physical properties that native starch tend to lose when processed
1410	Monostarch phosphate			
1412, 1413, 1414, 1422	Modified starches			
1420	Starch acetate esterified with acetic anhydride			
1450	Starch sodium octenyl succinate			
1451	Acetylated oxidized starch			
ANTI-CAKING AGENT				
551	Silicon dioxide (amorphous)	0.2 g for dry cereals only	Not specified	Most neutral anti-caking agent, prevents clumping Ensures even distribution of nutrients
PACKAGING GAS (PROPELLANTS)				
290	Carbon dioxide	GMP	Not specified	Neutral gas used under modified packaging atmosphere to protect quality and guarantee shelf life
941	Nitrogen	GMP	No ADI necessary	
942	Nitrous oxide	GMP	Acceptable as propellant	
938	Argon	GMP	Packaging gas	
939	Helium	GMP	Processing aid	
948	Oxygen	GMP	Packaging gas	
949	Hydrogen	GMP		

CARRY-OVER PROVISION FOR ENDORSEMENT

4.6 Carry-over of Food Additives

No food additives shall be present as a result of carry-over from raw materials and other ingredients with the exception:

- (a) of the food additives listed under Sections 4.1 to 4.4 of this standard within the limits of the maximum levels stipulated in this standard; and
- (b) [of the carrier substances mentioned in the Advisory List of Vitamin Compounds for Use in Foods for Infants and Children within the limits of the maximum levels stipulated in that List.]